NODE=S042

B^0

$I(J^P) = \frac{1}{2}(0^-)$

NODE=S042

Quantum numbers not measured. Values shown are quark-model predictions.

See also the $B^{\pm}/B^0$ ADMIXTURE and $B^{\pm}/B^0/B^0_s/b$-baryon ADMIXTURE sections.

See the Note "Production and Decay of b-flavored Hadrons" at the beginning of the $B^{\pm}$ Particle Listings and the Note on "B^0-$\overline{B}^0$ Mixing" near the end of the B^0 Particle Listings.

B^0 MASS

NODE=S042M

The fit uses m_{B^+}, $(m_{B^0} - m_{B^+})$, and m_{B^0} to determine m_{B^+}, m_{B^0}, and the mass difference.

NODE=S042M

NODE=S042M

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*	
5279.72±0.08 OUR FIT						
5279.63±0.20 OUR AVERAGE						
5279.74±0.30±0.10		[1] AAIJ	19U	LHCB	pp at 7, 8, 13 TeV	
5279.6 ±0.2 ±1.0		[2] AAD	13U	ATLS	pp at 7 TeV	
5279.58±0.15±0.28		[3] AAIJ	12E	LHCB	pp at 7 TeV	
5279.63±0.53±0.33		[4] ACOSTA	06	CDF	$p\overline{p}$ at 1.96 TeV	
5279.1 ±0.7 ±0.3	135	[5] CSORNA	00	CLE2	$e^+e^- \to \Upsilon(4S)$	
5281.3 ±2.2 ±1.4	51	ABE	96B	CDF	$p\overline{p}$ at 1.8 TeV	
• • • We do not use the following data for averages, fits, limits, etc. • • •						
5279.2 ±0.54±2.0	340	ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$	SYCLP=A
5278.0 ±0.4 ±2.0		BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$	SYCLP=A
5279.6 ±0.7 ±2.0	40	[6] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$	SYCLP=A
5278.2 ±1.0 ±3.0	40	ALBRECHT	87C	ARG	$e^+e^- \to \Upsilon(4S)$	
5279.5 ±1.6 ±3.0	7	[7] ALBRECHT	87D	ARG	$e^+e^- \to \Upsilon(4S)$	
5280.6 ±0.8 ±2.0		BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$	SYCLP=A

[1] Uses $B^0 \to J/\psi p \overline{p}$ decays. NODE=S042M;LINKAGE=G

[2] Measured with $B^0_d \to J/\psi(\mu^+\mu^-) K^0_S(\pi^+\pi^-)$ decays. NODE=S042M;LINKAGE=AD

[3] Uses $B^0 \to J/\psi K^0$ fully reconstructed decays. NODE=S042M;LINKAGE=AA

[4] Uses exclusively reconstructed final states containing a $J/\psi \to \mu^+\mu^-$ decays. NODE=S042M;LINKAGE=AT

[5] CSORNA 00 uses fully reconstructed 135 $B^0 \to J/\psi^{(\prime)} K^0_S$ events and invariant masses without beam constraint. NODE=S042M;LINKAGE=N1

[6] ALBRECHT 90J assumes 10580 for $\Upsilon(4S)$ mass. Supersedes ALBRECHT 87C and ALBRECHT 87D. NODE=S042M;LINKAGE=E

[7] Found using fully reconstructed decays with J/ψ. ALBRECHT 87D assume $m_{\Upsilon(4S)}$ = 10577 MeV. NODE=S042M;LINKAGE=D

$m_{B^0} - m_{B^+}$

NODE=S042DM

NODE=S042DM

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
0.31±0.05 OUR FIT				
0.33±0.05 OUR AVERAGE				
0.57±0.49±0.10	[1] SIRUNYAN	18DF	CMS	pp at 8 TeV
0.20±0.17±0.11	[1] AAIJ	12E	LHCB	pp at 7 TeV
0.33±0.05±0.03	[2] AUBERT	08AF	BABR	$e^+e^- \to \Upsilon(4S)$
0.53±0.67±0.14	[1] ACOSTA	06	CDF	$p\overline{p}$ at 1.96 TeV
0.41±0.25±0.19	ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$
−0.4 ±0.6 ±0.5	BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
−0.9 ±1.2 ±0.5	ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$
2.0 ±1.1 ±0.3	[3] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Uses exclusively reconstructed final states containing a $J/\psi \to \mu^+\mu^-$ decay. NODE=S042DM;LINKAGE=AA

[2] Uses the B-momentum distributions in the e^+e^- rest frame. NODE=S042DM;LINKAGE=AU

[3] BEBEK 87 actually measure the difference between half of E_{cm} and the $B^{\pm}$ or B^0 mass, so the $m_{B^0} - m_{B^{\pm}}$ is more accurate. Assume $m_{\Upsilon(4S)}$ = 10580 MeV. NODE=S042DM;LINKAGE=B

$m_{B^0_H} - m_{B^0_L}$

NODE=S042214

See the B^0-$\overline{B}^0$ MIXING PARAMETERS section near the end of these B^0 Listings.

NODE=S042214

B^0 MEAN LIFE

NODE=S042T

See $B^{\pm}/B^0/B^0_s/b$-baryon ADMIXTURE section for data on B-hadron mean life averaged over species of bottom particles.

NODE=S042T

NODE=S042T

VALUE (10^{-12} s)	DOCUMENT ID		TECN	COMMENT	
1.517 ±0.004 OUR EVALUATION	(Produced by HFLAV)				→ UNCHECKED ←
Average is meaningless.	[(1.517 ± 0.004) × 10^{-12} s OUR 2025 AVERAGE]				
1.5053±0.0012±0.0035	[1] AAD	25AM	ATLS	pp at 13 TeV	
1.499 ±0.013 ±0.008	[2] ABUDINEN	23D	BELL	$e^+e^- \rightarrow \Upsilon(4S)$	
1.515 ±0.005 ±0.006	[3] SIRUNYAN	18BY	CMS	pp at 8 TeV	
1.534 ±0.019 ±0.021	[4] ABAZOV	15A	D0	$p\overline{p}$ at 1.96 TeV	
1.499 ±0.013 ±0.005	[5] AAIJ	14E	LHCB	pp at 7 TeV	
1.524 ±0.006 ±0.004	[1] AAIJ	14E	LHCB	pp at 7 TeV	OCCUR=2
1.524 ±0.011 ±0.004	[6] AAIJ	14R	LHCB	pp at 7 TeV	
1.509 ±0.012 ±0.018	[7] AAD	13U	ATLS	pp at 7 TeV	
1.508 ±0.025 ±0.043	[5] ABAZOV	12U	D0	$p\overline{p}$ at 1.96 TeV	
1.507 ±0.010 ±0.008	[8] AALTONEN	11	CDF	$p\overline{p}$ at 1.96 TeV	
1.414 ±0.018 ±0.034	[9] ABAZOV	09E	D0	$p\overline{p}$ at 1.96 TeV	
1.504 ±0.013 $^{+0.018}_{-0.013}$	[10] AUBERT	06G	BABR	$e^+e^- \rightarrow \Upsilon(4S)$	
1.534 ±0.008 ±0.010	[11] ABE	05B	BELL	$e^+e^- \rightarrow \Upsilon(4S)$	
1.531 ±0.021 ±0.031	[12] ABDALLAH	04E	DLPH	$e^+e^- \rightarrow Z$	
1.523 $^{+0.024}_{-0.023}$ ±0.022	[13] AUBERT	03C	BABR	$e^+e^- \rightarrow \Upsilon(4S)$	
1.533 ±0.034 ±0.038	[14] AUBERT	03H	BABR	$e^+e^- \rightarrow \Upsilon(4S)$	
1.497 ±0.073 ±0.032	[15] ACOSTA	02C	CDF	$p\overline{p}$ at 1.8 TeV	
1.529 ±0.012 ±0.029	[16] AUBERT	02H	BABR	$e^+e^- \rightarrow \Upsilon(4S)$	
1.546 ±0.032 ±0.022	[17] AUBERT	01F	BABR	$e^+e^- \rightarrow \Upsilon(4S)$	
1.541 ±0.028 ±0.023	[16] ABBIENDI,G	00B	OPAL	$e^+e^- \rightarrow Z$	
1.518 ±0.053 ±0.034	[18] BARATE	00R	ALEP	$e^+e^- \rightarrow Z$	
1.523 ±0.057 ±0.053	[19] ABBIENDI	99J	OPAL	$e^+e^- \rightarrow Z$	
1.474 ±0.039 $^{+0.052}_{-0.051}$	[18] ABE	98Q	CDF	$p\overline{p}$ at 1.8 TeV	
1.52 ±0.06 ±0.04	[19] ACCIARRI	98S	L3	$e^+e^- \rightarrow Z$	
1.64 ±0.08 ±0.08	[19] ABE	97J	SLD	$e^+e^- \rightarrow Z$	
1.532 ±0.041 ±0.040	[20] ABREU	97F	DLPH	$e^+e^- \rightarrow Z$	
1.25 $^{+0.15}_{-0.13}$ ±0.05	[15] BUSKULIC	96J	ALEP	$e^+e^- \rightarrow Z$	OCCUR=3
1.49 $^{+0.17}_{-0.15}$ $^{+0.08}_{-0.06}$	[21] BUSKULIC	96J	ALEP	$e^+e^- \rightarrow Z$	OCCUR=4
1.61 $^{+0.14}_{-0.13}$ ±0.08	[18,22] ABREU	95Q	DLPH	$e^+e^- \rightarrow Z$	
1.63 ±0.14 ±0.13	[23] ADAM	95	DLPH	$e^+e^- \rightarrow Z$	
1.53 ±0.12 ±0.08	[18,24] AKERS	95T	OPAL	$e^+e^- \rightarrow Z$	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.501 $^{+0.078}_{-0.074}$ ±0.050	[5] ABAZOV	07S	D0	Repl. by ABAZOV 12U	
1.524 ±0.030 ±0.016	[5] ABULENCIA	07A	CDF	Repl. by AALTONEN 11	
1.473 $^{+0.052}_{-0.050}$ ±0.023	[9] ABAZOV	05B	D0	Repl. by ABAZOV 05W	
1.40 $^{+0.11}_{-0.10}$ ±0.03	[5] ABAZOV	05C	D0	Repl. by ABAZOV 07S	
1.530 ±0.043 ±0.023	[9] ABAZOV	05W	D0	Repl. by ABAZOV 09E	
1.54 ±0.05 ±0.02	[25] ACOSTA	05	CDF	Repl. by AALTONEN 11	
1.554 ±0.030 ±0.019	[17] ABE	02H	BELL	Repl. by ABE 05B	
1.58 ±0.09 ±0.02	[15] ABE	98B	CDF	Repl. by ACOSTA 02C	
1.54 ±0.08 ±0.06	[18] ABE	96C	CDF	Repl. by ABE 98Q	
1.55 ±0.06 ±0.03	[26] BUSKULIC	96J	ALEP	$e^+e^- \rightarrow Z$	
1.61 ±0.07 ±0.04	[18] BUSKULIC	96J	ALEP	Repl. by BARATE 00R	OCCUR=2

1.62	± 0.12		[27] ADAM	95	DLPH	$e^+e^- \rightarrow Z$	OCCUR=2
1.57	± 0.18	± 0.08	[15] ABE	94D	CDF	Repl. by ABE 98B	
1.17	$^{+0.29}_{-0.23}$	± 0.16	[18] ABREU	93D	DLPH	Sup. by ABREU 95Q	
1.55	± 0.25	± 0.18	[23] ABREU	93G	DLPH	Sup. by ADAM 95	
1.51	$^{+0.24}_{-0.23}$	$^{+0.12}_{-0.14}$	[18] ACTON	93C	OPAL	Sup. by AKERS 95T	
1.52	$^{+0.20}_{-0.18}$	$^{+0.07}_{-0.13}$	[18] BUSKULIC	93D	ALEP	Sup. by BUSKULIC 96J	
1.20	$^{+0.52}_{-0.36}$	$^{+0.16}_{-0.14}$	[28] WAGNER	90	MRK2	$E^{ee}_{\rm cm}$= 29 GeV	
0.82	$^{+0.57}_{-0.37}$	± 0.27	[29] AVERILL	89	HRS	$E^{ee}_{\rm cm}$= 29 GeV	

[1] Measured using $B^0 \rightarrow J/\psi K^{*0}$ decays. NODE=S042T;LINKAGE=B

[2] Measured using $B^0 \rightarrow D^{(*)-}\pi^+$ decays. NODE=S042T;LINKAGE=N

[3] Measured using $B^0 \rightarrow J/\psi K^*(892)^0$ and $B^0 \rightarrow J/\psi K^0_S$ decays. NODE=S042T;LINKAGE=G

[4] Measured using $B^0 \rightarrow D^-\mu^+\nu X$ decays. NODE=S042T;LINKAGE=AV

[5] Measured mean life using $B^0 \rightarrow J/\psi K^0_S$ decays. NODE=S042T;LINKAGE=AO

[6] Measured using $B^0 \rightarrow K^+\pi^-$ decays. NODE=S042T;LINKAGE=D

[7] Measured with $B^0_d \rightarrow J/\psi(\mu^+\mu^-)\ K^0_S(\pi^+\pi^-)$ decays. NODE=S042T;LINKAGE=AD

[8] Measured mean life using fully reconstructed decays ($J/\psi K^{(*)}$). NODE=S042T;LINKAGE=AA

[9] Measured mean life using $B^0 \rightarrow J/\psi K^{*0}$ decays. NODE=S042T;LINKAGE=AZ

[10] Measured using a simultaneous fit of the B^0 lifetime and $\overline{B}{}^0 B^0$ oscillation frequency Δm_d in the partially reconstructed $B^0 \rightarrow D^{*-}\ell\nu$ decays. NODE=S042T;LINKAGE=AU

[11] Measurement performed using a combined fit of *CP*-violation, mixing and lifetimes. NODE=S042T;LINKAGE=AE

[12] Measurement performed using an inclusive reconstruction and B flavor identification technique. NODE=S042T;LINKAGE=AB

[13] AUBERT 03C uses a sample of approximately 14,000 exclusively reconstructed $B^0 \rightarrow D^*(2010)^-\ell\nu$ and simultaneously measures the lifetime and oscillation frequency. NODE=S042T;LINKAGE=C3

[14] Measurement performed with decays $B^0 \rightarrow D^{*-}\pi^+$ and $B^0 \rightarrow D^{*-}\rho^+$ using a partial reconstruction technique. NODE=S042T;LINKAGE=BH

[15] Measured mean life using fully reconstructed decays. NODE=S042T;LINKAGE=CD

[16] Data analyzed using partially reconstructed $\overline{B}{}^0 \rightarrow D^{*+}\ell^-\overline{\nu}$ decays. NODE=S042T;LINKAGE=C2

[17] Events are selected in which one B meson is fully reconstructed while the second B meson is reconstructed inclusively. NODE=S042T;LINKAGE=FT

[18] Data analyzed using $D/D^*\ell$X event vertices. NODE=S042T;LINKAGE=C

[19] Data analyzed using charge of secondary vertex. NODE=S042T;LINKAGE=M

[20] Data analyzed using inclusive $D/D^*\ell X$. NODE=S042T;LINKAGE=L

[21] Measured mean life using partially reconstructed $D^{*-}\pi^+$X vertices. NODE=S042T;LINKAGE=I

[22] ABREU 95Q assumes B($B^0 \rightarrow D^{**-}\ell^+\nu_\ell$) = 3.2 ± 1.7%. NODE=S042T;LINKAGE=CQ

[23] Data analyzed using vertex-charge technique to tag B charge. NODE=S042T;LINKAGE=F

[24] AKERS 95T assumes B($B^0 \rightarrow D_s{}^{(*)}D^{0\,(*)}$) = 5.0 ± 0.9% to find B^+/B^0 yield. NODE=S042T;LINKAGE=H

[25] Measured using the time-dependent angular analysis of $B^0_d \rightarrow J/\psi K^{*0}$ decays. NODE=S042T;LINKAGE=AC

[26] Combined result of $D/D^*\ell$x analysis, fully reconstructed B analysis, and partially reconstructed $D^{*-}\pi^+$X analysis. NODE=S042T;LINKAGE=J

[27] Combined ABREU 95Q and ADAM 95 result. NODE=S042T;LINKAGE=K

[28] WAGNER 90 tagged B^0 mesons by their decays into $D^{*-}e^+\nu$ and $D^{*-}\mu^+\nu$ where the D^{*-} is tagged by its decay into $\pi^-\overline{D}{}^0$. NODE=S042T;LINKAGE=BB

[29] AVERILL 89 is an estimate of the B^0 mean lifetime assuming that $B^0 \rightarrow D^{*+} +$ X always. NODE=S042T;LINKAGE=A

$\tau_{B^0}/\tau_{\overline{B}{}^0}$

NODE=S042DT3
NODE=S042DT3

VALUE	DOCUMENT ID		TECN	COMMENT
1.000±0.008±0.009	[1] AAIJ	14E	LHCB	pp at 7 TeV

[1] Measured using $B^0 \rightarrow J/\psi K^{*0}$ decays. NODE=S042DT3;LINKAGE=A

MEAN LIFE RATIO τ_{B^+}/τ_{B^0}

NODE=S042212

τ_{B^+}/τ_{B^0} (direct measurements)

NODE=S042DT1
NODE=S042DT1
→ UNCHECKED ←

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
1.076±0.004 OUR EVALUATION		(Produced by HFLAV)			
$1.074\pm0.005\pm0.003$		[1] AAIJ	14E	LHCB	pp at 7 TeV
$1.088\pm0.009\pm0.004$		[2] AALTONEN	11	CDF	$p\overline{p}$ at 1.96 TeV
$1.080\pm0.016\pm0.014$		[3] ABAZOV	05D	D0	$p\overline{p}$ at 1.96 TeV
$1.066\pm0.008\pm0.008$		[4] ABE	05B	BELL	$e^+e^-\rightarrow \Upsilon(4S)$
$1.060\pm0.021\pm0.024$		[5] ABDALLAH	04E	DLPH	$e^+e^-\rightarrow Z$
$1.093\pm0.066\pm0.028$		[6] ACOSTA	02C	CDF	$p\overline{p}$ at 1.8 TeV
$1.082\pm0.026\pm0.012$		[7] AUBERT	01F	BABR	$e^+e^-\rightarrow \Upsilon(4S)$
$1.085\pm0.059\pm0.018$		[3] BARATE	00R	ALEP	$e^+e^-\rightarrow Z$
$1.079\pm0.064\pm0.041$		[8] ABBIENDI	99J	OPAL	$e^+e^-\rightarrow Z$
$1.110\pm0.056{}^{+0.033}_{-0.030}$		[3] ABE	98Q	CDF	$p\overline{p}$ at 1.8 TeV
$1.09\ \pm0.07\ \pm0.03$		[8] ACCIARRI	98S	L3	$e^+e^-\rightarrow Z$
$1.01\ \pm0.07\ \pm0.06$		[8] ABE	97J	SLD	$e^+e^-\rightarrow Z$
$1.27\ {}^{+0.23}_{-0.19}\ {}^{+0.03}_{-0.02}$		[6] BUSKULIC	96J	ALEP	$e^+e^-\rightarrow Z$
$1.00\ {}^{+0.17}_{-0.15}\ \pm0.10$		[3,9] ABREU	95Q	DLPH	$e^+e^-\rightarrow Z$
$1.06\ {}^{+0.13}_{-0.11}\ \pm0.10$		[10] ADAM	95	DLPH	$e^+e^-\rightarrow Z$
$0.99\ \pm0.14\ {}^{+0.05}_{-0.04}$		[3,11] AKERS	95T	OPAL	$e^+e^-\rightarrow Z$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$1.091\pm0.023\pm0.014$		[7] ABE	02H	BELL	Repl. by ABE 05B
$1.06\ \pm0.07\ \pm0.02$		[6] ABE	98B	CDF	Repl. by ACOSTA 02C
$1.01\ \pm0.11\ \pm0.02$		[3] ABE	96C	CDF	Repl. by ABE 98Q
$1.03\ \pm0.08\ \pm0.02$		[12] BUSKULIC	96J	ALEP	$e^+e^-\rightarrow Z$
$0.98\ \pm0.08\ \pm0.03$		[3] BUSKULIC	96J	ALEP	Repl. by BARATE 00R
$1.02\ \pm0.16\ \pm0.05$	269	[6] ABE	94D	CDF	Repl. by ABE 98B
$1.11\ {}^{+0.51}_{-0.39}\ \pm0.11$	188	[3] ABREU	93D	DLPH	Sup. by ABREU 95Q
$1.01\ {}^{+0.29}_{-0.22}\ \pm0.12$	253	[10] ABREU	93G	DLPH	Sup. by ADAM 95
$1.0\ {}^{+0.33}_{-0.25}\ \pm0.08$	130	ACTON	93C	OPAL	Sup. by AKERS 95T
$0.96\ {}^{+0.19}_{-0.15}\ {}^{+0.18}_{-0.12}$	154	[3] BUSKULIC	93D	ALEP	Sup. by BUSKULIC 96J

OCCUR=3
OCCUR=2

[1] Measured using $B\rightarrow J/\psi K^{(*)}$ decays. NODE=S042DT1;LINKAGE=A
[2] Measured mean life using fully reconstructed decays ($J/\psi K^{(*)}$). NODE=S042DT1;LINKAGE=AA
[3] Data analyzed using $D/D^*\mu X$ vertices. NODE=S042DT1;LINKAGE=G
[4] Measurement performed using a combined fit of CP-violation, mixing and lifetimes. NODE=S042DT1;LINKAGE=AE
[5] Measurement performed using an inclusive reconstruction and B flavor identification technique. NODE=S042DT1;LINKAGE=AB
[6] Measured using fully reconstructed decays. NODE=S042DT1;LINKAGE=CD
[7] Events are selected in which one B meson is fully reconstructed while the second B meson is reconstructed inclusively. NODE=S042DT1;LINKAGE=FT
[8] Data analyzed using charge of secondary vertex. NODE=S042DT1;LINKAGE=M
[9] ABREU 95Q assumes $B(B^0\rightarrow D^{**-}\ell^+\nu_\ell) = 3.2\pm1.7\%$. NODE=S042DT1;LINKAGE=CQ
[10] Data analyzed using vertex-charge technique to tag B charge. NODE=S042DT1;LINKAGE=F
[11] AKERS 95T assumes $B(B^0\rightarrow D_s{}^{(*)}D^{0(*)}) = 5.0\pm0.9\%$ to find B^+/B^0 yield. NODE=S042DT1;LINKAGE=H
[12] Combined result of $D/D^*\ell X$ analysis and fully reconstructed B analysis. NODE=S042DT1;LINKAGE=GC

τ_{B^+}/τ_{B^0} (inferred from branching fractions)

NODE=S042DT2
NODE=S042DT2

These measurements are inferred from the branching fractions for semileptonic decay or other spectator-dominated decays by assuming that the rates for such decays are equal for B^0 and B^+. We do not use measurements which assume equal production of B^0 and B^+ because of the large uncertainty in the production ratio.

NODE=S042DT2

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
1.07 ±0.04 OUR AVERAGE						
$1.07\ \pm0.04\ \pm0.03$			URQUIJO	07	BELL	$e^+e^-\rightarrow \Upsilon(4S)$
$1.067\pm0.041\pm0.033$			AUBERT,B	06Y	BABR	$e^+e^-\rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
$0.95\ {}^{+0.117}_{-0.080}\pm0.091$			[1] ARTUSO	97	CLE2	$e^+e^-\rightarrow \Upsilon(4S)$
$1.15\ \pm0.17\ \pm0.06$			[2] JESSOP	97	CLE2	$e^+e^-\rightarrow \Upsilon(4S)$
$0.93\ \pm0.18\ \pm0.12$			[3] ATHANAS	94	CLE2	Sup. by ARTUSO 97
$0.91\ \pm0.27\ \pm0.21$			[4] ALBRECHT	92C	ARG	$e^+e^-\rightarrow \Upsilon(4S)$
$1.0\ \ \pm0.4$		29	[4,5] ALBRECHT	92G	ARG	$e^+e^-\rightarrow \Upsilon(4S)$
$0.89\ \pm0.19\ \pm0.13$			[4] FULTON	91	CLEO	$e^+e^-\rightarrow \Upsilon(4S)$
$1.00\ \pm0.23\ \pm0.14$			[4] ALBRECHT	89L	ARG	$e^+e^-\rightarrow \Upsilon(4S)$
0.49 to 2.3	90		[6] BEAN	87B	CLEO	$e^+e^-\rightarrow \Upsilon(4S)$

[1] ARTUSO 97 uses partial reconstruction of $B \to D^* \ell \nu_\ell$ and independent of B^0 and B^+ production fraction. NODE=S042DT2;LINKAGE=B
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042DT2;LINKAGE=JJ
[3] ATHANAS 94 uses events tagged by fully reconstructed B^- decays and partially or fully reconstructed B^0 decays. NODE=S042DT2;LINKAGE=E
[4] Assumes equal production of B^0 and B^+. NODE=S042DT2;LINKAGE=A
[5] ALBRECHT 92G data analyzed using $B \to D_s \overline{D}$, $D_s \overline{D}^*$, $D_s^* \overline{D}$, $D_s^* \overline{D}^*$ events. NODE=S042DT2;LINKAGE=D
[6] BEAN 87B assume the fraction of $B^0 \overline{B}^0$ events at the $\Upsilon(4S)$ is 0.41. NODE=S042DT2;LINKAGE=F

$\Delta\Gamma_{B_d^0} / \Gamma_{B_d^0}$

NODE=S042DGS

$\Gamma_{B_d^0}$ and $\Delta\Gamma_{B_d^0}$ are the decay rate average and difference between two B_d^0 *CP* eigenstates (light − heavy). The λ_{CP} characterizes B^0 and $\overline{B}^0$ decays to states of charmonium plus K_L^0, see the review on "*CP* Violation" in the reviews section.

NODE=S042DGS

NODE=S042DGS

→ UNCHECKED ←

VALUE (units 10^{-2})	*CL%*	*DOCUMENT ID*		*TECN*	*COMMENT*
0.1 ±1.0 OUR EVALUATION		(Produced by HFLAV)			
0.1 ±1.0 OUR AVERAGE					
3.4 ±2.3 ±2.4		[1] SIRUNYAN	18BY	CMS	pp at 8 TeV
− 0.1 ±1.1 ±0.9		[2] AABOUD	16G	ATLS	pp at 7, 8 TeV
− 4.4 ±2.5 ±1.1		[3] AAIJ	14E	LHCB	pp at 7 TeV
1.7 ±1.8 ±1.1		[4] HIGUCHI	12	BELL	$e^+ e^- \to \Upsilon(4S)$
0.8 ±3.7 ±1.8		[5] AUBERT,B	04C	BABR	$e^+ e^- \to \Upsilon(4S)$
0 ±9		[6] ABDALLAH	03B	DLPH	$e^+ e^- \to Z$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.50±1.38		ABAZOV	14	D0	$p\overline{p}$ at 1.96 TeV
< 80	95	[7] BEHRENS	00B	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] Measured using $B^0 \to J/\psi K^*(892)^0$ and $B^0 \to J/\psi K_S^0$ decays, and assuming $\beta = 21.9 \pm 0.7$ degrees. NODE=S042DGS;LINKAGE=C
[2] Measured from the ratio of decay time distributions of $B^0 \to J/\psi K_S^0$ and $B^0 \to J/\psi K^{*0}$ decays. NODE=S042DGS;LINKAGE=B
[3] Measured using the effective lifetimes of $B^0 \to J/\psi K_S^0$ and $B^0 \to J/\psi K^{*0}$ decays. NODE=S042DGS;LINKAGE=A
[4] Reports $-\Delta\Gamma_d/\Gamma_d$ using $B^0 \to J/\psi K_S^0$, $J/\psi K_L^0$, $D^- \pi^+$, $D^{*-} \pi^+$, $D^{*-} \rho^+$, and $D^{*-} \ell^+ \nu$ decays. NODE=S042DGS;LINKAGE=HI
[5] Corresponds to 90% confidence range [−0.084, 0.068]. NODE=S042DGS;LINKAGE=AB
[6] Used the measured $\tau_{B^0} = 1.55 \pm 0.03$ ps. Corresponds to an upper limit of < 0.18 at 95% C.L. NODE=S042DGS;LINKAGE=BL
[7] BEHRENS 00B uses high-momentum lepton tags and partially reconstructed $\overline{B}^0 \to D^{*+} \pi^-$, ρ^- decays to determine the flavor of the B meson. Assumes Δ_{md}=0.478 ± 0.018 ps^{-1} and τ_{B^0}=1.548 ± 0.032 ps. NODE=S042DGS;LINKAGE=KS

B^0 DECAY MODES

NODE=S042215;NODE=S042

$\overline{B}^0$ modes are charge conjugates of the modes below. Reactions indicate the weak decay vertex and do not include mixing. Modes which do not identify the charge state of the B are listed in the $B^\pm/B^0$ ADMIXTURE section.

NODE=S042

The branching fractions listed below assume 50% $B^0 \overline{B}^0$ and 50% $B^+ B^-$ production at the $\Upsilon(4S)$. We have attempted to bring older measurements up to date by rescaling their assumed $\Upsilon(4S)$ production ratio to 50:50 and their assumed D, D_s, D^*, and ψ branching ratios to current values whenever this would affect our averages and best limits significantly.

Indentation is used to indicate a subchannel of a previous reaction. All resonant subchannels have been corrected for resonance branching fractions to the final state so the sum of the subchannel branching fractions can exceed that of the final state.

For inclusive branching fractions, *e.g.*, $B \to D^\pm X$, the values usually are multiplicities, not branching fractions. They can be greater than one.

	Mode		Fraction (Γ_i/Γ)	Scale factor/ Confidence level	
Γ_1	$\ell^+ \nu_\ell X$	[a]	(10.33 ± 0.28) %		CLUMP=A;DESIG=94
Γ_2	$e^+ \nu_e X_c$		(10.1 ± 0.4) %		DESIG=375
Γ_3	$\ell^+ \nu_\ell X_u$	[a]	$(1.51 \pm 0.19) \times 10^{-3}$		DESIG=612
Γ_4	$D \ell^+ \nu_\ell X$	[a]	(9.1 ± 0.8) %		DESIG=396
Γ_5	$D^- \ell^+ \nu_\ell$	[a]	(2.10 ± 0.07) %		DESIG=37
Γ_6	$D^- \tau^+ \nu_\tau$		$(7.1 \pm 1.5) \times 10^{-3}$		DESIG=416
Γ_7	$D^*(2010)^- \ell^+ \nu_\ell$	[a]	(4.87 ± 0.09) %		DESIG=181
Γ_8	$D^*(2010)^- e^+ \nu_e$				DESIG=625
Γ_9	$D^*(2010)^- \mu^+ \nu_\mu$				DESIG=626
Γ_{10}	$D^*(2010)^- \tau^+ \nu_\tau$		(1.50 ± 0.08) %	S=1.1	DESIG=390
Γ_{11}	$\overline{D}^{(*)} \mathrm{n} \pi \ell^+ \nu_\ell (\mathrm{n} \geq 1)$	[a]	(2.2 ± 0.4) %		DESIG=423
Γ_{12}	$\overline{D}^0 \pi^- \ell^+ \nu_\ell$	[a]	$(3.64 \pm 0.20) \times 10^{-3}$		DESIG=311
Γ_{13}	$D_0^*(2300)^- \ell^+ \nu_\ell$, $D_0^{*-} \to \overline{D}^0 \pi^-$	[a]	$< 4.4 \times 10^{-4}$	CL=90%	DESIG=418
Γ_{14}	$D_2^*(2460)^- \ell^+ \nu_\ell$, $D_2^{*-} \to \overline{D}^0 \pi^-$	[a]	$(1.41 \pm 0.20) \times 10^{-3}$	S=1.7	DESIG=419
Γ_{15}	$\overline{D}^{*0} \pi^- \ell^+ \nu_\ell$	[a]	$(5.44 \pm 0.28) \times 10^{-3}$		DESIG=312
Γ_{16}	$D_1(2420)^- \ell^+ \nu_\ell$, $D_1^- \to \overline{D}^{*0} \pi^-$	[a]	$(2.85 \pm 0.25) \times 10^{-3}$		DESIG=420
Γ_{17}	$D_1(2420)^- \ell^+ \nu_\ell$, $D_1^- \to D^- \pi^+ \pi^-$	[a]	$(1.02 \pm 0.16) \times 10^{-3}$		DESIG=623
Γ_{18}	$D_1'(2430)^- \ell^+ \nu_\ell$, $D_1'^- \to \overline{D}^{*0} \pi^-$	[a]	$(2.5 \pm 0.6) \times 10^{-3}$		DESIG=421
Γ_{19}	$D_2^*(2460)^- \ell^+ \nu_\ell$, $D_2^{*-} \to \overline{D}^{*0} \pi^-$	[a]	$(6.6 \pm 1.1) \times 10^{-4}$		DESIG=422
Γ_{20}	$D^- \pi^+ \pi^- \ell^+ \nu_\ell$	[a]	$(1.45 \pm 0.22) \times 10^{-3}$		DESIG=556
Γ_{21}	$D^{*-} \pi^+ \pi^- \ell^+ \nu_\ell$	[a]	$(5.1 \pm 2.3) \times 10^{-4}$		DESIG=557
Γ_{22}	$\rho^- \ell^+ \nu_\ell$	[a]	$(2.94 \pm 0.21) \times 10^{-4}$		DESIG=95
Γ_{23}	$\pi^- \ell^+ \nu_\ell$	[a]	$(1.50 \pm 0.05) \times 10^{-4}$		DESIG=150
Γ_{24}	$\pi^- \mu^+ \nu_\mu$				DESIG=83
Γ_{25}	$\pi^- \tau^+ \nu_\tau$		$< 2.5 \times 10^{-4}$	CL=90%	DESIG=548
	Inclusive modes				NODE=S042;CLUMP=I
Γ_{26}	$K^\pm X$		(78 ± 8) %		DESIG=151
Γ_{27}	$D^0 X$		(8.1 ± 1.5) %		DESIG=290
Γ_{28}	$\overline{D}^0 X$		(47.4 ± 2.8) %		DESIG=291
Γ_{29}	$D^+ X$		< 3.9 %	CL=90%	DESIG=292
Γ_{30}	$D^- X$		(36.9 ± 3.3) %		DESIG=293
Γ_{31}	$D_s^+ X$		$(10.3 ^{+2.1}_{-1.8})$ %		DESIG=294
Γ_{32}	$D_s^- X$		< 2.6 %	CL=90%	DESIG=295
Γ_{33}	$\Lambda_c^+ X$		< 3.1 %	CL=90%	DESIG=296
Γ_{34}	$\overline{\Lambda}_c^- X$		$(5.0 ^{+2.1}_{-1.5})$ %		DESIG=297
Γ_{35}	$\overline{c} X$		(95 ± 5) %		DESIG=298
Γ_{36}	$c X$		(24.6 ± 3.1) %		DESIG=299
Γ_{37}	$\overline{c} / c X$		(119 ± 6) %		DESIG=300

D, D^*, or D_s modes

NODE=S042;CLUMP=B

Γ_{38}	$D^- \pi^+$		$(2.51 \pm 0.08) \times 10^{-3}$		DESIG=30
Γ_{39}	$D^- \rho^+$		$(7.6 \pm 1.2) \times 10^{-3}$		DESIG=34
Γ_{40}	$D^- K^0 \pi^+$		$(4.9 \pm 0.9) \times 10^{-4}$		DESIG=313
Γ_{41}	$D^- K^*(892)^+$		$(4.5 \pm 0.7) \times 10^{-4}$		DESIG=209
Γ_{42}	$D^- \omega \pi^+$		$(2.8 \pm 0.6) \times 10^{-3}$		DESIG=205
Γ_{43}	$D^- K^+$		$(2.05 \pm 0.08) \times 10^{-4}$		DESIG=201
Γ_{44}	$D^- K^+ \pi^+ \pi^-$		$(3.5 \pm 0.8) \times 10^{-4}$		DESIG=508
Γ_{45}	$D^- K^+ \overline{K}^0$		$(1.64 \pm 0.26) \times 10^{-4}$		DESIG=216
Γ_{46}	$D^- K^+ \overline{K}^*(892)^0$		$(7.7 \pm 0.6) \times 10^{-4}$		DESIG=218
Γ_{47}	$\overline{D}^0 \pi^+ \pi^-$		$(8.8 \pm 0.5) \times 10^{-4}$		DESIG=1
Γ_{48}	$D^*(2010)^- \pi^+$		$(2.66 \pm 0.07) \times 10^{-3}$		DESIG=2
Γ_{49}	$\overline{D}^0 K^+ K^-$		$(6.1 \pm 0.5) \times 10^{-5}$		DESIG=507
Γ_{50}	$D^- \pi^+ \pi^+ \pi^-$		$(6.0 \pm 0.6) \times 10^{-3}$		DESIG=88
Γ_{51}	$(D^- \pi^+ \pi^+ \pi^-)$ nonresonant		$(3.9 \pm 1.9) \times 10^{-3}$		DESIG=89
Γ_{52}	$D^- \pi^+ \rho^0$		$(1.1 \pm 1.0) \times 10^{-3}$		DESIG=91
Γ_{53}	$D^- a_1(1260)^+$		$(6.0 \pm 3.3) \times 10^{-3}$		DESIG=93
Γ_{54}	$D^*(2010)^- \pi^+ \pi^0$		(1.5 ± 0.5) %		DESIG=19
Γ_{55}	$D^*(2010)^- \rho^+$		$(6.8 \pm 0.9) \times 10^{-3}$		DESIG=3
Γ_{56}	$D^*(2010)^- K^+$		$(2.16 \pm 0.08) \times 10^{-4}$		DESIG=202
Γ_{57}	$D^*(2010)^- K^0 \pi^+$		$(3.0 \pm 0.8) \times 10^{-4}$		DESIG=314
Γ_{58}	$D^*(2010)^- K^*(892)^+$		$(3.3 \pm 0.6) \times 10^{-4}$		DESIG=210
Γ_{59}	$D^*(2010)^- K^+ \overline{K}^0$		$(1.8 \pm 0.4) \times 10^{-4}$		DESIG=217
Γ_{60}	$D^*(2010)^- K^+ \overline{K}^*(892)^0$		$(1.31 \pm 0.13) \times 10^{-3}$		DESIG=219
Γ_{61}	$D^*(2010)^- \pi^+ \pi^+ \pi^-$		$(7.21 \pm 0.29) \times 10^{-3}$		DESIG=20
Γ_{62}	$(D^*(2010)^- \pi^+ \pi^+ \pi^-)$ non-resonant		$(0.0 \pm 2.5) \times 10^{-3}$		DESIG=90
Γ_{63}	$D^*(2010)^- \pi^+ \rho^0$		$(5.7 \pm 3.2) \times 10^{-3}$		DESIG=92
Γ_{64}	$D^*(2010)^- a_1(1260)^+$		(1.30 ± 0.27) %		DESIG=87
Γ_{65}	$\overline{D}_1(2420)^0 \pi^- \pi^+$, $\overline{D}_1^0 \to D^{*-} \pi^+$		$(1.47 \pm 0.35) \times 10^{-4}$		DESIG=523
Γ_{66}	$D^*(2010)^- K^+ \pi^- \pi^+$		$(4.7 \pm 0.4) \times 10^{-4}$		DESIG=524
Γ_{67}	$D^*(2010)^- \pi^+ \pi^+ \pi^- \pi^0$		(1.76 ± 0.27) %		DESIG=67
Γ_{68}	$D^{*-} 3\pi^+ 2\pi^-$		$(4.7 \pm 0.9) \times 10^{-3}$		DESIG=289
Γ_{69}	$D^*(2010)^- \omega \pi^+$		$(2.46 \pm 0.18) \times 10^{-3}$	S=1.2	DESIG=204
Γ_{70}	$\overline{D}_1(2430)^0 \omega$, $\overline{D}_1^0 \to D^{*-} \pi^+$		$(2.7 {}^{+0.8}_{-0.4}) \times 10^{-4}$		DESIG=361
Γ_{71}	$D^{*-} \rho(1450)^+$, $\rho^+ \to \omega \pi^+$		$(1.07 {}^{+0.40}_{-0.34}) \times 10^{-3}$		DESIG=558
Γ_{72}	$\overline{D}_1(2420)^0 \omega$, $\overline{D}_1^0 \to D^{*-} \pi^+$		$(7.0 \pm 2.2) \times 10^{-5}$		DESIG=559
Γ_{73}	$\overline{D}_2^*(2460)^0 \omega$, $\overline{D}_2^0 \to D^{*-} \pi^+$		$(4.0 \pm 1.4) \times 10^{-5}$		DESIG=560
Γ_{74}	$D^{*-} b_1(1235)^+$, $b_1^+ \to \omega \pi^+$		$< 7 \times 10^{-5}$	CL=90%	DESIG=561
Γ_{75}	$\overline{D}^{**-} \pi^+$	[b]	$(1.9 \pm 0.9) \times 10^{-3}$		DESIG=357
Γ_{76}	$D_1(2420)^- \pi^+$, $D_1^- \to D^- \pi^+ \pi^-$		$(9.9 {}^{+2.0}_{-2.5}) \times 10^{-5}$		DESIG=331
Γ_{77}	$D_1(2420)^- \pi^+$, $D_1^- \to D^{*-} \pi^+ \pi^-$		$< 3.3 \times 10^{-5}$	CL=90%	DESIG=332
Γ_{78}	$\overline{D}_2^*(2460)^- \pi^+$, $D_2^{*-} \to D^0 \pi^-$		$(2.38 \pm 0.16) \times 10^{-4}$		DESIG=124
Γ_{79}	$\overline{D}_0^*(2400)^- \pi^+$, $D_0^{*-} \to D^0 \pi^-$		$(7.6 \pm 0.8) \times 10^{-5}$		DESIG=385
Γ_{80}	$D_2^*(2460)^- \pi^+$, $D_2^{*-} \to D^{*-} \pi^+ \pi^-$		$< 2.4 \times 10^{-5}$	CL=90%	DESIG=333
Γ_{81}	$\overline{D}_2^*(2460)^- \rho^+$		$< 4.9 \times 10^{-3}$	CL=90%	DESIG=125
Γ_{82}	$D^0 \overline{D}^0$		$(1.4 \pm 0.7) \times 10^{-5}$		DESIG=350
Γ_{83}	$D^{*0} \overline{D}^0$		$< 2.9 \times 10^{-4}$	CL=90%	DESIG=351
Γ_{84}	$D^- D^+$		$(2.11 \pm 0.18) \times 10^{-4}$		DESIG=184
Γ_{85}	$D^\pm D^{*\mp}$ (CP-averaged)		$(6.1 \pm 0.6) \times 10^{-4}$		DESIG=511
Γ_{86}	$D^- D_s^+$		$(8.1 \pm 0.6) \times 10^{-3}$	S=1.1	DESIG=50
Γ_{87}	$\overline{D}^0 D_s^+ \pi^-$, m($\overline{D}^0 \pi^-$)>2.05 GeV				DESIG=630
Γ_{88}	$D^*(2010)^- D_s^+$		$(8.2 \pm 0.8) \times 10^{-3}$		DESIG=49

Γ_{89}	$D^*(2010)^- D_s^+$, $D^{*-} \to \overline{D}^0 \pi^-$, m($\overline{D}^0 \pi^-$)>2.05 GeV				DESIG=642
Γ_{90}	$D_2^*(2460)^- D_s^+$, $D_2^{*-} \to \overline{D}^0 \pi^-$				DESIG=631
Γ_{91}	$D_1^*(2600)^- D_s^+$, $D_1^{*-} \to \overline{D}^0 \pi^-$				DESIG=632
Γ_{92}	$D_3^*(2750)^- D_s^+$, $D_3^{*-} \to \overline{D}^0 \pi^-$				DESIG=633
Γ_{93}	$D_1^*(2760)^- D_s^+$, $D_1^{*-} \to \overline{D}^0 \pi^-$				DESIG=634
Γ_{94}	$D_J^*(3000)^- D_s^+$, $D_J^{*-} \to \overline{D}^0 \pi^-$				DESIG=635
Γ_{95}	$T_{cs0}^*(2870)^0 \overline{D}^0$, $T_{cs0}^{*0} \to D_s^+ \pi^-$				DESIG=636
Γ_{96}	$D^- D_s^{*+}$	$(7.4 \pm 1.6) \times 10^{-3}$			DESIG=103
Γ_{97}	$D^*(2010)^- D_s^{*+}$	(1.77 ± 0.14) %			DESIG=66
Γ_{98}	$D_{s0}(2317)^- K^+$, $D_{s0}^- \to D_s^- \pi^0$	$(4.2 \pm 1.4) \times 10^{-5}$			DESIG=323
Γ_{99}	$D_{s0}(2317)^- \pi^+$, $D_{s0}^- \to D_s^- \pi^0$	$< 2.5 \times 10^{-5}$	CL=90%		DESIG=324
Γ_{100}	$D_{sJ}(2457)^- K^+$, $D_{sJ}^- \to D_s^- \pi^0$	$< 9.4 \times 10^{-6}$	CL=90%		DESIG=325
Γ_{101}	$D_{sJ}(2457)^- \pi^+$, $D_{sJ}^- \to D_s^- \pi^0$	$< 4.0 \times 10^{-6}$	CL=90%		DESIG=326
Γ_{102}	$D_s^- D_s^+$	$< 3.6 \times 10^{-5}$	CL=90%		DESIG=316
Γ_{103}	$D_s^{*-} D_s^+$	$< 1.3 \times 10^{-4}$	CL=90%		DESIG=317
Γ_{104}	$D_s^{*-} D_s^{*+}$	$< 2.4 \times 10^{-4}$	CL=90%		DESIG=318
Γ_{105}	$D_{s0}^*(2317)^+ D^-$, $D_{s0}^{*+} \to D_s^+ \pi^0$	$(1.05 \pm 0.16) \times 10^{-3}$	S=1.1		DESIG=253
Γ_{106}	$D_{s0}(2317)^+ D^-$, $D_{s0}^+ \to D_s^{*+} \gamma$	$< 9.5 \times 10^{-4}$	CL=90%		DESIG=304
Γ_{107}	$D_{s0}(2317)^+ D^*(2010)^-$, $D_{s0}^+ \to D_s^+ \pi^0$	$(1.5 \pm 0.6) \times 10^{-3}$			DESIG=97
Γ_{108}	$D_{sJ}(2457)^+ D^-$	$(3.5 \pm 1.1) \times 10^{-3}$			DESIG=254
Γ_{109}	$D_{sJ}(2457)^+ D^-$, $D_{sJ}^+ \to D_s^+ \gamma$	$(6.5 {}^{+1.7}_{-1.4}) \times 10^{-4}$			DESIG=99
Γ_{110}	$D_{sJ}(2457)^+ D^-$, $D_{sJ}^+ \to D_s^{*+} \gamma$	$< 6.0 \times 10^{-4}$	CL=90%		DESIG=301
Γ_{111}	$D_{sJ}(2457)^+ D^-$, $D_{sJ}^+ \to D_s^+ \pi^+ \pi^-$	$< 2.0 \times 10^{-4}$	CL=90%		DESIG=302
Γ_{112}	$D_{sJ}(2457)^+ D^-$, $D_{sJ}^+ \to D_s^+ \pi^0$	$< 3.6 \times 10^{-4}$	CL=90%		DESIG=303
Γ_{113}	$D^*(2010)^- D_{sJ}(2457)^+$	$(9.3 \pm 2.2) \times 10^{-3}$			DESIG=98
Γ_{114}	$D_{sJ}(2457)^+ D^*(2010)$, $D_{sJ}^+ \to D_s^+ \gamma$	$(2.3 {}^{+0.9}_{-0.7}) \times 10^{-3}$			DESIG=100
Γ_{115}	$D^- D_{s1}(2536)^+$, $D_{s1}^+ \to D^{*0} K^+ + D^{*+} K^0$	$(2.8 \pm 0.7) \times 10^{-4}$			DESIG=489
Γ_{116}	$D^- D_{s1}(2536)^+$, $D_{s1}^+ \to D^{*0} K^+$	$(1.7 \pm 0.6) \times 10^{-4}$			DESIG=271
Γ_{117}	$D^- D_{s1}(2536)^+$, $D_{s1}^+ \to D^{*+} K^0$	$(2.6 \pm 1.1) \times 10^{-4}$			DESIG=391
Γ_{118}	$D^*(2010)^- D_{s1}(2536)^+$, $D_{s1}^+ \to D^{*0} K^+ + D^{*+} K^0$	$(5.0 \pm 1.4) \times 10^{-4}$			DESIG=490
Γ_{119}	$D^*(2010)^- D_{s1}(2536)^+$, $D_{s1}^+ \to D^{*0} K^+$	$(3.3 \pm 1.1) \times 10^{-4}$			DESIG=272
Γ_{120}	$D^{*-} D_{s1}(2536)^+$, $D_{s1}^+ \to D^{*+} K^0$	$(5.0 \pm 1.7) \times 10^{-4}$			DESIG=392
Γ_{121}	$D^- D_{sJ}(2573)^+$, $D_{sJ}^+ \to D^0 K^+$	$(3.4 \pm 1.8) \times 10^{-5}$			DESIG=273
Γ_{122}	$D^*(2010)^- D_{sJ}(2573)^+$, $D_{sJ}^+ \to D^0 K^+$	$< 2 \times 10^{-4}$	CL=90%		DESIG=274

Γ_{123}	$D^- D_{sJ}(2700)^+$, $D_{sJ}^+ \to D^0 K^+$	$(7.1 \pm 1.2) \times 10^{-4}$		DESIG=545
Γ_{124}	$D^+ \pi^-$	$(7.3 \pm 1.2) \times 10^{-7}$		DESIG=488
Γ_{125}	$D_s^+ \pi^-$	$(2.03 \pm 0.18) \times 10^{-5}$		DESIG=51
Γ_{126}	$D_s^{*+} \pi^-$	$(2.1 \pm 0.4) \times 10^{-5}$	S=1.4	DESIG=108
Γ_{127}	$D_s^+ \rho^-$	$< 2.4 \times 10^{-5}$	CL=90%	DESIG=110
Γ_{128}	$D_s^{*+} \rho^-$	$(4.1 \pm 1.3) \times 10^{-5}$		DESIG=111
Γ_{129}	$D_s^+ a_0^-$	$< 1.9 \times 10^{-5}$	CL=90%	DESIG=352
Γ_{130}	$D_s^{*+} a_0^-$	$< 3.6 \times 10^{-5}$	CL=90%	DESIG=353
Γ_{131}	$D_s^+ a_1(1260)^-$	$< 2.1 \times 10^{-3}$	CL=90%	DESIG=112
Γ_{132}	$D_s^{*+} a_1(1260)^-$	$< 1.7 \times 10^{-3}$	CL=90%	DESIG=113
Γ_{133}	$D_s^+ a_2^-$	$< 1.9 \times 10^{-4}$	CL=90%	DESIG=354
Γ_{134}	$D_s^{*+} a_2^-$	$< 2.0 \times 10^{-4}$	CL=90%	DESIG=355
Γ_{135}	$D_s^- K^+$	$(2.7 \pm 0.5) \times 10^{-5}$	S=2.7	DESIG=52
Γ_{136}	$D_s^{*-} K^+$	$(2.19 \pm 0.30) \times 10^{-5}$		DESIG=120
Γ_{137}	$D_{s1}(2536)^{\mp} K^{\pm}$, $D_{s1}^- \to \overline{D}^*(2007)^0 K^-$	$(5.1 \pm 0.6) \times 10^{-6}$		DESIG=637
Γ_{138}	$D_s^- K^*(892)^+$	$(3.5 \pm 1.0) \times 10^{-5}$		DESIG=114
Γ_{139}	$D_s^{*-} K^*(892)^+$	$(3.2 {}^{+1.5}_{-1.3}) \times 10^{-5}$		DESIG=115
Γ_{140}	$D_s^- \pi^+ K^0$	$(9.7 \pm 1.4) \times 10^{-5}$		DESIG=116
Γ_{141}	$D_s^{*-} \pi^+ K^0$	$< 1.10 \times 10^{-4}$	CL=90%	DESIG=117
Γ_{142}	$D_s^- K^+ \pi^+ \pi^-$	$(1.7 \pm 0.5) \times 10^{-4}$		DESIG=512
Γ_{143}	$D_s^- \pi^+ K^*(892)^0$	$< 3.0 \times 10^{-3}$	CL=90%	DESIG=118
Γ_{144}	$D_s^{*-} \pi^+ K^*(892)^0$	$< 1.6 \times 10^{-3}$	CL=90%	DESIG=119
Γ_{145}	$\overline{D}^0 K^0$	$(5.5 \pm 0.4) \times 10^{-5}$		DESIG=242
Γ_{146}	$\overline{D}^0 K^+ \pi^-$	$(8.8 \pm 1.7) \times 10^{-5}$		DESIG=319
Γ_{147}	$\overline{D}^0 K^*(892)^0$	$(4.5 \pm 0.6) \times 10^{-5}$		DESIG=243
Γ_{148}	$\overline{D}^0 K^*(1410)^0$	$< 6.7 \times 10^{-5}$	CL=90%	DESIG=551
Γ_{149}	$\overline{D}^0 K_0^*(1430)^0$	$(7 \pm 7) \times 10^{-6}$		DESIG=552
Γ_{150}	$\overline{D}^0 K_2^*(1430)^0$	$(2.1 \pm 0.9) \times 10^{-5}$		DESIG=553
Γ_{151}	$D_0^*(2300)^- K^+$, $D_0^{*-} \to \overline{D}^0 \pi^-$	$(1.9 \pm 0.9) \times 10^{-5}$		DESIG=554
Γ_{152}	$D_2^*(2460)^- K^+$, $D_2^{*-} \to \overline{D}^0 \pi^-$	$(2.03 \pm 0.35) \times 10^{-5}$		DESIG=320
Γ_{153}	$D_3^*(2760)^- K^+$, $D_3^{*-} \to \overline{D}^0 \pi^-$	$< 1.0 \times 10^{-6}$	CL=90%	DESIG=555
Γ_{154}	$\overline{D}^0 K^+ \pi^-$ nonresonant	$< 3.7 \times 10^{-5}$	CL=90%	DESIG=321
Γ_{155}	$[K^+ K^-]_D K^*(892)^0$	$(3.7 \pm 0.5) \times 10^{-5}$		DESIG=516
Γ_{156}	$[\pi^+ \pi^-]_D K^*(892)^0$	$(5.0 \pm 0.8) \times 10^{-5}$		DESIG=537
Γ_{157}	$[\pi^+ K^-]_D K^*(892)^0$			DESIG=597
Γ_{158}	$[K^+ \pi^-]_D K^*(892)^0$			DESIG=598
Γ_{159}	$[\pi^+ \pi^- \pi^+ \pi^-]_D K^{*0}$	$(4.0 \pm 0.6) \times 10^{-5}$		DESIG=596
Γ_{160}	$[\pi^+ K^- \pi^+ \pi^-]_D K^{*0}$			DESIG=599
Γ_{161}	$[K^+ \pi^- \pi^+ \pi^-]_D K^{*0}$			DESIG=600
Γ_{162}	$\overline{D}^0 \pi^0$	$(2.67 \pm 0.09) \times 10^{-4}$		DESIG=128
Γ_{163}	$\overline{D}^0 \rho^0$	$(3.21 \pm 0.21) \times 10^{-4}$		DESIG=35
Γ_{164}	$\overline{D}^0 f_2$	$(1.56 \pm 0.21) \times 10^{-4}$		DESIG=386
Γ_{165}	$\overline{D}^0 \eta$	$(2.56 \pm 0.12) \times 10^{-4}$		DESIG=129
Γ_{166}	$\overline{D}^0 \eta'$	$(1.38 \pm 0.16) \times 10^{-4}$	S=1.3	DESIG=130
Γ_{167}	$\overline{D}^0 \omega$	$(2.54 \pm 0.16) \times 10^{-4}$		DESIG=131
Γ_{168}	$\overline{D}^0 \phi$	$(7.7 \pm 2.3) \times 10^{-7}$		DESIG=638
Γ_{169}	$D^0 K^+ \pi^-$	$(5.3 \pm 3.2) \times 10^{-6}$		DESIG=322
Γ_{170}	$D^0 K^*(892)^0$	$(3.0 \pm 0.6) \times 10^{-6}$		DESIG=246
Γ_{171}	$\overline{D}^{*0} \gamma$	$< 2.5 \times 10^{-5}$	CL=90%	DESIG=187
Γ_{172}	$\overline{D}^*(2007)^0 \pi^0$	$(2.2 \pm 0.6) \times 10^{-4}$	S=2.6	DESIG=132

Γ_{173}	$\overline{D}^*(2007)^0 \rho^0$	$< 5.1 \times 10^{-4}$	CL=90%	DESIG=133
Γ_{174}	$\overline{D}^*(2007)^0 \eta$	$(2.3 \pm 0.6) \times 10^{-4}$	S=2.8	DESIG=134
Γ_{175}	$\overline{D}^*(2007)^0 \eta'$	$(1.40 \pm 0.22) \times 10^{-4}$		DESIG=135
Γ_{176}	$\overline{D}^*(2007)^0 \pi^+ \pi^-$	$(6.2 \pm 2.2) \times 10^{-4}$		DESIG=239
Γ_{177}	$\overline{D}^*(2007)^0 K^+ \pi^-$	$(5.2 \pm 1.9) \times 10^{-5}$		DESIG=613
Γ_{178}	$\overline{D}^*(2007)^0 K^0$	$(3.6 \pm 1.2) \times 10^{-5}$		DESIG=244
Γ_{179}	$\overline{D}^*(2007)^0 K^*(892)^0$	$< 6.9 \times 10^{-5}$	CL=90%	DESIG=245
Γ_{180}	$\overline{D}^*(2007)^0 \phi$	$(2.2 \pm 0.6) \times 10^{-6}$		DESIG=641
Γ_{181}	$D^*(2007)^0 K^*(892)^0$	$< 4.0 \times 10^{-5}$	CL=90%	DESIG=247
Γ_{182}	$D^*(2007)^0 \pi^+ \pi^+ \pi^- \pi^-$	$(2.7 \pm 0.5) \times 10^{-3}$		DESIG=195
Γ_{183}	$D^*(2010)^+ D^*(2010)^-$	$(8.0 \pm 0.6) \times 10^{-4}$		DESIG=154
Γ_{184}	$\overline{D}^*(2007)^0 \omega$	$(3.6 \pm 1.1) \times 10^{-4}$	S=3.1	DESIG=136
Γ_{185}	$D^*(2010)^+ D^-$	$(6.1 \pm 1.5) \times 10^{-4}$	S=1.6	DESIG=155
Γ_{186}	$D^*(2007)^0 \overline{D}^*(2007)^0$	$< 9 \times 10^{-5}$	CL=90%	DESIG=185
Γ_{187}	$D^- D^0 K^+$	$(1.07 \pm 0.11) \times 10^{-3}$		DESIG=260
Γ_{188}	$D^- D^*(2007)^0 K^+$	$(3.5 \pm 0.4) \times 10^{-3}$		DESIG=261
Γ_{189}	$D^*(2010)^- D^0 K^+$	$(2.47 \pm 0.21) \times 10^{-3}$		DESIG=262
Γ_{190}	$D^*(2010)^- D^*(2007)^0 K^+$	(1.06 ± 0.09) %		DESIG=263
Γ_{191}	$D^- D^+ K^0$	$(7.5 \pm 1.7) \times 10^{-4}$		DESIG=264
Γ_{192}	$D^*(2010)^- D^+ K^0 +$ $D^- D^*(2010)^+ K^0$	$(6.4 \pm 0.5) \times 10^{-3}$		DESIG=265
Γ_{193}	$D^*(2010)^- D^*(2010)^+ K^0$	$(8.1 \pm 0.7) \times 10^{-3}$		DESIG=266
Γ_{194}	$D^{*-} D_{s1}(2536)^+, \ D^+_{s1} \to$ $D^{*+} K^0$	$(8.0 \pm 2.4) \times 10^{-4}$		DESIG=366
Γ_{195}	$\overline{D}^0 D^0 K^0$	$(2.7 \pm 1.1) \times 10^{-4}$		DESIG=267
Γ_{196}	$D^0 \overline{D}^0 K^+ \pi^-$	$(3.5 \pm 0.5) \times 10^{-4}$		DESIG=609
Γ_{197}	$\overline{D}^0 D^*(2007)^0 K^0 +$ $\overline{D}^*(2007)^0 D^0 K^0$	$(1.1 \pm 0.5) \times 10^{-3}$		DESIG=268
Γ_{198}	$\overline{D}^*(2007)^0 D^*(2007)^0 K^0$	$(2.4 \pm 0.9) \times 10^{-3}$		DESIG=269
Γ_{199}	$(\overline{D}+\overline{D}^*)(D+D^*) K$	(3.68 ± 0.26) %		DESIG=270
	Charmonium modes			NODE=S042;CLUMP=C
Γ_{200}	$\eta_c K^0$	$(1.04 \pm 0.13) \times 10^{-3}$		DESIG=189
Γ_{201}	$\eta_c(1S) K^+ \pi^-$	$(7.8 \pm 1.0) \times 10^{-4}$		DESIG=574
Γ_{202}	$\eta_c(1S) K^+ \pi^-$ (NR)	$(8.1 \pm 1.7) \times 10^{-5}$		DESIG=579
Γ_{203}	$T_{c\overline{c}}(4100)^- K^+, \ T^-_{c\overline{c}} \to$ $\eta_c \pi^-$	$(2.6 \pm 1.3) \times 10^{-5}$		DESIG=585
Γ_{204}	$\eta_c(1S) K^*(1410)^0$	$(2.5 \pm 1.9) \times 10^{-4}$		DESIG=578
Γ_{205}	$\eta_c(1S) K^*_0(1430)^0$	$(2.1 \pm 0.5) \times 10^{-4}$		DESIG=580
Γ_{206}	$\eta_c(1S) K^*_2(1430)^0$	$(6.4 \, ^{+2.9}_{-3.5}) \times 10^{-5}$		DESIG=581
Γ_{207}	$\eta_c(1S) K^*(1680)^0$	$(4 \pm 5) \times 10^{-5}$		DESIG=582
Γ_{208}	$\eta_c(1S) K^*_0(1950)^0$	$(6 \, ^{+4}_{-5}) \times 10^{-5}$		DESIG=583
Γ_{209}	$\eta_c K^*(892)^0$	$(5.3 \, ^{+1.0}_{-1.2}) \times 10^{-4}$	S=2.0	DESIG=240
Γ_{210}	$\eta_c(2S) K^0_S, \ \eta_c \to \ p\overline{p}\pi^+\pi^-$	$(4.2 \, ^{+1.4}_{-1.2}) \times 10^{-7}$		DESIG=593
Γ_{211}	$\eta_c(2S) K^{*0}$	$< 3.9 \times 10^{-4}$	CL=90%	DESIG=436
Γ_{212}	$h_c(1P) K^0_S$	$< 1.4 \times 10^{-5}$		DESIG=592
Γ_{213}	$h_c(1P) K^{*0}$	$< 3.4 \times 10^{-4}$	CL=90%	DESIG=437
Γ_{214}	$J/\psi(1S) K^0$	$(8.91 \pm 0.21) \times 10^{-4}$		DESIG=23
Γ_{215}	$J/\psi(1S) K^+ \pi^-$	$(1.15 \pm 0.05) \times 10^{-3}$		DESIG=4
Γ_{216}	$J/\psi(1S) K^*(892)^0$	$(1.27 \pm 0.05) \times 10^{-3}$		DESIG=22
Γ_{217}	$J/\psi(1S) \eta K^0_S$	$(5.4 \pm 0.9) \times 10^{-5}$		DESIG=278
Γ_{218}	$J/\psi(1S) \eta' K^0_S$	$< 2.5 \times 10^{-5}$	CL=90%	DESIG=384
Γ_{219}	$J/\psi(1S) \phi K^0$	$(4.9 \pm 1.0) \times 10^{-5}$	S=1.3	DESIG=194
Γ_{220}	$J/\psi(1S) \omega K^0$	$(2.3 \pm 0.4) \times 10^{-4}$		DESIG=440
Γ_{221}	$\chi_{c0}(3915), \ \chi_{c0} \to \ J/\psi \omega$	$(2.1 \pm 0.9) \times 10^{-5}$		DESIG=485
Γ_{222}	$J/\psi(1S) K(1270)^0$	$(1.3 \pm 0.5) \times 10^{-3}$		DESIG=203
Γ_{223}	$J/\psi(1S) \pi^0$	$(1.73 \pm 0.09) \times 10^{-5}$	S=1.2	DESIG=140
Γ_{224}	$J/\psi(1S) \eta$	$(1.08 \pm 0.23) \times 10^{-5}$	S=1.5	DESIG=153

Γ_{225}	$J/\psi(1S)\pi^+\pi^-$		$(3.99\pm 0.15)\times 10^{-5}$		DESIG=241
Γ_{226}	$J/\psi(1S)\pi^+\pi^-$ nonresonant		$< 1.2 \times 10^{-5}$	CL=90%	DESIG=387
Γ_{227}	$J/\psi(1S)f_0(500)$, $f_0 \to \pi\pi$		$(8.8 {}^{+1.2}_{-1.6})\times 10^{-6}$		DESIG=513
Γ_{228}	$J/\psi(1S)f_2$		$(3.3 {}^{+0.5}_{-0.6})\times 10^{-6}$	S=1.5	DESIG=388
Γ_{229}	$J/\psi(1S)\rho^0$		$(2.55 {}^{+0.18}_{-0.16})\times 10^{-5}$		DESIG=148
Γ_{230}	$J/\psi(1S)f_0(980)$, $f_0 \to \pi^+\pi^-$		$< 1.1 \times 10^{-6}$	CL=90%	DESIG=514
Γ_{231}	$J/\psi(1S)\rho(1450)^0$, $\rho^0 \to \pi\pi$		$(2.9 {}^{+1.6}_{-0.7})\times 10^{-6}$		DESIG=515
Γ_{232}	$J/\psi\rho(1700)^0$, $\rho^0 \to \pi^+\pi^-$		$(2.0 \pm 1.3)\times 10^{-6}$		DESIG=539
Γ_{233}	$J/\psi(1S)\omega$		$(2.08\pm 0.29)\times 10^{-5}$		DESIG=149
Γ_{234}	$J/\psi(1S)K^+K^-$		$(2.53\pm 0.35)\times 10^{-6}$		DESIG=525
Γ_{235}	$J/\psi(1S)a_0(980)$, $a_0 \to K^+K^-$		$(4.7 \pm 3.4)\times 10^{-7}$		DESIG=526
Γ_{236}	$J/\psi(1S)\phi$		$< 1.1 \times 10^{-7}$	CL=90%	DESIG=249
Γ_{237}	$J/\psi(1S)\eta'(958)$		$(7.6 \pm 2.4)\times 10^{-6}$		DESIG=250
Γ_{238}	$J/\psi(1S)K^0\pi^+\pi^-$		$(4.5 \pm 0.4)\times 10^{-4}$		DESIG=211
Γ_{239}	$J/\psi(1S)K^0K^-\pi^+ +$ c.c.		$< 2.1 \times 10^{-5}$	CL=90%	DESIG=535
Γ_{240}	$J/\psi(1S)K^0K^+K^-$		$(2.5 \pm 0.7)\times 10^{-5}$	S=1.8	DESIG=532
Γ_{241}	$J/\psi(1S)K^0K^\pm\pi^\mp$				DESIG=533
Γ_{242}	$J/\psi(1S)K^0\rho^0$		$(5.4 \pm 3.0)\times 10^{-4}$		DESIG=212
Γ_{243}	$J/\psi(1S)K^*(892)^+\pi^-$		$(8 \pm 4)\times 10^{-4}$		DESIG=213
Γ_{244}	$J/\psi(1S)\pi^+\pi^-\pi^+\pi^-$		$(1.44\pm 0.12)\times 10^{-5}$		DESIG=530
Γ_{245}	$J/\psi(1S)f_1(1285)$		$(8.4 \pm 2.1)\times 10^{-6}$		DESIG=531
Γ_{246}	$J/\psi(1S)K^*(892)^0\pi^+\pi^-$		$(6.6 \pm 2.2)\times 10^{-4}$		DESIG=214
Γ_{247}	$\eta_{c2}(1D)K^0_S$, $\eta_{c2} \to h_c\gamma$		$< 3.5 \times 10^{-5}$	CL=90%	DESIG=603
Γ_{248}	$\eta_{c2}(1D)\pi^-K^+$, $\eta_{c2} \to h_c\gamma$		$< 1.0 \times 10^{-4}$	CL=90%	DESIG=604
Γ_{249}	$\chi_{c1}(3872)^-K^+$		$< 5 \times 10^{-4}$	CL=90%	DESIG=330
Γ_{250}	$\chi_{c1}(3872)^-K^+$, $\chi_{c1}(3872)^- \to J/\psi(1S)\pi^-\pi^0$	[c]	$< 4.2 \times 10^{-6}$	CL=90%	DESIG=308
Γ_{251}	$\chi_{c1}(3872)K^0$		$(1.1 \pm 0.4)\times 10^{-4}$		DESIG=605
Γ_{252}	$\chi_{c1}(3872)K^*(892)^0$		$(9 \pm 5)\times 10^{-5}$		DESIG=606
Γ_{253}	$\chi_{c1}(3872)K^+\pi^-$		$(1.8 \pm 0.7)\times 10^{-4}$		DESIG=607
Γ_{254}	$\chi_{c1}(3872)\gamma$		$< 1.2 \times 10^{-5}$	CL=90%	DESIG=608
Γ_{255}	$T_{c\overline{c}1}(4430)^\pm K^\mp$, $T^\pm_{c\overline{c}1} \to \psi(2S)\pi^\pm$		$(6.0 {}^{+3.0}_{-2.4})\times 10^{-5}$		DESIG=438
Γ_{256}	$T_{c\overline{c}1}(4430)^\pm K^\mp$, $T^\pm_{c\overline{c}1} \to J/\psi\pi^\pm$		$(5.4 {}^{+4.0}_{-1.2})\times 10^{-6}$		DESIG=450
Γ_{257}	$T_{c\overline{c}1}(3900)^\pm K^\mp$, $T^\pm_{c\overline{c}1} \to J/\psi\pi^\pm$		$< 9 \times 10^{-7}$		DESIG=563
Γ_{258}	$T_{c\overline{c}1}(4200)^\pm K^\mp$, $T^\pm_{c\overline{c}1} \to J/\psi\pi^\pm$		$(2.2 {}^{+1.3}_{-0.8})\times 10^{-5}$		DESIG=564
Γ_{259}	$J/\psi(1S)p\overline{p}$		$(4.5 \pm 0.6)\times 10^{-7}$		DESIG=248
Γ_{260}	$J/\psi(1S)\gamma$		$< 1.5 \times 10^{-6}$	CL=90%	DESIG=279
Γ_{261}	$J/\psi\mu^+\mu^-$, $J/\psi \to \mu^+\mu^-$		$< 1.0 \times 10^{-9}$	CL=95%	DESIG=620
Γ_{262}	$J/\psi(1S)\overline{D}^0$		$< 9.6 \times 10^{-7}$	CL=90%	DESIG=306
Γ_{263}	$\psi(2S)\pi^0$		$(1.17\pm 0.19)\times 10^{-5}$		DESIG=549
Γ_{264}	$\psi(2S)K^0$		$(5.8 \pm 0.5)\times 10^{-4}$		DESIG=68
Γ_{265}	$\psi(2S)K^0\pi^+\pi^-$		$(2.81\pm 0.30)\times 10^{-4}$		DESIG=615
Γ_{266}	$\psi(3770)K^0$, $\psi \to \overline{D}^0D^0$		$< 1.23 \times 10^{-4}$	CL=90%	DESIG=393
Γ_{267}	$\psi(3770)K^0$, $\psi \to D^-D^+$		$< 1.88 \times 10^{-4}$	CL=90%	DESIG=394
Γ_{268}	$\psi(2S)\pi^+\pi^-$		$(2.24\pm 0.35)\times 10^{-5}$		DESIG=527
Γ_{269}	$\psi(2S)K^+\pi^-$		$(5.8 \pm 0.4)\times 10^{-4}$		DESIG=70
Γ_{270}	$\psi(2S)K^*(892)^0$		$(5.9 \pm 0.4)\times 10^{-4}$		DESIG=69

Γ_{271}	$\chi_{c0} K^0$		$(1.9 \pm 0.4) \times 10^{-4}$		DESIG=190
Γ_{272}	$\chi_{c0} K^*(892)^0$		$(1.7 \pm 0.4) \times 10^{-4}$		DESIG=327
Γ_{273}	$\chi_{c1} \pi^0$		$(1.12 \pm 0.28) \times 10^{-5}$		DESIG=444
Γ_{274}	$\chi_{c1} K^0$		$(3.95 \pm 0.27) \times 10^{-4}$		DESIG=126
Γ_{275}	$\chi_{c1} \pi^- K^+$		$(4.97 \pm 0.30) \times 10^{-4}$		DESIG=441
Γ_{276}	$\chi_{c1} K^*(892)^0$		$(2.38 \pm 0.19) \times 10^{-4}$	S=1.2	DESIG=127
Γ_{277}	$T_{c\overline{c}}(4050)^- K^+$, $T_{c\overline{c}}^- \to \chi_{c1} \pi^-$		$(3.0 {}^{+4.0}_{-1.8}) \times 10^{-5}$		DESIG=442
Γ_{278}	$T_{c\overline{c}}(4250)^- K^+$, $T_{c\overline{c}}^- \to \chi_{c1} \pi^-$		$(4.0 {}^{+20.0}_{-1.0}) \times 10^{-5}$		DESIG=443
Γ_{279}	$\chi_{c1} \pi^+ \pi^- K^0$		$(3.2 \pm 0.5) \times 10^{-4}$		DESIG=565
Γ_{280}	$\chi_{c1} \pi^- \pi^0 K^+$		$(3.5 \pm 0.6) \times 10^{-4}$		DESIG=566
Γ_{281}	$\chi_{c2} K^0$		$< 1.5 \times 10^{-5}$	CL=90%	DESIG=328
Γ_{282}	$\chi_{c2} K^*(892)^0$		$(4.9 \pm 1.2) \times 10^{-5}$	S=1.1	DESIG=329
Γ_{283}	$\chi_{c2} \pi^- K^+$		$(7.2 \pm 1.0) \times 10^{-5}$		DESIG=568
Γ_{284}	$\chi_{c2} \pi^+ \pi^- K^0$		$< 1.70 \times 10^{-4}$	CL=90%	DESIG=569
Γ_{285}	$\chi_{c2} \pi^- \pi^0 K^+$		$< 7.4 \times 10^{-5}$	CL=90%	DESIG=567
Γ_{286}	$\psi(4660) K^0$, $\psi \to \Lambda_c^+ \Lambda_c^-$		$< 2.3 \times 10^{-4}$	CL=90%	DESIG=576
Γ_{287}	$\psi(4230)^0 K^0$, $\psi^0 \to J/\psi \pi^+ \pi^-$		$< 1.7 \times 10^{-5}$	CL=90%	DESIG=590
	K or K^* modes				NODE=S042;CLUMP=D
Γ_{288}	$K^+ \pi^-$		$(2.00 \pm 0.04) \times 10^{-5}$		DESIG=10
Γ_{289}	$K^0 \pi^0$		$(1.01 \pm 0.04) \times 10^{-5}$		DESIG=144
Γ_{290}	$\eta' K^0$		$(6.6 \pm 0.4) \times 10^{-5}$	S=1.4	DESIG=163
Γ_{291}	$\eta' K^*(892)^0$		$(2.8 \pm 0.6) \times 10^{-6}$		DESIG=164
Γ_{292}	$\eta' K_0^*(1430)^0$		$(6.3 \pm 1.6) \times 10^{-6}$		DESIG=474
Γ_{293}	$\eta' K_2^*(1430)^0$		$(1.37 \pm 0.32) \times 10^{-5}$		DESIG=475
Γ_{294}	ηK^0		$(1.23 {}^{+0.27}_{-0.24}) \times 10^{-6}$		DESIG=166
Γ_{295}	$\eta K^*(892)^0$		$(1.59 \pm 0.10) \times 10^{-5}$		DESIG=165
Γ_{296}	$\eta K_0^*(1430)^0$		$(1.10 \pm 0.22) \times 10^{-5}$		DESIG=343
Γ_{297}	$\eta K_2^*(1430)^0$		$(9.6 \pm 2.1) \times 10^{-6}$		DESIG=344
Γ_{298}	ωK^0		$(4.8 \pm 0.4) \times 10^{-6}$		DESIG=172
Γ_{299}	$a_0(980)^0 K^0$, $a_0^0 \to \eta \pi^0$		$< 7.8 \times 10^{-6}$	CL=90%	DESIG=288
Γ_{300}	$b_1^0 K^0$, $b_1^0 \to \omega \pi^0$		$< 7.8 \times 10^{-6}$	CL=90%	DESIG=430
Γ_{301}	$a_0(980)^\pm K^\mp$, $a_0^\pm \to \eta \pi^\pm$		$< 1.9 \times 10^{-6}$	CL=90%	DESIG=287
Γ_{302}	$b_1^- K^+$, $b_1^- \to \omega \pi^-$		$(7.4 \pm 1.4) \times 10^{-6}$		DESIG=410
Γ_{303}	$b_1^0 K^{*0}$, $b_1^0 \to \omega \pi^0$		$< 8.0 \times 10^{-6}$	CL=90%	DESIG=465
Γ_{304}	$b_1^- K^{*+}$, $b_1^- \to \omega \pi^-$		$< 5.0 \times 10^{-6}$	CL=90%	DESIG=466
Γ_{305}	$a_0(1450)^\pm K^\mp$, $a_0^\pm \to \eta \pi^\pm$		$< 3.1 \times 10^{-6}$	CL=90%	DESIG=378
Γ_{306}	$K_S^0 X^0$ (Familon)		$< 5.3 \times 10^{-5}$	CL=90%	DESIG=208
Γ_{307}	$\omega K^*(892)^0$		$(2.0 \pm 0.5) \times 10^{-6}$		DESIG=173
Γ_{308}	$\omega (K\pi)_0^{*0}$		$(1.84 \pm 0.25) \times 10^{-5}$		DESIG=447
Γ_{309}	$\omega K_0^*(1430)^0$		$(1.60 \pm 0.34) \times 10^{-5}$		DESIG=448
Γ_{310}	$\omega K_2^*(1430)^0$		$(1.01 \pm 0.23) \times 10^{-5}$		DESIG=449
Γ_{311}	$\omega K^+ \pi^-$ nonresonant		$(5.1 \pm 1.0) \times 10^{-6}$		DESIG=446
Γ_{312}	$K^+ \pi^- \pi^0$		$(3.78 \pm 0.32) \times 10^{-5}$		DESIG=229
Γ_{313}	$K^+ \rho^-$		$(7.0 \pm 0.9) \times 10^{-6}$		DESIG=145
Γ_{314}	$K^+ \rho(1450)^-$		$(2.4 \pm 1.2) \times 10^{-6}$		DESIG=424
Γ_{315}	$K^+ \rho(1700)^-$		$(6 \pm 7) \times 10^{-7}$		DESIG=425
Γ_{316}	$(K^+ \pi^- \pi^0)$ nonresonant		$(2.8 \pm 0.6) \times 10^{-6}$		DESIG=282
Γ_{317}	$(K\pi)_0^{*+} \pi^-$, $(K\pi)_0^{*+} \to K^+ \pi^0$		$(3.4 \pm 0.5) \times 10^{-5}$		DESIG=426
Γ_{318}	$(K\pi)_0^{*0} \pi^0$, $(K\pi)_0^{*0} \to K^+ \pi^-$		$(8.6 \pm 1.7) \times 10^{-6}$		DESIG=427
Γ_{319}	$K_2^*(1430)^0 \pi^0$		$< 4.0 \times 10^{-6}$	CL=90%	DESIG=428
Γ_{320}	$K^*(1680)^0 \pi^0$		$< 7.5 \times 10^{-6}$	CL=90%	DESIG=429
Γ_{321}	$K_x^{*0} \pi^0$	[d]	$(6.1 \pm 1.6) \times 10^{-6}$		DESIG=280

Γ_{322}	$K^0\pi^+\pi^-$		$(4.97\pm 0.18)\times 10^{-5}$		DESIG=80
Γ_{323}	$K^0\pi^+\pi^-$ nonresonant		$(1.39^{+0.26}_{-0.18})\times 10^{-5}$	S=1.6	DESIG=367
Γ_{324}	$K^0\rho^0$		$(3.4\pm 1.1)\times 10^{-6}$	S=2.3	DESIG=12
Γ_{325}	$K^*(892)^+\pi^-$		$(7.5\pm 0.4)\times 10^{-6}$		DESIG=11
Γ_{326}	$K_0^*(1430)^+\pi^-$		$(3.3\pm 0.7)\times 10^{-5}$	S=2.0	DESIG=368
Γ_{327}	$K_x^{*+}\pi^-$	[d]	$(5.1\pm 1.6)\times 10^{-6}$		DESIG=281
Γ_{328}	$K^*(1410)^+\pi^-,\ K^{*+}\to K^0\pi^+$		$< 3.8\times 10^{-6}$	CL=90%	DESIG=369
Γ_{329}	$(K\pi)_0^{*+}\pi^-,\ (K\pi)_0^{*+}\to K^0\pi^+$		$(1.62\pm 0.13)\times 10^{-5}$		DESIG=589
Γ_{330}	$f_0(980)K^0,\ f_0\to\pi^+\pi^-$		$(8.1\pm 0.8)\times 10^{-6}$	S=1.3	DESIG=372
Γ_{331}	$K^0 f_0(500)$		$(1.6^{+2.5}_{-1.6})\times 10^{-7}$		DESIG=587
Γ_{332}	$K^0 f_0(1500)$		$(1.3\pm 0.8)\times 10^{-6}$		DESIG=586
Γ_{333}	$f_2(1270)K^0$		$(2.7^{+1.3}_{-1.2})\times 10^{-6}$		DESIG=373
Γ_{334}	$f_x(1300)K0, f_x\to\pi^+\pi^-$		$(1.8\pm 0.7)\times 10^{-6}$		DESIG=473
Γ_{335}	$K^*(892)^0\pi^0$		$(3.3\pm 0.6)\times 10^{-6}$		DESIG=146
Γ_{336}	$K_2^*(1430)^+\pi^-$		$(3.65\pm 0.34)\times 10^{-6}$		DESIG=72
Γ_{337}	$K^*(1680)^+\pi^-$		$(1.41\pm 0.10)\times 10^{-5}$		DESIG=370
Γ_{338}	$K^+\pi^-\pi^+\pi^-$	[e]	$< 2.3\times 10^{-4}$	CL=90%	DESIG=143
Γ_{339}	$\rho^0 K^+\pi^-$		$(2.8\pm 0.7)\times 10^{-6}$		DESIG=461
Γ_{340}	$f_0(980)K^+\pi^-,\ f_0\to\pi\pi$		$(1.4^{+0.5}_{-0.6})\times 10^{-6}$		DESIG=462
Γ_{341}	$K^+\pi^-\pi^+\pi^-$ nonresonant		$< 2.1\times 10^{-6}$	CL=90%	DESIG=464
Γ_{342}	$K^*(892)^0\pi^+\pi^-$		$(5.5\pm 0.5)\times 10^{-5}$		DESIG=84
Γ_{343}	$K^*(892)^0\rho^0$		$(3.9\pm 1.3)\times 10^{-6}$	S=1.9	DESIG=15
Γ_{344}	$K^*(892)^0 f_0(980),\ f_0\to\pi\pi$		$(3.9^{+2.1}_{-1.8})\times 10^{-6}$	S=3.9	DESIG=45
Γ_{345}	$K_1(1270)^+\pi^-$		$< 3.0\times 10^{-5}$	CL=90%	DESIG=472
Γ_{346}	$K_1(1400)^+\pi^-$		$< 2.7\times 10^{-5}$	CL=90%	DESIG=86
Γ_{347}	$a_1(1260)^- K^+$	[e]	$(1.6\pm 0.4)\times 10^{-5}$		DESIG=142
Γ_{348}	$K^*(892)^+\rho^-$		$(1.03\pm 0.26)\times 10^{-5}$		DESIG=342
Γ_{349}	$K_0^*(1430)^+\rho^-$		$(2.8\pm 1.2)\times 10^{-5}$		DESIG=501
Γ_{350}	$K_1(1400)^0\rho^0$		$< 3.0\times 10^{-3}$	CL=90%	DESIG=73
Γ_{351}	$K_0^*(1430)^0\rho^0$		$(2.7\pm 0.6)\times 10^{-5}$		DESIG=498
Γ_{352}	$K_0^*(1430)^0 f_0(980),\ f_0\to\pi\pi$		$(2.7\pm 0.9)\times 10^{-6}$		DESIG=499
Γ_{353}	$K_2^*(1430)^0 f_0(980),\ f_0\to\pi\pi$		$(8.6\pm 2.0)\times 10^{-6}$		DESIG=500
Γ_{354}	K^+K^-		$(7.8\pm 1.5)\times 10^{-8}$		DESIG=106
Γ_{355}	$K^0\overline{K}^0$		$(1.21\pm 0.16)\times 10^{-6}$		DESIG=162
Γ_{356}	$K^0K^-\pi^+$		$(6.7\pm 0.5)\times 10^{-6}$		DESIG=228
Γ_{357}	$K^*(892)^\pm K^\mp$		$< 4\times 10^{-7}$	CL=90%	DESIG=538
Γ_{358}	$\overline{K}^{*0}K^0 + K^{*0}\overline{K}^0$		$< 9.6\times 10^{-7}$	CL=90%	DESIG=341
Γ_{359}	$K^+K^-\pi^0$		$(2.2\pm 0.6)\times 10^{-6}$		DESIG=230
Γ_{360}	$K_S^0K_S^0\pi^0$		$< 9\times 10^{-7}$	CL=90%	DESIG=458
Γ_{361}	$K_S^0K_S^0\eta$		$< 1.0\times 10^{-6}$	CL=90%	DESIG=459
Γ_{362}	$K_S^0K_S^0\eta'$		$< 2.0\times 10^{-6}$	CL=90%	DESIG=460
Γ_{363}	$K^0K^+K^-$		$(2.68\pm 0.11)\times 10^{-5}$		DESIG=81
Γ_{364}	$K^0\phi$		$(7.3\pm 0.7)\times 10^{-6}$		DESIG=13
Γ_{365}	$f_0(980)K^0,\ f_0\to K^+K^-$		$(7.0^{+3.5}_{-3.0})\times 10^{-6}$		DESIG=502
Γ_{366}	$f_0(1500)K^0$		$(1.3^{+0.7}_{-0.5})\times 10^{-5}$		DESIG=503
Γ_{367}	$f_2'(1525)^0K^0$		$(3^{+5}_{-4})\times 10^{-7}$		DESIG=504
Γ_{368}	$f_0(1710)K^0,\ f_0\to K^+K^-$		$(4.4\pm 0.9)\times 10^{-6}$		DESIG=505
Γ_{369}	$K^0K^+K^-$ nonresonant		$(3.3\pm 1.0)\times 10^{-5}$		DESIG=506
Γ_{370}	$K_S^0K_S^0K_S^0$		$(6.0\pm 0.5)\times 10^{-6}$	S=1.1	DESIG=255
Γ_{371}	$f_0(980)K^0,\ f_0\to K_S^0K_S^0$		$(2.7\pm 1.8)\times 10^{-6}$		DESIG=494

Γ_{372}	$f_0(1710) K^0$, $f_0 \to K^0_S K^0_S$	$(5.0 {}^{+5.0}_{-2.6}) \times 10^{-7}$		DESIG=495
Γ_{373}	$f_2(2010) K^0$, $f_2 \to K^0_S K^0_S$	$(5 \pm 6) \times 10^{-7}$		DESIG=496
Γ_{374}	$K^0_S K^0_S K^0_S$ nonresonant	$(1.33 \pm 0.31) \times 10^{-5}$		DESIG=497
Γ_{375}	$K^0_S K^0_S K^0_L$	$< 1.6 \times 10^{-5}$	CL=90%	DESIG=339
Γ_{376}	$K^*(892)^0 K^+ K^-$	$(2.75 \pm 0.26) \times 10^{-5}$		DESIG=85
Γ_{377}	$K^*(892)^0 \phi$	$(1.00 \pm 0.05) \times 10^{-5}$		DESIG=14
Γ_{378}	$K^+ K^- \pi^+ \pi^-$ nonresonant	$< 7.17 \times 10^{-5}$	CL=90%	DESIG=476
Γ_{379}	$K^*(892)^0 K^- \pi^+$	$(4.5 \pm 1.3) \times 10^{-6}$		DESIG=402
Γ_{380}	$K^*(892)^0 \overline{K}^*(892)^0$	$(8.3 \pm 2.4) \times 10^{-7}$	S=1.5	DESIG=188
Γ_{381}	$K^+ K^+ \pi^- \pi^-$ nonresonant	$< 6.0 \times 10^{-6}$	CL=90%	DESIG=480
Γ_{382}	$K^*(892)^0 K^+ \pi^-$	$< 2.2 \times 10^{-6}$	CL=90%	DESIG=403
Γ_{383}	$K^*(892)^0 K^*(892)^0$	$< 2 \times 10^{-7}$	CL=90%	DESIG=206
Γ_{384}	$K^*(892)^+ K^*(892)^-$	$< 2.0 \times 10^{-6}$	CL=90%	DESIG=207
Γ_{385}	$K_1(1400)^0 \phi$	$< 5.0 \times 10^{-3}$	CL=90%	DESIG=75
Γ_{386}	$\phi (K\pi)^{*0}_0$	$(4.3 \pm 0.4) \times 10^{-6}$		DESIG=346
Γ_{387}	$\phi (K\pi)^{*0}_0$ $(1.60 < m_{K\pi} < 2.15)$ [f]	$< 1.7 \times 10^{-6}$	CL=90%	DESIG=397
Γ_{388}	$K^*_0(1430)^0 K^- \pi^+$	$< 3.18 \times 10^{-5}$	CL=90%	DESIG=477
Γ_{389}	$K^*_0(1430)^0 \overline{K}^*(892)^0$	$< 3.3 \times 10^{-6}$	CL=90%	DESIG=478
Γ_{390}	$K^*_0(1430)^0 \overline{K}^*_0(1430)^0$	$< 8.4 \times 10^{-6}$	CL=90%	DESIG=479
Γ_{391}	$K^*_0(1430)^0 \phi$	$(3.9 \pm 0.8) \times 10^{-6}$		DESIG=305
Γ_{392}	$K^*_0(1430)^0 K^*(892)^0$	$< 1.7 \times 10^{-6}$	CL=90%	DESIG=481
Γ_{393}	$K^*_0(1430)^0 K^*_0(1430)^0$	$< 4.7 \times 10^{-6}$	CL=90%	DESIG=482
Γ_{394}	$K^*(1680)^0 \phi$	$< 3.5 \times 10^{-6}$	CL=90%	DESIG=398
Γ_{395}	$K^*(1780)^0 \phi$	$< 2.7 \times 10^{-6}$	CL=90%	DESIG=399
Γ_{396}	$K^*(2045)^0 \phi$	$< 1.53 \times 10^{-5}$	CL=90%	DESIG=400
Γ_{397}	$K^*_2(1430)^0 \rho^0$	$< 1.1 \times 10^{-3}$	CL=90%	DESIG=74
Γ_{398}	$K^*_2(1430)^0 \phi$	$(6.8 \pm 0.9) \times 10^{-6}$	S=1.2	DESIG=76
Γ_{399}	$K^0 \phi \phi$	$(3.7 \pm 0.7) \times 10^{-6}$	S=1.3	DESIG=345
Γ_{400}	$\eta' \eta' K^0$	$< 3.1 \times 10^{-5}$	CL=90%	DESIG=338
Γ_{401}	$\eta K^0 \gamma$	$(7.6 \pm 1.8) \times 10^{-6}$		DESIG=309
Γ_{402}	$\eta' K^0 \gamma$	$< 6.4 \times 10^{-6}$	CL=90%	DESIG=337
Γ_{403}	$K^0 \phi \gamma$	$(2.7 \pm 0.7) \times 10^{-6}$		DESIG=283
Γ_{404}	$K^+ \pi^- \gamma$	$(4.6 \pm 1.4) \times 10^{-6}$		DESIG=231
Γ_{405}	$K^*(892)^0 \gamma$	$(4.18 \pm 0.25) \times 10^{-5}$	S=2.1	DESIG=16
Γ_{406}	$K^*(1410) \gamma$	$< 1.3 \times 10^{-4}$	CL=90%	DESIG=233
Γ_{407}	$K^+ \pi^- \gamma$ nonresonant	$< 2.6 \times 10^{-6}$	CL=90%	DESIG=234
Γ_{408}	$K^*(892)^0 X(214)$, $X \to \mu^+ \mu^-$ [g]	$< 2.26 \times 10^{-8}$	CL=90%	DESIG=483
Γ_{409}	$K^0 \pi^+ \pi^- \gamma$	$(1.99 \pm 0.18) \times 10^{-5}$		DESIG=310
Γ_{410}	$K^+ \pi^- \pi^0 \gamma$	$(4.1 \pm 0.4) \times 10^{-5}$		DESIG=376
Γ_{411}	$K_1(1270)^0 \gamma$	$< 5.8 \times 10^{-5}$	CL=90%	DESIG=38
Γ_{412}	$K_1(1400)^0 \gamma$	$< 1.2 \times 10^{-5}$	CL=90%	DESIG=39
Γ_{413}	$K^*_2(1430)^0 \gamma$	$(1.24 \pm 0.24) \times 10^{-5}$		DESIG=40
Γ_{414}	$K^*(1680)^0 \gamma$	$< 2.0 \times 10^{-3}$	CL=90%	DESIG=41
Γ_{415}	$K^*_3(1780)^0 \gamma$	$< 8.3 \times 10^{-5}$	CL=90%	DESIG=42
Γ_{416}	$K^*_4(2045)^0 \gamma$	$< 4.3 \times 10^{-3}$	CL=90%	DESIG=43
	Light unflavored meson modes			NODE=S042;CLUMP=E
Γ_{417}	$\rho^0 \gamma$	$(8.1 \pm 1.1) \times 10^{-7}$		DESIG=191
Γ_{418}	$\rho^0 X(214)$, $X \to \mu^+ \mu^-$ [g]	$< 1.73 \times 10^{-8}$	CL=90%	DESIG=484
Γ_{419}	$\omega \gamma$	$(4.4 {}^{+1.8}_{-1.6}) \times 10^{-7}$		DESIG=192
Γ_{420}	$\phi \gamma$	$< 1.0 \times 10^{-7}$	CL=90%	DESIG=193
Γ_{421}	$f_2(1270) \gamma$, $f_2 \to (KS)^0 (KS)^0$	$< 3.1 \times 10^{-7}$		DESIG=616
Γ_{422}	$f'_2(1525) \gamma$, $f'_2 \to (KS)^0 (KS)^0$	$< 2.1 \times 10^{-7}$		DESIG=617
Γ_{423}	$\pi^+ \pi^-$	$(5.37 \pm 0.20) \times 10^{-6}$	S=1.3	DESIG=5
Γ_{424}	$\pi^0 \pi^0$	$(1.46 \pm 0.19) \times 10^{-6}$	S=1.3	DESIG=137
Γ_{425}	$\eta \pi^0$	$(4.1 \pm 1.7) \times 10^{-7}$		DESIG=60
Γ_{426}	$\eta \eta$	$< 1.0 \times 10^{-6}$	CL=90%	DESIG=139

Γ_{427}	$\eta' \pi^0$		$(1.2 \pm 0.6) \times 10^{-6}$	S=1.7	DESIG=167
Γ_{428}	$\eta' \eta'$		$< 1.7 \times 10^{-6}$	CL=90%	DESIG=168
Γ_{429}	$\eta' \eta$		$< 1.2 \times 10^{-6}$	CL=90%	DESIG=169
Γ_{430}	$\eta' \rho^0$		$< 1.3 \times 10^{-6}$	CL=90%	DESIG=170
Γ_{431}	$\eta' f_0(980)$, $f_0 \rightarrow \pi^+ \pi^-$		$< 9 \times 10^{-7}$	CL=90%	DESIG=347
Γ_{432}	$\eta \rho^0$		$< 1.5 \times 10^{-6}$	CL=90%	DESIG=171
Γ_{433}	$\eta f_0(980)$, $f_0 \rightarrow \pi^+ \pi^-$		$< 4 \times 10^{-7}$	CL=90%	DESIG=379
Γ_{434}	$\omega \eta$		$(9.4 {}^{+4.0}_{-3.1}) \times 10^{-7}$		DESIG=174
Γ_{435}	$\omega \eta'$		$(1.0 {}^{+0.5}_{-0.4}) \times 10^{-6}$		DESIG=175
Γ_{436}	$\omega \rho^0$		$< 1.6 \times 10^{-6}$	CL=90%	DESIG=176
Γ_{437}	$\omega f_0(980)$, $f_0 \rightarrow \pi^+ \pi^-$		$< 1.5 \times 10^{-6}$	CL=90%	DESIG=340
Γ_{438}	$\omega \omega$		$(1.40 \pm 0.25) \times 10^{-6}$		DESIG=177
Γ_{439}	$\phi \pi^0$		$< 1.5 \times 10^{-7}$	CL=90%	DESIG=178
Γ_{440}	$\phi \eta$		$< 5 \times 10^{-7}$	CL=90%	DESIG=179
Γ_{441}	$\phi \eta'$		$< 5 \times 10^{-7}$	CL=90%	DESIG=180
Γ_{442}	$\phi \pi^+ \pi^-$		$(1.8 \pm 0.5) \times 10^{-7}$		DESIG=570
Γ_{443}	$\phi \rho^0$		$< 3.3 \times 10^{-7}$	CL=90%	DESIG=182
Γ_{444}	$\phi f_0(980)$, $f_0 \rightarrow \pi^+ \pi^-$		$< 3.8 \times 10^{-7}$	CL=90%	DESIG=434
Γ_{445}	$\phi \omega$		$< 7 \times 10^{-7}$	CL=90%	DESIG=183
Γ_{446}	$\phi \phi$		$< 2.7 \times 10^{-8}$	CL=90%	DESIG=147
Γ_{447}	$a_0(980)^{\pm} \pi^{\mp}$, $a_0^{\pm} \rightarrow \eta \pi^{\pm}$		$< 3.1 \times 10^{-6}$	CL=90%	DESIG=286
Γ_{448}	$a_0(1450)^{\pm} \pi^{\mp}$, $a_0^{\pm} \rightarrow \eta \pi^{\pm}$		$< 2.3 \times 10^{-6}$	CL=90%	DESIG=377
Γ_{449}	$\pi^+ \pi^- \pi^0$		$< 7.2 \times 10^{-4}$	CL=90%	DESIG=53
Γ_{450}	$\rho^0 \pi^0$		$(2.0 \pm 0.5) \times 10^{-6}$		DESIG=54
Γ_{451}	$\rho^{\mp} \pi^{\pm}$	[h]	$(2.30 \pm 0.23) \times 10^{-5}$		DESIG=24
Γ_{452}	$\pi^+ \pi^- \pi^+ \pi^-$		$< 1.12 \times 10^{-5}$	CL=90%	DESIG=55
Γ_{453}	$\rho^0 \pi^+ \pi^-$		$< 8.8 \times 10^{-6}$	CL=90%	DESIG=432
Γ_{454}	$\rho^0 \rho^0$		$(9.6 \pm 1.5) \times 10^{-7}$		DESIG=26
Γ_{455}	$f_0(980) \pi^+ \pi^-$, $f_0 \rightarrow \pi^+ \pi^-$		$< 3.0 \times 10^{-6}$	CL=90%	DESIG=536
Γ_{456}	$\rho^0 f_0(980)$, $f_0 \rightarrow \pi^+ \pi^-$		$(7.8 \pm 2.5) \times 10^{-7}$		DESIG=348
Γ_{457}	$f_0(980) f_0(980)$, $f_0 \rightarrow \pi^+ \pi^-$, $f_0 \rightarrow \pi^+ \pi^-$		$< 1.9 \times 10^{-7}$	CL=90%	DESIG=349
Γ_{458}	$f_0(980) f_0(980)$, $f_0 \rightarrow \pi^+ \pi^-$, $f_0 \rightarrow K^+ K^-$		$< 2.3 \times 10^{-7}$	CL=90%	DESIG=435
Γ_{459}	$a_1(1260)^{\mp} \pi^{\pm}$	[h]	$(2.6 \pm 0.5) \times 10^{-5}$	S=1.9	DESIG=27
Γ_{460}	$a_2(1320)^{\mp} \pi^{\pm}$	[h]	$< 6.3 \times 10^{-6}$	CL=90%	DESIG=28
Γ_{461}	$\pi^+ \pi^- \pi^0 \pi^0$		$< 3.1 \times 10^{-3}$	CL=90%	DESIG=56
Γ_{462}	$\rho^+ \rho^-$		$(2.80 \pm 0.17) \times 10^{-5}$		DESIG=57
Γ_{463}	$a_1(1260)^0 \pi^0$		$< 1.1 \times 10^{-3}$	CL=90%	DESIG=58
Γ_{464}	$\omega \pi^0$		$< 5 \times 10^{-7}$	CL=90%	DESIG=59
Γ_{465}	$\pi^+ \pi^+ \pi^- \pi^- \pi^0$		$< 9.0 \times 10^{-3}$	CL=90%	DESIG=61
Γ_{466}	$a_1(1260)^+ \rho^-$		$< 6.1 \times 10^{-5}$	CL=90%	DESIG=62
Γ_{467}	$a_1(1260)^0 \rho^0$		$< 2.4 \times 10^{-3}$	CL=90%	DESIG=63
Γ_{468}	$b_1^{\mp} \pi^{\pm}$, $b_1^{\mp} \rightarrow \omega \pi^{\mp}$		$(1.09 \pm 0.15) \times 10^{-5}$		DESIG=411
Γ_{469}	$b_1^0 \pi^0$, $b_1^0 \rightarrow \omega \pi^0$		$< 1.9 \times 10^{-6}$	CL=90%	DESIG=431
Γ_{470}	$b_1^- \rho^+$, $b_1^- \rightarrow \omega \pi^-$		$< 1.4 \times 10^{-6}$	CL=90%	DESIG=467
Γ_{471}	$b_1^0 \rho^0$, $b_1^0 \rightarrow \omega \pi^0$		$< 3.4 \times 10^{-6}$	CL=90%	DESIG=468
Γ_{472}	$\pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^-$		$< 3.0 \times 10^{-3}$	CL=90%	DESIG=64
Γ_{473}	$a_1(1260)^+ a_1(1260)^-$, $a_1^+ \rightarrow 2\pi^+ \pi^-$, $a_1^- \rightarrow 2\pi^- \pi^+$		$(1.18 \pm 0.31) \times 10^{-5}$		DESIG=46
Γ_{474}	$\pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^- \pi^0$		< 1.1 %	CL=90%	DESIG=65

Baryon modes

NODE=S042;CLUMP=F

Γ_{475}	$p\overline{p}$	$(1.27\pm 0.14)\times 10^{-8}$		DESIG=29
Γ_{476}	$p\overline{p}\pi^+\pi^-$	$(2.87\pm 0.19)\times 10^{-6}$		DESIG=32
Γ_{477}	$p\overline{p}K^+\pi^-$	$(6.3\pm 0.5)\times 10^{-6}$		DESIG=571
Γ_{478}	$p\overline{p}K^0$	$(2.79\pm 0.16)\times 10^{-6}$		DESIG=220
Γ_{479}	$\Theta(1540)^+\overline{p},\ \Theta^+\to\ pK^0_S$	[i] $<5\times 10^{-8}$	CL=90%	DESIG=307
Γ_{480}	$f_J(2220)K^0,\ f_J\to\ p\overline{p}$	$<4.5\times 10^{-7}$	CL=90%	DESIG=414
Γ_{481}	$p\overline{p}K^*(892)^0$	$(1.24^{+0.28}_{-0.25})\times 10^{-6}$		DESIG=277
Γ_{482}	$f_J(2220)K^*_0,\ f_J\to\ p\overline{p}$	$<1.5\times 10^{-7}$	CL=90%	DESIG=415
Γ_{483}	$p\overline{p}K^+K^-$	$(1.21\pm 0.32)\times 10^{-7}$		DESIG=572
Γ_{484}	$p\overline{p}\pi^0$	$(5.0\pm 1.9)\times 10^{-7}$		DESIG=594
Γ_{485}	$p\overline{p}p\overline{p}$	$(2.2\pm 0.4)\times 10^{-8}$		DESIG=573
Γ_{486}	$p\overline{\Lambda}\pi^-$	$(3.16\pm 0.24)\times 10^{-6}$		DESIG=33
Γ_{487}	$p\overline{\Lambda}\pi^-\gamma$	$<6.5\times 10^{-7}$	CL=90%	DESIG=540
Γ_{488}	$p\overline{\Sigma}(1385)^-$	$<2.6\times 10^{-7}$	CL=90%	DESIG=412
Γ_{489}	$\Delta(1232)^+\overline{p}+\ \Delta(1232)^-p$	$<1.6\times 10^{-6}$		DESIG=595
Γ_{490}	$\Delta^0\overline{\Lambda}$	$<9.3\times 10^{-7}$	CL=90%	DESIG=413
Γ_{491}	$p\overline{\Lambda}K^-$	$<8.2\times 10^{-7}$	CL=90%	DESIG=251
Γ_{492}	$p\overline{\Lambda}D^-$	$(2.5\pm 0.4)\times 10^{-5}$		DESIG=546
Γ_{493}	$p\overline{\Lambda}D^{*-}$	$(3.4\pm 0.8)\times 10^{-5}$		DESIG=547
Γ_{494}	$p\overline{\Sigma}^0\pi^-$	$(1.2\pm 0.4)\times 10^{-6}$		DESIG=252
Γ_{495}	$\overline{\Lambda}\Lambda$	$<3.2\times 10^{-7}$	CL=90%	DESIG=186
Γ_{496}	$\overline{\Lambda}\Lambda K^0$	$(4.8^{+1.0}_{-0.9})\times 10^{-6}$		DESIG=455
Γ_{497}	$\overline{\Lambda}\Lambda K^{*0}$	$(2.5^{+0.9}_{-0.8})\times 10^{-6}$		DESIG=456
Γ_{498}	$\overline{\Lambda}\Lambda D^0$	$(1.00^{+0.30}_{-0.26})\times 10^{-5}$		DESIG=457
Γ_{499}	$D^0\Sigma^0\overline{\Lambda}+$ c.c.	$<3.1\times 10^{-5}$	CL=90%	DESIG=534
Γ_{500}	$\Delta^0\overline{\Delta}^0$	$<1.5\times 10^{-3}$	CL=90%	DESIG=47
Γ_{501}	$\Delta^{++}\overline{\Delta}^{--}$	$<1.1\times 10^{-4}$	CL=90%	DESIG=48
Γ_{502}	$\overline{D}^0p\overline{p}$	$(1.04\pm 0.07)\times 10^{-4}$		DESIG=226
Γ_{503}	$D^-_s\overline{\Lambda}p$	$(2.8\pm 0.9)\times 10^{-5}$		DESIG=389
Γ_{504}	$\overline{D}^*(2007)^0p\overline{p}$	$(9.9\pm 1.1)\times 10^{-5}$		DESIG=227
Γ_{505}	$D^*(2010)^-p\overline{n}$	$(1.4\pm 0.4)\times 10^{-3}$		DESIG=198
Γ_{506}	$D^-p\overline{p}\pi^+$	$(3.32\pm 0.31)\times 10^{-4}$		DESIG=362
Γ_{507}	$D^*(2010)^-p\overline{p}\pi^+$	$(4.7\pm 0.5)\times 10^{-4}$	S=1.2	DESIG=197
Γ_{508}	$\overline{D}^0p\overline{p}\pi^+\pi^-$	$(3.0\pm 0.5)\times 10^{-4}$		DESIG=509
Γ_{509}	$\overline{D}^{*0}p\overline{p}\pi^+\pi^-$	$(1.9\pm 0.5)\times 10^{-4}$		DESIG=510
Γ_{510}	$\Theta_c\overline{p}\pi^+,\ \Theta_c\to\ D^-p$	$<9\times 10^{-6}$	CL=90%	DESIG=364
Γ_{511}	$\Theta_c\overline{p}\pi^+,\ \Theta_c\to\ D^{*-}p$	$<1.4\times 10^{-5}$	CL=90%	DESIG=365
Γ_{512}	$\overline{\Sigma}^{--}_c\Delta^{++}$	$<8\times 10^{-4}$	CL=90%	DESIG=123
Γ_{513}	$\overline{\Lambda}^-_c p\pi^+\pi^-$	$(1.01\pm 0.14)\times 10^{-3}$	S=1.3	DESIG=161
Γ_{514}	$\overline{\Lambda}^-_c p$	$(1.52\pm 0.17)\times 10^{-5}$		DESIG=157
Γ_{515}	$\overline{\Lambda}^-_c p\pi^0$	$(1.53\pm 0.18)\times 10^{-4}$		DESIG=158
Γ_{516}	$\Sigma_c(2455)^-p$	$<2.4\times 10^{-5}$		DESIG=487
Γ_{517}	$\overline{\Lambda}^-_c p\pi^+\pi^-\pi^0$	$<5.07\times 10^{-3}$	CL=90%	DESIG=159
Γ_{518}	$\overline{\Lambda}^-_c p\pi^+\pi^-\pi^+\pi^-$	$<2.74\times 10^{-3}$	CL=90%	DESIG=160
Γ_{519}	$\overline{\Lambda}^-_c p\pi^+\pi^-$ (nonresonant)	$(5.5\pm 1.0)\times 10^{-4}$	S=1.3	DESIG=360
Γ_{520}	$\overline{\Sigma}_c(2520)^{--}p\pi^+$	$(1.01\pm 0.18)\times 10^{-4}$		DESIG=236
Γ_{521}	$\overline{\Sigma}_c(2520)^0p\pi^-$	$<3.1\times 10^{-5}$	CL=90%	DESIG=238
Γ_{522}	$\overline{\Sigma}_c(2455)^0p\pi^-$	$(1.08\pm 0.09)\times 10^{-4}$		DESIG=223
Γ_{523}	$\overline{\Sigma}_c(2455)^0N^0,\ N^0\to\ p\pi^-$	$(6.3\pm 1.6)\times 10^{-5}$		DESIG=445
Γ_{524}	$\overline{\Sigma}_c(2455)^{--}p\pi^+$	$(1.89\pm 0.15)\times 10^{-4}$		DESIG=224
Γ_{525}	$\Lambda^-_c pK^+\pi^-$	$(3.4\pm 0.7)\times 10^{-5}$		DESIG=469
Γ_{526}	$\overline{\Sigma}_c(2455)^{--}pK^+,\ \overline{\Sigma}^{--}_c\to\ \overline{\Lambda}^-_c\pi^-$	$(8.8\pm 2.5)\times 10^{-6}$		DESIG=470

Γ_{527}	$\Lambda_c^- p K^*(892)^0$			$< 2.42 \times 10^{-5}$	CL=90%	DESIG=471
Γ_{528}	$\Lambda_c^- p K^+ K^-$			$(2.0 \pm 0.4) \times 10^{-5}$		DESIG=543
Γ_{529}	$\Lambda_c^- p \phi$			$< 9 \times 10^{-6}$	CL=90%	DESIG=544
Γ_{530}	$\Lambda_c^- p \overline{p} p$			$< 2.8 \times 10^{-6}$		DESIG=529
Γ_{531}	$\overline{\Lambda}_c^- \Lambda K^+$			$(4.8 \pm 1.1) \times 10^{-5}$		DESIG=493
Γ_{532}	$\overline{\Lambda}_c^- \Lambda_c^+$			$< 1.6 \times 10^{-5}$	CL=95%	DESIG=417
Γ_{533}	$\overline{\Lambda}_c(2593)^- / \overline{\Lambda}_c(2625)^- p$			$< 1.1 \times 10^{-4}$	CL=90%	DESIG=225
Γ_{534}	$\overline{\Xi}_c^- \Lambda_c^+$			$(1.2 \pm 0.8) \times 10^{-3}$		DESIG=601
Γ_{535}	$\overline{\Xi}_c^- \Lambda_c^+$, $\overline{\Xi}_c^- \to \Xi^+ \pi^- \pi^-$			$(2.3 \pm 1.1) \times 10^{-5}$	S=1.8	DESIG=358
Γ_{536}	$\overline{\Xi}_c^- \Lambda_c^+$, $\overline{\Xi}_c^- \to \overline{p} K^+ \pi^-$			$(5.2 \pm 1.6) \times 10^{-6}$		DESIG=602
Γ_{537}	$\Lambda_c^+ \Lambda_c^- K^0$			$(4.0 \pm 0.9) \times 10^{-4}$		DESIG=356
Γ_{538}	$\overline{\Lambda}_c(2910)^- p$, $\overline{\Lambda}_c^- \to \overline{\Sigma}_c(2455)^{--} \pi^+$			$(1.2 \pm 0.4) \times 10^{-5}$		DESIG=621
Γ_{539}	$\overline{\Lambda}_c(2910)^- p$, $\overline{\Lambda}_c^- \to \overline{\Sigma}_c(2455)^0 \pi^-$			$(9 \pm 4) \times 10^{-6}$		DESIG=622
Γ_{540}	$\overline{\Xi}_c(2930)^- \Lambda_c^+$, $\overline{\Xi}_c^- \to \Lambda_c^- K^0$			$(2.4 \pm 0.6) \times 10^{-4}$		DESIG=575
Γ_{541}	$\Omega_c^0 \overline{\Lambda}$, $\Omega_c^0 \to \Omega^- \pi^+$			$< 9.7 \times 10^{-8}$	CL=95%	DESIG=643
Γ_{542}	$\Omega_c(2770)^0 \overline{\Lambda}$, $\Omega_c^0 \to \Omega^- \pi^+$			$< 3.12 \times 10^{-7}$	CL=95%	DESIG=644
Γ_{543}	$\Omega_c^0 \Lambda$, $\Omega_c^0 \to \Omega^- \pi^+$			$< 9.5 \times 10^{-8}$	CL=95%	DESIG=645
Γ_{544}	$\Omega_c(2770)^0 \Lambda$, $\Omega_c^0 \to \Omega^- \pi^+$			$< 1.00 \times 10^{-7}$	CL=95%	DESIG=646
Γ_{545}	$\Lambda \psi_{DS}$		[j]	$< 0.13–5.2 \times 10^{-5}$		DESIG=619;OUR EVAL;→ UNCHECKED ←

Lepton Family number (*LF*) or Lepton number (*L*) or Baryon number (*B*) violating modes, or/and $\Delta B = 1$ weak neutral current (*B1*) modes

NODE=S042;CLUMP=G

Γ_{546}	$\gamma\gamma$	*B1*		$< 6.4 \times 10^{-8}$	CL=90%	DESIG=141
Γ_{547}	$e^+ e^-$	*B1*		$< 2.5 \times 10^{-9}$	CL=90%	DESIG=6
Γ_{548}	$e^+ e^- \gamma$	*B1*		$< 1.2 \times 10^{-7}$	CL=90%	DESIG=404
Γ_{549}	$\mu^+ \mu^-$	*B1*		$< 1.5 \times 10^{-10}$	CL=90%	DESIG=7
Γ_{550}	$\mu^+ \mu^- \gamma$	*B1*				DESIG=405
Γ_{551}	$\mu^+ \mu^- \mu^+ \mu^-$	*B1*		$< 1.8 \times 10^{-10}$	CL=95%	DESIG=521
Γ_{552}	$S P$, $S \to \mu^+ \mu^-$, $P \to \mu^+ \mu^-$	*B1*	[k]	$< 6.0 \times 10^{-10}$	CL=95%	DESIG=522
Γ_{553}	$a a$, $a \to \mu^+ \mu^-$	*B1*		$< 2.3 \times 10^{-10}$	CL=95%	DESIG=618
Γ_{554}	$\tau^+ \tau^-$	*B1*		$< 2.1 \times 10^{-3}$	CL=95%	DESIG=336
Γ_{555}	$\pi^0 \ell^+ \ell^-$	*B1*	[a]	$< 3.8 \times 10^{-8}$	CL=90%	DESIG=382
Γ_{556}	$\pi^0 e^+ e^-$	*B1*		$< 7.9 \times 10^{-8}$	CL=90%	DESIG=380
Γ_{557}	$\pi^0 \mu^+ \mu^-$	*B1*		$< 5.9 \times 10^{-8}$	CL=90%	DESIG=381
Γ_{558}	$\eta \ell^+ \ell^-$	*B1*	[a]	$< 4.8 \times 10^{-8}$	CL=90%	DESIG=518
Γ_{559}	$\eta e^+ e^-$	*B1*		$< 1.05 \times 10^{-7}$	CL=90%	DESIG=519
Γ_{560}	$\eta \mu^+ \mu^-$	*B1*		$< 9.4 \times 10^{-8}$	CL=90%	DESIG=520
Γ_{561}	$\rho(770)^0 e^+ e^-$	*B1*		$< 4.55 \times 10^{-7}$	CL=90%	DESIG=648
Γ_{562}	$\omega e^+ e^-$	*B1*		$< 3.07 \times 10^{-7}$	CL=90%	DESIG=649
Γ_{563}	$\omega \mu^+ \mu^-$	*B1*		$< 2.49 \times 10^{-7}$	CL=90%	DESIG=650
Γ_{564}	$\omega \ell^+ \ell^-$	*B1*		$< 2.20 \times 10^{-7}$	CL=90%	DESIG=651
Γ_{565}	$\pi^0 \nu \overline{\nu}$	*B1*		$< 9 \times 10^{-6}$	CL=90%	DESIG=406
Γ_{566}	$K^0 \ell^+ \ell^-$	*B1*	[a]	$(3.3 \pm 0.6) \times 10^{-7}$		DESIG=275
Γ_{567}	$K^0 e^+ e^-$	*B1*		$(2.5 {}^{+1.1}_{-0.9}) \times 10^{-7}$	S=1.3	DESIG=18
Γ_{568}	$K^0 \mu^+ \mu^-$	*B1*		$(3.39 \pm 0.35) \times 10^{-7}$	S=1.1	DESIG=17
Γ_{569}	$K^0 \nu \overline{\nu}$	*B1*		$< 2.6 \times 10^{-5}$	CL=90%	DESIG=407
Γ_{570}	$\rho^0 \nu \overline{\nu}$	*B1*		$< 4.0 \times 10^{-5}$	CL=90%	DESIG=408
Γ_{571}	$K^*(892)^0 \ell^+ \ell^-$	*B1*	[a]	$(9.9 {}^{+1.2}_{-1.1}) \times 10^{-7}$		DESIG=276
Γ_{572}	$K^*(892)^0 e^+ e^-$	*B1*		$(1.03 {}^{+0.19}_{-0.17}) \times 10^{-6}$		DESIG=82
Γ_{573}	$K^*(892)^0 \mu^+ \mu^-$	*B1*		$(9.4 \pm 0.5) \times 10^{-7}$		DESIG=71
Γ_{574}	$K^*(892)^0 \chi$, $\chi \to \mu^+ \mu^-$	*B1*				DESIG=562

Γ_{575}	$K^*(892)^0 \tau^+ \tau^-$	*B1*		< 3.1	$\times 10^{-3}$	CL=90%	DESIG=629
Γ_{576}	$\overline{D}^0 \mu^+ \mu^-$	*B1*		< 4.0	$\times 10^{-8}$	CL=90%	DESIG=647
Γ_{577}	$\pi^+ \pi^- \mu^+ \mu^-$	*B1*		(2.1 $\pm$ 0.5)	$\times 10^{-8}$		DESIG=550
Γ_{578}	$K^*(892)^0 \nu \overline{\nu}$	*B1*		< 1.8	$\times 10^{-5}$	CL=90%	DESIG=152
Γ_{579}	invisible	*B1*		< 2.4	$\times 10^{-5}$	CL=90%	DESIG=284
Γ_{580}	$\nu \overline{\nu} \gamma$	*B1*		< 1.6	$\times 10^{-5}$	CL=90%	DESIG=285
Γ_{581}	$\phi \mu^+ \mu^-$	*B1*		< 3.2	$\times 10^{-9}$	CL=90%	DESIG=614
Γ_{582}	$\phi \nu \overline{\nu}$	*B1*		< 1.27	$\times 10^{-4}$	CL=90%	DESIG=409
Γ_{583}	$e^\pm \mu^\mp$	*LF*	[*h*]	< 1.0	$\times 10^{-9}$	CL=90%	DESIG=8
Γ_{584}	$\pi^0 e^\pm \mu^\mp$	*LF*		< 1.4	$\times 10^{-7}$	CL=90%	DESIG=383
Γ_{585}	$K^0 e^\pm \mu^\mp$	*LF*		< 3.8	$\times 10^{-8}$	CL=90%	DESIG=221
Γ_{586}	$K^0_S \tau^+ e^-$			< 1.5	$\times 10^{-5}$	CL=90%	DESIG=654
Γ_{587}	$K^0_S \tau^- e^+$			< 8	$\times 10^{-6}$	CL=90%	DESIG=655
Γ_{588}	$K^0_S \tau^+ \mu^-$			< 1.1	$\times 10^{-5}$	CL=90%	DESIG=656
Γ_{589}	$K^0_S \tau^- \mu^+$			< 3.6	$\times 10^{-5}$	CL=90%	DESIG=657
Γ_{590}	$K^*(892)^0 e^+ \mu^-$	*LF*		< 6.8	$\times 10^{-9}$	CL=90%	DESIG=334
Γ_{591}	$K^*(892)^0 e^- \mu^+$	*LF*		< 5.7	$\times 10^{-9}$	CL=90%	DESIG=335
Γ_{592}	$K^*(892)^0 e^\pm \mu^\mp$	*LF*		< 1.01	$\times 10^{-8}$	CL=90%	DESIG=222
Γ_{593}	$K^*(892)^0 \tau^+ e^-$			< 2.9	$\times 10^{-5}$	CL=90%	DESIG=652
Γ_{594}	$K^*(892)^0 \tau^- e^+$			< 6.4	$\times 10^{-5}$	CL=90%	DESIG=653
Γ_{595}	$K^*(892)^0 \tau^+ \mu^-$	*LF*		< 1.0	$\times 10^{-5}$	CL=90%	DESIG=627
Γ_{596}	$K^*(892)^0 \tau^- \mu^+$	*LF*		< 8.2	$\times 10^{-6}$	CL=90%	DESIG=628
Γ_{597}	$e^\pm \tau^\mp$	*LF*	[*h*]	< 1.6	$\times 10^{-5}$	CL=90%	DESIG=121
Γ_{598}	$\mu^\pm \tau^\mp$	*LF*	[*h*]	< 1.4	$\times 10^{-5}$	CL=95%	DESIG=122
Γ_{599}	$p \mu^-$	*L,B*		< 2.6	$\times 10^{-9}$	CL=90%	DESIG=624
Γ_{600}	$\Lambda_c^+ \mu^-$	*L,B*		< 1.4	$\times 10^{-6}$	CL=90%	DESIG=491
Γ_{601}	$\Lambda_c^+ e^-$	*L,B*		< 4	$\times 10^{-6}$	CL=90%	DESIG=492

[*a*] An ℓ indicates an *e* or a μ mode, not a sum over these modes. LINKAGE=DX

[*b*] $\overline{D}^{**}$ represents an excited state with mass 2.2 < M < 2.8 GeV/c^2. LINKAGE=DSZ

[*c*] $\chi_{c1}(3872)^+$ is a hypothetical charged partner of the $\chi_{c1}(3872)$. LINKAGE=RX

[*d*] Stands for the possible candidates of $K^*(1410)$, $K^*_0(1430)$ and $K^*_2(1430)$. LINKAGE=KS

[*e*] B^0 and B^0_s contributions not separated. Limit is on weighted average of the two decay rates. LINKAGE=BBS

[*f*] This decay refers to the coherent sum of resonant and nonresonant $J^P = 0^+$ $K\pi$ components with $1.60 < m_{K\pi} < 2.15$ GeV/c^2. LINKAGE=MKP

[*g*] $X(214)$ is a hypothetical particle of mass 214 MeV/c^2 reported by the HyperCP experiment, Physical Review Letters **94** 021801 (2005) LINKAGE=HCP

[*h*] The value is for the sum of the charge states or particle/antiparticle states indicated. LINKAGE=SG

[*i*] $\Theta(1540)^+$ denotes a possible narrow pentaquark state. LINKAGE=PQ

[*j*] ψ_{DS} is a GeV-scale dark sector antibaryon (mass range 1–4 GeV/c^2). LINKAGE=MLG

[*k*] Here *S* and *P* are the hypothetical scalar and pseudoscalar particles with masses of 2.5 GeV/c^2 and 214.3 MeV/c^2, respectively. LINKAGE=BSP

FIT INFORMATION

An overall fit to 36 branching ratios uses 97 measurements to determine 22 parameters. The overall fit has a $\chi^2 = 71.9$ for 75 degrees of freedom.

The following *off-diagonal* array elements are the correlation coefficients $\left\langle\delta x_i \delta x_j\right\rangle/(\delta x_i \cdot \delta x_j)$, in percent, from the fit to the branching fractions, $x_i \equiv \Gamma_i/\Gamma_{\text{total}}$.

	x_7	x_{10}	x_{38}	x_{50}	x_{76}	x_{125}	x_{135}	x_{214}	x_{216}	x_{264}
x_{10}	40									
x_{38}	0	0								
x_{50}	0	0	28							
x_{76}	0	0	4	13						
x_{125}	0	0	19	6	1					
x_{135}	0	0	7	2	0	1				
x_{214}	0	0	0	0	0	0	0			
x_{216}	0	0	0	0	0	0	0	0		
x_{264}	0	0	0	0	0	0	0	0	0	
x_{270}	0	0	0	0	0	0	0	0	0	19
x_{276}	0	0	0	0	0	0	0	0	29	0
x_{282}	0	0	0	0	0	0	0	0	6	0
x_{288}	0	0	0	0	0	0	0	0	0	0
x_{322}	0	0	0	0	0	0	0	0	0	0
x_{356}	0	0	0	0	0	0	0	0	0	0
x_{363}	0	0	0	0	0	0	0	0	0	0
x_{377}	0	0	0	0	0	0	0	0	0	0
x_{423}	0	0	0	0	0	0	0	0	0	0
x_{454}	0	0	0	0	0	0	0	0	0	0
x_{568}	0	0	0	0	0	0	0	0	0	0
x_{573}	0	0	0	0	0	0	0	0	15	0

	x_{270}	x_{276}	x_{282}	x_{288}	x_{322}	x_{356}	x_{363}	x_{377}	x_{423}	x_{454}
x_{276}	0									
x_{282}	0	22								
x_{288}	0	0	0							
x_{322}	0	0	0	0						
x_{356}	0	0	0	0	16					
x_{363}	0	0	0	0	27	4				
x_{377}	0	0	0	0	0	0	0			
x_{423}	0	0	0	24	0	0	0	0		
x_{454}	0	0	0	0	0	0	0	20	0	
x_{568}	0	0	0	0	0	0	0	0	0	0
x_{573}	0	4	1	0	0	0	0	0	0	0

	x_{568}
x_{573}	0

B^0 BRANCHING RATIOS

NODE=S042220

For branching ratios in which the charge of the decaying B is not determined, see the $B^{\pm}$ section. NODE=S042220

$\Gamma(\ell^+ \nu_\ell X)/\Gamma_{total}$ Γ_1/Γ

NODE=S042R94
NODE=S042R94

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
10.33±0.28 OUR EVALUATION	(Produced by HFLAV)			
10.14±0.30 OUR AVERAGE	Error includes scale factor of 1.1.			
10.46±0.30±0.23	[1] URQUIJO	07	BELL	$e^+ e^- \to \Upsilon(4S)$
9.64±0.27±0.33	[2] AUBERT,B	06Y	BABR	$e^+ e^- \to \Upsilon(4S)$
10.78±0.60±0.69	[3] ARTUSO	97	CLE2	$e^+ e^- \to \Upsilon(4S)$
9.3 ±1.1 ±1.5	ALBRECHT	94	ARG	$e^+ e^- \to \Upsilon(4S)$
9.9 ±3.0 ±0.9	HENDERSON	92	CLEO	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
10.32±0.36±0.35	[4] OKABE	05	BELL	Repl. by URQUIJO 07
10.9 ±0.7 ±1.1	ATHANAS	94	CLE2	Sup. by ARTUSO 97

→ UNCHECKED ←

[1] URQUIJO 07 report a measurement of (9.80 ± 0.29 ± 0.21)% for the partial branching fraction of $B \to e\nu_e X_c$ decay with electron energy above 0.6 GeV. We converted the result to $B \to e\nu_e X$ branching fraction. NODE=S042R94;LINKAGE=UR

[2] The measurements are obtained for charged and neutral B mesons partial rates of semileptonic decay to electrons with momentum above 0.6 GeV/c in the B rest frame. The best precision on the ratio is achieved for a momentum threshold of 1.0 GeV: B($B^+ \to e^+\nu_e X$) / B($B^0 \to e^+\nu_e X$) = 1.074 ± 0.041 ± 0.026. NODE=S042R94;LINKAGE=AE

[3] ARTUSO 97 uses partial reconstruction of $B \to D^* \ell \nu_\ell$ and inclusive semileptonic branching ratio from BARISH 96B (0.1049 ± 0.0017 ± 0.0043). NODE=S042R94;LINKAGE=B

[4] The measurements are obtained for charged and neutral B mesons partial rates of semileptonic decay to electrons with momentum above 0.6 GeV/c in the B rest frame, and their ratio of B($B^+ \to e^+\nu_e X$)/B($B^0 \to e^+\nu_e X$) = 1.08 ± 0.05 ± 0.02. NODE=S042R94;LINKAGE=OK

$\Gamma(e^+ \nu_e X_c)/\Gamma_{total}$ Γ_2/Γ

NODE=S042S00
NODE=S042S00

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
10.08±0.30±0.22	[1] URQUIJO	07	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Measure the independent B^+ and B^0 partial branching fractions with electron threshold energies of 0.4 GeV. NODE=S042S00;LINKAGE=UR

$\Gamma(\ell^+ \nu_\ell X_u)/\Gamma_{total}$ Γ_3/Γ

NODE=S042P68

Requires $E^*_\ell > 1$ GeV, where E^*_ℓ is letpon energy in B rest frame. NODE=S042P68

NODE=S042P68

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
1.51±0.10±0.16	[1] CAO	21A	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] The correlation of 50% with B($B^+ \to \ell^+\nu_\ell X_u$)(letpon energy in B rest frame $E^*_\ell > 1$ GeV) was reported. NODE=S042P68;LINKAGE=A

$\Gamma(D^- \ell^+ \nu_\ell)/\Gamma_{total}$ Γ_5/Γ

NODE=S042R35

ℓ denotes e or μ, not the sum. NODE=S042R35

NODE=S042R35

VALUE (%)	DOCUMENT ID		TECN	COMMENT
2.10±0.07 OUR EVALUATION	(Produced by HFLAV)			
2.25±0.08 OUR AVERAGE				
2.31±0.03±0.11	[1] GLATTAUER	16	BELL	$e^+ e^- \to \Upsilon(4S)$
2.21±0.11±0.11	[2] AUBERT	10	BABR	$e^+ e^- \to \Upsilon(4S)$
2.09±0.13±0.18	[3] BARTELT	99	CLE2	$e^+ e^- \to \Upsilon(4S)$
2.35±0.20±0.44	[4] BUSKULIC	97	ALEP	$e^+ e^- \to Z$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2.21±0.11±0.12	[2] AUBERT	08Q	BABR	Repl. by AUBERT 10
2.13±0.12±0.39	ABE	02E	BELL	Repl. by GLATTAUER 16
1.87±0.15±0.32	[5] ATHANAS	97	CLE2	Repl. by BARTELT 99
1.8 ±0.6 ±0.3	[6] FULTON	91	CLEO	$e^+ e^- \to \Upsilon(4S)$
2.0 ±0.7 ±0.6	[7] ALBRECHT	89J	ARG	$e^+ e^- \to \Upsilon(4S)$

→ UNCHECKED ←

[1] Uses a fully reconstructed B meson as a tag on the recoil side while the other, on the signal side, is partially reconstructed from $B \to D\ell\nu$. NODE=S042R35;LINKAGE=D

[2] Uses a fully reconstructed B meson as a tag on the recoil side. NODE=S042R35;LINKAGE=BE

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R35;LINKAGE=L9

[4] BUSKULIC 97 assumes fraction (B^+) = fraction (B^0) = (37.8 ± 2.2)% and PDG 96 values for B lifetime and branching ratio of D^* and D decays. NODE=S042R35;LINKAGE=I

[5] ATHANAS 97 uses missing energy and missing momentum to reconstruct neutrino. NODE=S042R35;LINKAGE=C

[6] FULTON 91 assumes assuming equal production of B^0 and B^+ at the $\Upsilon(4S)$ and uses Mark III D and D^* branching ratios. NODE=S042R35;LINKAGE=B

[7] ALBRECHT 89J reports 0.018 ± 0.006 ± 0.005. We rescale using the method described in STONE 94 but with the updated PDG 94 B($D^0 \to K^-\pi^+$). NODE=S042R35;LINKAGE=A

$\Gamma(D^-\ell^+\nu_\ell)/\Gamma(\ell^+\nu_\ell X)$ Γ_5/Γ_1

NODE=S042C02
NODE=S042C02

VALUE	DOCUMENT ID		TECN	COMMENT
0.230±0.011±0.011	[1] AUBERT	10	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses a fully reconstructed B meson on the recoil side.

NODE=S042C02;LINKAGE=AU

$\Gamma(D^-\ell^+\nu_\ell)/\Gamma(D\ell^+\nu_\ell X)$ Γ_5/Γ_4

NODE=S042B84
NODE=S042B84

VALUE	DOCUMENT ID		TECN	COMMENT
0.215±0.016±0.013	[1] AUBERT	07AN	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses a fully reconstructed B meson on the recoil side.

NODE=S042B84;LINKAGE=AU

$\Gamma(D^-\tau^+\nu_\tau)/\Gamma_{\text{total}}$ Γ_6/Γ

NODE=S042S01
NODE=S042S01

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.04±0.35±0.18	[1] AUBERT	08N	BABR	Repl. by AUBERT 09S

[1] Uses a fully reconstructed B meson as a tag on the recoil side.

NODE=S042S01;LINKAGE=AU

$\Gamma(D^-\tau^+\nu_\tau)/\Gamma(D^-\ell^+\nu_\ell)$ Γ_6/Γ_5

NODE=S042B94
NODE=S042B94

VALUE	DOCUMENT ID		TECN	COMMENT
0.34 ±0.07 OUR AVERAGE Error includes scale factor of 1.5. See the ideogram below. [0.47 ± 0.10 OUR 2025 AVERAGE]				
0.249±0.043±0.047	[1,2] AAIJ	25G	LHCB	pp at 13 TeV
$0.418^{+0.075}_{-0.073}{}^{+0.049}_{-0.056}$	[3] ADACHI	25R	BELL	$e^+e^- \to \Upsilon(4S)$
0.469±0.084±0.053	[4,5] LEES	12D	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.489±0.165±0.069	[4] AUBERT	09S	BABR	Repl. by LEES 12D

NEW

[1] Uses $\tau^+ \to \mu^-\overline{\nu}_\mu\nu_\tau$ and μ^+ as ℓ^+.

NODE=S042B94;LINKAGE=A

[2] AAIJ 25G simultaneously measures also $B(B^0 \to D^*(2010)^-\tau^+\nu_\tau)/B(B^0 \to D^*(2010)^-\mu^+\nu_\mu)$ and reports correlation factor -0.39.

NODE=S042B94;LINKAGE=B

[3] Uses leptonic decay modes of τ^+ and reconstruction of the companion B meson in semileptonic decay modes.

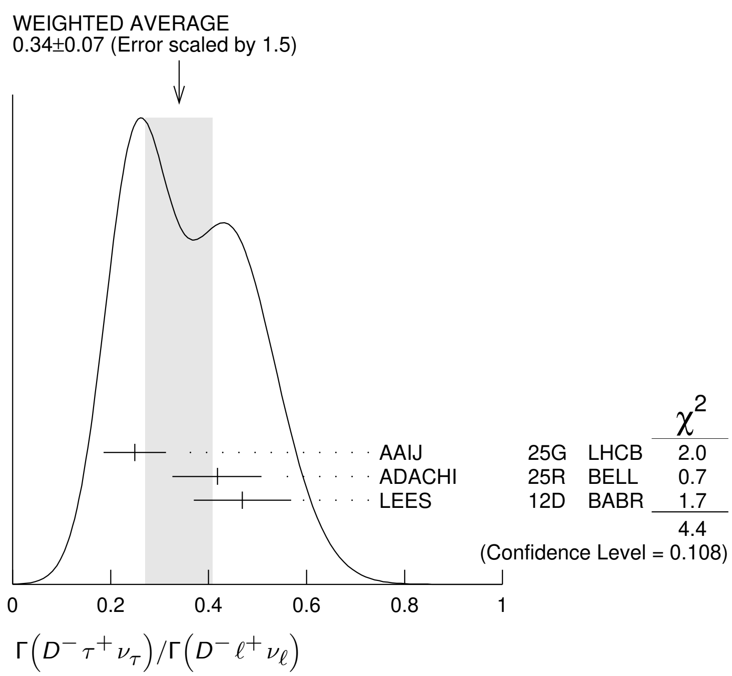
NODE=S042B94;LINKAGE=C

[4] Uses a fully reconstructed B meson as a tag on the recoil side.

NODE=S042B94;LINKAGE=AU

[5] Uses $\tau^+ \to e^+\nu_e\overline{\nu}_\tau$ and $\tau^+ \to \mu^+\nu_\mu\overline{\nu}_\tau$ and e^+ or μ^+ as ℓ^+.

NODE=S042B94;LINKAGE=LE



$\Gamma(D^*(2010)^- \ell^+ \nu_\ell)/\Gamma_{total}$ — Γ_7/Γ

NODE=S042R21
NODE=S042R21

VALUE (%)	EVTS	DOCUMENT ID		TECN	COMMENT	
4.87 ±0.09 OUR EVALUATION (Produced by HFLAV) This value assumes isospin symmetry.						→ UNCHECKED ←
5.10 ±0.14 OUR FIT Error includes scale factor of 1.4. [(5.11 ± 0.14)% OUR 2025 FIT Scale factor = 1.4]						NEW
5.11 ±0.15 OUR AVERAGE Error includes scale factor of 1.4. See the ideogram below.						
4.922±0.023±0.220		[1] ADACHI	23J	BELL	$e^+e^- \to \Upsilon(4S)$	
5.02 ±0.02 ±0.16		[2] WAHEED	21	BELL	$e^+e^- \to \Upsilon(4S)$	
5.49 ±0.16 ±0.25		[3] AUBERT	08Q	BABR	$e^+e^- \to \Upsilon(4S)$	
4.69 ±0.04 ±0.34		[4] AUBERT	08R	BABR	$e^+e^- \to \Upsilon(4S)$	
5.90 ±0.22 ±0.50		[5] ABDALLAH	04D	DLPH	$e^+e^- \to Z^0$	
6.09 ±0.19 ±0.40		[6] ADAM	03	CLE2	$e^+e^- \to \Upsilon(4S)$	
4.70 ±0.13 $^{+0.36}_{-0.31}$		[7] ABREU	01H	DLPH	$e^+e^- \to Z$	SYCLP=A
5.26 ±0.20 ±0.46		[8] ABBIENDI	00Q	OPAL	$e^+e^- \to Z$	SYCLP=A
5.53 ±0.26 ±0.52		[9] BUSKULIC	97	ALEP	$e^+e^- \to Z$	SYCLP=A
• • • We do not use the following data for averages, fits, limits, etc. • • •						
4.917±0.032±0.216		[10] ADACHI	23J	BELL	$e^+e^- \to \Upsilon(4S)$	OCCUR=2
4.926±0.032±0.231		[11] ADACHI	23J	BELL	$e^+e^- \to \Upsilon(4S)$	OCCUR=3
4.90 ±0.02 ±0.16		[2] WAHEED	19	BELL	Repl. by WAHEED 21	
4.58 ±0.03 ±0.26		[2] DUNGEL	10	BELL	Repl. by WAHEED 19	
4.90 ±0.07 $^{+0.36}_{-0.35}$		[5] AUBERT	05E	BABR	Repl. by AUBERT 08R	
5.39 ±0.11 ±0.34		[12] ABDALLAH	04D	DLPH	$e^+e^- \to Z^0$	OCCUR=2
4.59 ±0.23 ±0.40		[13] ABE	02F	BELL	Repl. by DUNGEL 10	
6.09 ±0.19 ±0.40		[14] BRIERE	02	CLE2	$e^+e^- \to \Upsilon(4S)$	
5.08 ±0.21 ±0.66		[15] ACKERSTAFF	97G	OPAL	Repl. by ABBIENDI 00Q	SYCLP=A
5.52 ±0.17 ±0.68		[16] ABREU	96P	DLPH	Repl. by ABREU 01H	SYCLP=A
4.49 ±0.32 ±0.39	376	[17] BARISH	95	CLE2	Repl. by ADAM 03	
5.18 ±0.30 ±0.62	410	[18] BUSKULIC	95N	ALEP	Sup. by BUSKULIC 97	
4.5 ±0.3 ±0.4		[19] ALBRECHT	94	ARG	$e^+e^- \to \Upsilon(4S)$	
4.7 ±0.5 ±0.5	235	[20] ALBRECHT	93	ARG	$e^+e^- \to \Upsilon(4S)$	
seen	398	[21] SANGHERA	93	CLE2	$e^+e^- \to \Upsilon(4S)$	
7.0 ±1.8 ±1.4		[22] ANTREASYAN	90B	CBAL	$e^+e^- \to \Upsilon(4S)$	
		[23] ALBRECHT	89C	ARG	$e^+e^- \to \Upsilon(4S)$	
6.0 ±1.0 ±1.4		[24] ALBRECHT	89J	ARG	$e^+e^- \to \Upsilon(4S)$	
4.0 ±0.4 ±0.6		[25] BORTOLETTO	89B	CLEO	$e^+e^- \to \Upsilon(4S)$	
7.0 ±1.2 ±1.9	47	[26] ALBRECHT	87J	ARG	$e^+e^- \to \Upsilon(4S)$	

[1] Uses fully reconstructed $D^{*-}\ell^+\nu$ events with $\ell = e$ or μ. NODE=S042R21;LINKAGE=K

[2] WAHEED 21 uses fully reconstructed $D^{*-}\ell^+\nu$ events ($\ell = e$ or μ). NODE=S042R21;LINKAGE=DU

[3] Uses a fully reconstructed B meson as a tag on the recoil side. NODE=S042R21;LINKAGE=BE

[4] Measured using fully reconstructed D^* sample and a simultaneous fit to the Caprini-Lellouch-Neubert form factor parameters: $\rho^2 = 1.191 \pm 0.048 \pm 0.028$, $R_1(1) = 1.429 \pm 0.061 \pm 0.044$, and $R_2(1) = 0.827 \pm 0.038 \pm 0.022$. NODE=S042R21;LINKAGE=UB

[5] Measured using fully reconstructed D^* sample. NODE=S042R21;LINKAGE=AB

[6] Uses the combined fit of both $B^0 \to D^*(2010)^- \ell\nu$ and $B^+ \to \overline{D}(2007)^0 \ell\nu$ samples. NODE=S042R21;LINKAGE=DM

[7] ABREU 01H measured using about 5000 partial reconstructed D^* sample. NODE=S042R21;LINKAGE=BU

[8] ABBIENDI 00Q assumes the fraction B($b \to B^0$)= $(39.7^{+1.8}_{-2.2})$%. This result is an average of two methods using exclusive and partial D^* reconstruction. NODE=S042R21;LINKAGE=Q0

[9] BUSKULIC 97 assumes fraction (B^+) = fraction (B^0) = (37.8 ± 2.2)% and PDG 96 values for B lifetime and D^* and D branching fractions. NODE=S042R21;LINKAGE=I

[10] Uses fully reconstructed $D^{*-}e^+\nu$ events. NODE=S042R21;LINKAGE=L

[11] Uses fully reconstructed $D^{*-}\mu^+\nu$ events. NODE=S042R21;LINKAGE=M

[12] Combines with previous partial reconstructed D^* measurement. NODE=S042R21;LINKAGE=AD

[13] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R21;LINKAGE=EP

[14] The results are based on the same analysis and data sample reported in ADAM 03. NODE=S042R21;LINKAGE=R6

[15] ACKERSTAFF 97G assumes fraction (B^+) = fraction (B^0) = (37.8 ± 2.2)% and PDG 96 values for B lifetime and branching ratio of D^* and D decays. NODE=S042R21;LINKAGE=IF

[16] ABREU 96P result is the average of two methods using exclusive and partial D^* reconstruction. NODE=S042R21;LINKAGE=H

[17] BARISH 95 use B($D^0 \to K^-\pi^+$) = (3.91 ± 0.08 ± 0.17)% and B($D^{*+} \to D^0\pi^+$) = (68.1 ± 1.0 ± 1.3)%. NODE=S042R21;LINKAGE=A1

[18] BUSKULIC 95N assumes fraction (B^+) = fraction (B^0) = 38.2 ± 1.3 ± 2.2% and τ_{B^0} = 1.58 ± 0.06 ps. $\Gamma(D^{*-}\ell^+\nu_\ell)$/total = [5.18 − 0.13(fraction(B^0)−38.2)−1.5(τ_{B^0} − 1.58)]%. NODE=S042R21;LINKAGE=G

[19] ALBRECHT 94 assumes B($D^{*+} \to D^0\pi^+$) = 68.1 ± 1.0 ± 1.3%. Uses partial reconstruction of D^{*+} and is independent of D^0 branching ratios. NODE=S042R21;LINKAGE=F

[20] ALBRECHT 93 reports 0.052 ± 0.005 ± 0.006. We rescale using the method described in STONE 94 but with the updated PDG 94 B($D^0 \to K^- \pi^+$). We have taken their average e and μ value. They also obtain $\alpha = 2{*}\Gamma^0/(\Gamma^- + \Gamma^+) - 1 = 1.1 \pm 0.4 \pm 0.2$, $A_{AF} = 3/4{*}(\Gamma^- - \Gamma^+)/\Gamma = 0.2 \pm 0.08 \pm 0.06$ and a value of $|V_{cb}| = 0.036$–0.045 depending on model assumptions. NODE=S042R21;LINKAGE=E

[21] Combining $\overline{D}^{*0} \ell^+ \nu_\ell$ and $\overline{D}^{*-} \ell^+ \nu_\ell$ SANGHERA 93 test $V-A$ structure and fit the decay angular distributions to obtain $A_{FB} = 3/4{*}(\Gamma^- - \Gamma^+)/\Gamma = 0.14 \pm 0.06 \pm 0.03$. Assuming a value of V_{cb}, they measure V, A_1, and A_2, the three form factors for the $D^* \ell \nu_\ell$ decay, where results are slightly dependent on model assumptions. NODE=S042R21;LINKAGE=D

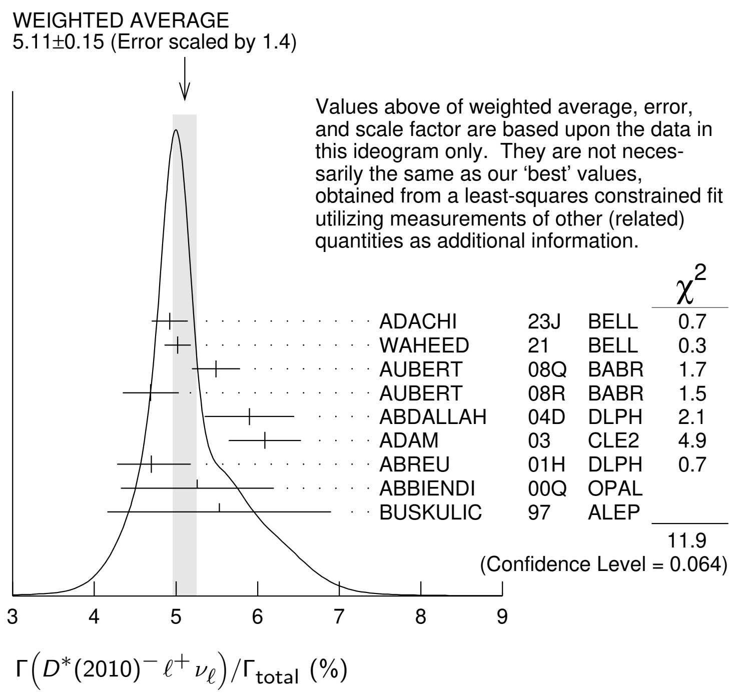
[22] ANTREASYAN 90B is average over B and $\overline{D}^*(2010)$ charge states. NODE=S042R21;LINKAGE=62

[23] The measurement of ALBRECHT 89C suggests a D^* polarization γ_L/γ_T of 0.85 ± 0.45. or $\alpha = 0.7 \pm 0.9$. NODE=S042R21;LINKAGE=B

[24] ALBRECHT 89J is ALBRECHT 87J value rescaled using B($D^*(2010)^- \to D^0 \pi^-$) = 0.57 ± 0.04 ± 0.04. Superseded by ALBRECHT 93. NODE=S042R21;LINKAGE=AA

[25] We have taken average of the the BORTOLETTO 89B values for electrons and muons, 0.046 ± 0.005 ± 0.007. We rescale using the method described in STONE 94 but with the updated PDG 94 B($D^0 \to K^- \pi^+$). The measurement suggests a D^* polarization parameter value $\alpha = 0.65 \pm 0.66 \pm 0.25$. NODE=S042R21;LINKAGE=C

[26] ALBRECHT 87J assume μ-e universality, the B($\Upsilon(4S) \to B^0 \overline{B}^0$) = 0.45, the B($D^0 \to K^- \pi^+$) = (0.042 ± 0.004 ± 0.004), and the B($D^*(2010)^- \to D^0 \pi^-$) = 0.49 ± 0.08. Superseded by ALBRECHT 89J. NODE=S042R21;LINKAGE=A



$\Gamma(D^*(2010)^- \ell^+ \nu_\ell)/\Gamma(D \ell^+ \nu_\ell X)$ — Γ_7/Γ_4

NODE=S042B85
NODE=S042B85

VALUE	DOCUMENT ID		TECN	COMMENT
0.537±0.031±0.036	[1] AUBERT	07AN	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Uses a fully reconstructed B meson on the recoil side. NODE=S042B85;LINKAGE=AU

$\Gamma(D^*(2010)^- e^+ \nu_e)/\Gamma(D^*(2010)^- \mu^+ \nu_\mu)$ — Γ_8/Γ_9

NODE=S042P85
NODE=S042P85

VALUE	DOCUMENT ID		TECN	COMMENT
1.001±0.019 OUR AVERAGE				
0.998±0.009±0.020	ADACHI	23J	BELL	$e^+ e^- \to \Upsilon(4S)$
1.011±0.035±0.024	PRIM	23	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(D^*(2010)^- \tau^+ \nu_\tau)/\Gamma_{total}$ — Γ_{10}/Γ

NODE=S042B09
NODE=S042B09

1.50±0.08 OUR FIT Error includes scale factor of 1.1. [(1.48 ± 0.09) × 10^{-2} OUR 2025 FIT Scale factor = 1.2] NEW

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
1.48±0.18 OUR AVERAGE Error includes scale factor of 1.1.				
1.42±0.094±0.140	[1] AAIJ	18D	LHCB	pp at 7, 8 TeV
$2.02^{+0.40}_{-0.37}$ ±0.37	[2] MATYJA	07	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.11±0.51 ±0.06	[3] AUBERT	08N	BABR	Repl. by AUBERT 09S

[1] Noramlizes to B($B^0 \to D^*(2010)^- \pi^+ \pi^- \pi^+$) = (7.214 ± 0.28) × 10^{-3}. NODE=S042B09;LINKAGE=A
[2] Observed in the recoil of the accompanying B meson. NODE=S042B09;LINKAGE=MA
[3] Uses a fully reconstructed B meson as a tag on the recoil side. NODE=S042B09;LINKAGE=AU

$\Gamma(D^*(2010)^- \tau^+ \nu_\tau)/\Gamma(D^*(2010)^- \ell^+ \nu_\ell)$ — Γ_{10}/Γ_7

NODE=S042B95

0.294±0.015 OUR FIT Error includes scale factor of 1.1. [0.290 ± 0.018 OUR 2025 FIT Scale factor = 1.2] NEW

0.295±0.017 OUR AVERAGE Error includes scale factor of 1.1. [0.291 ± 0.022 OUR 2025 AVERAGE Scale factor = 1.3] NEW

VALUE	DOCUMENT ID		TECN	COMMENT
0.402±0.081±0.085	[1,2] AAIJ	25G	LHCB	pp at 13 TeV
$0.306^{+0.035}_{-0.033}{}^{+0.016}_{-0.018}$	[3] ADACHI	25R	BELL	$e^+ e^- \to \Upsilon(4S)$
0.267±0.012±0.020	[4,5] AAIJ	23W	LHCB	pp at 13 TeV
0.302±0.030±0.011	[6] SATO	16B	BELL	$e^+ e^- \to \Upsilon(4S)$
0.355±0.039±0.021	[7,8] LEES	12D	BABR	$e^+ e^- \to \Upsilon(4S)$

OCCUR=2

• • • We do not use the following data for averages, fits, limits, etc. • • •

VALUE	DOCUMENT ID		TECN	COMMENT
0.260±0.015±0.019	[4] AAIJ	23W	LHCB	pp at 13 TeV
0.291±0.019±0.029	[4] AAIJ	18D	LHCB	Repl. by AAIJ 23W
0.336±0.027±0.030	[9] AAIJ	15Q	LHCB	Repl. by AAIJ 23AR
0.207±0.095±0.008	[7] AUBERT	09S	BABR	Repl. by LEES 12D

[1] Uses $\tau^+ \to \mu^- \overline{\nu}_\mu \nu_\tau$ and μ^+ as ℓ^+. NODE=S042B95;LINKAGE=F
[2] AAIJ 25G simultaneously measures also B($B^0 \to D^- \tau^+ \nu_\tau$)/B($B^0 \to D^- \mu^+ \nu_\mu$) and reports correlation factor -0.39. NODE=S042B95;LINKAGE=G
[3] Uses leptonic decay modes of τ^+ and reconstruction of the companion B meson in semileptonic decay modes. NODE=S042B95;LINKAGE=H
[4] Uses $\tau^+ \to \pi^+ \pi^- \pi^+ \overline{\nu}_\tau$ and $\tau^+ \to \pi^+ \pi^- \pi^+ \pi^0 \overline{\nu}_\tau$, and μ^+ as ℓ^+. NODE=S042B95;LINKAGE=C
[5] Combination with measurement from AAIJ 18D. NODE=S042B95;LINKAGE=D
[6] Uses semileptonic B decay events for tagging and $\tau^+ \to \ell^+ \nu_\ell \overline{\nu}_\tau$ mode. NODE=S042B95;LINKAGE=B
[7] Uses a fully reconstructed B meson as a tag on the recoil side. NODE=S042B95;LINKAGE=AU
[8] Uses $\tau^+ \to e^+ \nu_e \overline{\nu}_\tau$ and $\tau^+ \to \mu^+ \nu_\mu \overline{\nu}_\tau$ and e^+ or μ^+ as ℓ^+. NODE=S042B95;LINKAGE=LE
[9] Uses $\tau^+ \to \mu^+ \nu_\mu \overline{\nu}_\tau$ and μ^+ as ℓ^+. NODE=S042B95;LINKAGE=A

$\Gamma(D^*(2010)^- \tau^+ \nu_\tau)/\Gamma(D^*(2010)^- \pi^+ \pi^+ \pi^-)$ — Γ_{10}/Γ_{61}

NODE=S042P26

VALUE	DOCUMENT ID		TECN	COMMENT
1.84±0.08±0.10	[1,2] AAIJ	23W	LHCB	pp at 7, 8, 13 TeV

OCCUR=2

• • • We do not use the following data for averages, fits, limits, etc. • • •

VALUE	DOCUMENT ID		TECN	COMMENT
1.79±0.11±0.11	[1] AAIJ	23W	LHCB	pp at 13 TeV
1.97±0.13±0.18	[1] AAIJ	18D	LHCB	Repl. by AAIJ 23W

[1] Uses $\tau^+ \to \pi^+ \pi^- \pi^+ \overline{\nu}_\tau$ and $\tau^+ \to \pi^+ \pi^- \pi^+ \pi^0 \overline{\nu}_\tau$ modes. NODE=S042P26;LINKAGE=A
[2] Combination with result from AAIJ 18D. NODE=S042P26;LINKAGE=B

$\Gamma(\overline{D}^{(*)} n\pi \ell^+ \nu_\ell (n \geq 1))/\Gamma(D \ell^+ \nu_\ell X)$ — Γ_{11}/Γ_4

NODE=S042B86

VALUE	DOCUMENT ID		TECN	COMMENT
0.248±0.032±0.030	[1] AUBERT	07AN	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Uses a fully reconstructed B meson on the recoil side. NODE=S042B86;LINKAGE=AU

$\Gamma(\overline{D}^0 \pi^- \ell^+ \nu_\ell)/\Gamma_{total}$ — Γ_{12}/Γ

NODE=S042Q36

3.64±0.20 OUR AVERAGE

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
3.60±0.18±0.11	MEIER	23	BELL	$e^+ e^- \to \Upsilon(4S)$
4.3 ±0.8 ±0.3	[1] AUBERT	08Q	BABR	$e^+ e^- \to \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
4.05±0.36±0.41	VOSSEN	18	BELL	Repl. by MEIER 23
4.2 ±0.8 ±0.1	[1,2] LIVENTSEV	08	BELL	Repl. by VOSSEN 18
3.4 ±1.0 ±0.1	[3] LIVENTSEV	05	BELL	Repl. by LIVENTSEV 08

[1] Uses a fully reconstructed B meson as a tag on the recoil side. NODE=S042Q36;LINKAGE=BE
[2] LIVENTSEV 08 reports (4.2 ± 0.7 ± 0.6) × 10^{-3} from a measurement of [$\Gamma(B^0 \to \overline{D}^0 \pi^- \ell^+ \nu_\ell)/\Gamma_{total}$] / [B($B^0 \to D^- \ell^+ \nu_\ell$)] assuming B($B^0 \to D^- \ell^+ \nu_\ell$) = (2.12 ± 0.20) × 10^{-2}, which we rescale to our best value B($B^0 \to D^- \ell^+ \nu_\ell$) = (2.10 ± 0.07) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042Q36;LINKAGE=LV
[3] LIVENTSEV 05 reports [$\Gamma(B^0 \to \overline{D}^0 \pi^- \ell^+ \nu_\ell)/\Gamma_{total}$] / [B($B^+ \to \overline{D}^0 \ell^+ \nu_\ell$)] = 0.15 ± 0.03 ± 0.03 which we multiply by our best value B($B^+ \to \overline{D}^0 \ell^+ \nu_\ell$) = (2.26 ± 0.07) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042Q36;LINKAGE=LI

$\Gamma\big(D_0^*(2300)^- \ell^+ \nu_\ell,\ D_0^{*-} \to \overline{D}^0 \pi^-\big)/\Gamma_{\text{total}}$ Γ_{13}/Γ

NODE=S042S03
NODE=S042S03

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
< 4.4	90	MEIER	23	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
44 $\pm 8 \pm 6$		[1] AUBERT	08BL	BABR	$e^+ e^- \to \Upsilon(4S)$
20 $\pm 7 \pm 5$		[1] LIVENTSEV	08	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Uses a fully reconstructed B meson as a tag on the recoil side. NODE=S042S03;LINKAGE=BE

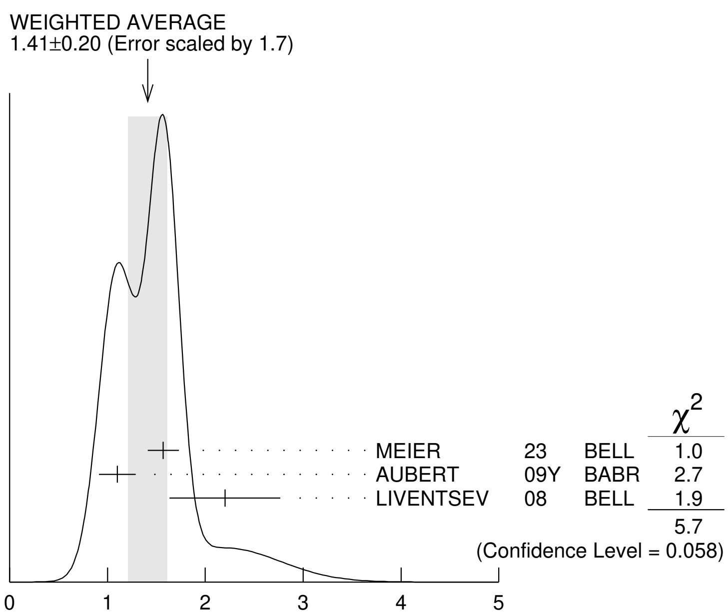
$\Gamma\big(D_2^*(2460)^- \ell^+ \nu_\ell,\ D_2^{*-} \to \overline{D}^0 \pi^-\big)/\Gamma_{\text{total}}$ Γ_{14}/Γ

NODE=S042S04
NODE=S042S04

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
1.41±0.20 OUR AVERAGE	Error includes scale factor of 1.7. See the ideogram below.			
$1.57 \pm 0.15 \pm 0.05$	MEIER	23	BELL	$e^+ e^- \to \Upsilon(4S)$
$1.10 \pm 0.17 \pm 0.08$	[1] AUBERT	09Y	BABR	$e^+ e^- \to \Upsilon(4S)$
$2.2 \pm 0.4 \pm 0.4$	[2] LIVENTSEV	08	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Uses a simultaneous fit of all B semileptonic decays without full reconstruction of events. AUBERT 09Y reports $B(B^0 \to \overline{D}_2^*(2460)^- \ell^+ \nu_\ell) \cdot B(\overline{D}_2^*(2460)^- \to \overline{D}^{(*)0} \pi^-) = (1.77 \pm 0.26 \pm 0.11) \times 10^{-3}$ and the authors have provided us the individual measurement. NODE=S042S04;LINKAGE=AU

[2] Uses a fully reconstructed B meson as a tag on the recoil side. NODE=S042S04;LINKAGE=BE



$\Gamma\Big(D_2^*(2460)^- \ell^+ \nu_\ell,\ D_2^{*-} \to \overline{D}^0 \pi^-\Big)/\Gamma_{\text{total}}$ (units 10^{-3})

$\Gamma\big(\overline{D}^{*0} \pi^- \ell^+ \nu_\ell\big)/\Gamma_{\text{total}}$ Γ_{15}/Γ

NODE=S042Q37
NODE=S042Q37

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
5.44±0.28 OUR AVERAGE				
$5.51 \pm 0.24 \pm 0.17$	MEIER	23	BELL	$e^+ e^- \to \Upsilon(4S)$
$4.8 \pm 0.8 \pm 0.4$	[1] AUBERT	08Q	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$6.46 \pm 0.53 \pm 0.52$	VOSSEN	18	BELL	Repl. by MEIER 23
$5.5 \pm 2.2 \pm 0.2$	[1,2] LIVENTSEV	08	BELL	Repl. by VOSSEN 18
$5.3 \pm 1.2 \pm 0.1$	[3,4] LIVENTSEV	05	BELL	Repl. by LIVENTSEV 08

[1] Uses a fully reconstructed B meson as a tag on the recoil side. NODE=S042Q37;LINKAGE=BE

[2] LIVENTSEV 08 reports $(5.6 \pm 2.1 \pm 0.8) \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to \overline{D}^{*0} \pi^- \ell^+ \nu_\ell)/\Gamma_{\text{total}}]$ / $[B(B^0 \to D^- \ell^+ \nu_\ell)]$ assuming $B(B^0 \to D^- \ell^+ \nu_\ell) = (2.12 \pm 0.20) \times 10^{-2}$, which we rescale to our best value $B(B^0 \to D^- \ell^+ \nu_\ell) = (2.10 \pm 0.07) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042Q37;LINKAGE=LV

[3] Excludes D^{*+} contribution to $D\pi$ modes. NODE=S042Q37;LINKAGE=EC

[4] LIVENTSEV 05 reports $[\Gamma(B^0 \to \overline{D}^{*0} \pi^- \ell^+ \nu_\ell)/\Gamma_{\text{total}}]$ / $[B(B^+ \to \overline{D}^*(2007)^0 \ell^+ \nu_\ell)] = 0.10 \pm 0.02 \pm 0.01$ which we multiply by our best value $B(B^+ \to \overline{D}^*(2007)^0 \ell^+ \nu_\ell) = (5.26 \pm 0.10) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042Q37;LINKAGE=LI

$\Gamma\big(D_1(2420)^- \ell^+ \nu_\ell,\ D_1^- \to \overline{D}^{*0} \pi^-\big)/\Gamma_{\text{total}}$ Γ_{16}/Γ

NODE=S042S05

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
2.85±0.25 OUR AVERAGE				
3.06±0.50±0.28	MEIER	23	BELL	$e^+ e^- \to \Upsilon(4S)$
2.78±0.24±0.25	[1] AUBERT	09Y	BABR	$e^+ e^- \to \Upsilon(4S)$
2.7 ±0.4 ±0.3	[2] AUBERT	08BL	BABR	$e^+ e^- \to \Upsilon(4S)$
5.4 ±1.9 ±0.9	[2] LIVENTSEV	08	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Uses a simultaneous measurement of all B semileptonic decays without full reconstruction of events. NODE=S042S05;LINKAGE=AU

[2] Uses a fully reconstructed B meson as a tag on the recoil side. NODE=S042S05;LINKAGE=BE

$\Gamma\big(D_1(2420)^- \ell^+ \nu_\ell,\ D_1^- \to D^- \pi^+ \pi^-\big)/\Gamma_{\text{total}}$ Γ_{17}/Γ

NODE=S042P83

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
1.02±0.13±0.09	MEIER	23	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma\big(D_1'(2430)^- \ell^+ \nu_\ell,\ D_1'^- \to \overline{D}^{*0} \pi^-\big)/\Gamma_{\text{total}}$ Γ_{18}/Γ

NODE=S042S06

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
2.5 ±0.6 OUR AVERAGE					
2.06±0.68±0.25		MEIER	23	BELL	$e^+ e^- \to \Upsilon(4S)$
3.1 ±0.7 ±0.5		[1] AUBERT	08BL	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<5.0	90	[1] LIVENTSEV	08	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Uses a fully reconstructed B meson as a tag on the recoil side. NODE=S042S06;LINKAGE=BE

$\Gamma\big(D_2^*(2460)^- \ell^+ \nu_\ell,\ D_2^{*-} \to \overline{D}^{*0} \pi^-\big)/\Gamma_{\text{total}}$ Γ_{19}/Γ

NODE=S042S07

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
6.6±1.1 OUR AVERAGE					
5.1±4.0±1.0		MEIER	23	BELL	$e^+ e^- \to \Upsilon(4S)$
6.7±1.2±0.5		[1] AUBERT	09Y	BABR	$e^+ e^- \to \Upsilon(4S)$
7 ±2 ±2		[2] AUBERT	08BL	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<30	90	[2] LIVENTSEV	08	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Uses a simultaneous fit of all B semileptonic decays without full reconstruction of events. AUBERT 09Y reports $B(B^0 \to \overline{D}_2^*(2460)^- \ell^+ \nu_\ell) \cdot B(\overline{D}_2^*(2460)^- \to \overline{D}^{(*)0} \pi^-) = (1.77 \pm 0.26 \pm 0.11) \times 10^{-3}$ and the authors have provided us the individual measurement. NODE=S042S07;LINKAGE=AU

[2] Uses a fully reconstructed B meson as a tag on the recoil side. NODE=S042S07;LINKAGE=BE

$\Gamma\big(D^- \pi^+ \pi^- \ell^+ \nu_\ell\big)/\Gamma_{\text{total}}$ Γ_{20}/Γ

NODE=S042P81

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
1.45±0.18±0.13	MEIER	23	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma\big(D^- \pi^+ \pi^- \ell^+ \nu_\ell\big)/\Gamma\big(D^- \ell^+ \nu_\ell\big)$ Γ_{20}/Γ_5

NODE=S042C42

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
5.8±1.8±1.2	[1] LEES	16	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Measurement used electrons and muons as leptons. NODE=S042C42;LINKAGE=A

$\Gamma\big(D^{*-} \pi^+ \pi^- \ell^+ \nu_\ell\big)/\Gamma_{\text{total}}$ Γ_{21}/Γ

NODE=S042P82

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
5.1±2.1±0.9	MEIER	23	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma\big(D^{*-} \pi^+ \pi^- \ell^+ \nu_\ell\big)/\Gamma\big(D^*(2010)^- \ell^+ \nu_\ell\big)$ Γ_{21}/Γ_7

NODE=S042C43

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
2.8±0.8±0.6	[1] LEES	16	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Measurement used electrons and muons as leptons. NODE=S042C43;LINKAGE=A

$\Gamma(\rho^- \ell^+ \nu_\ell)/\Gamma_{total}$ Γ_{22}/Γ

NODE=S042R95
NODE=S042R95

$\ell = e$ or μ, not sum over e and μ modes.

"OUR EVALUATION" includes both B^0 and B^+ decays. The average assumes equality of the semileptonic decay width for these isospin conjugate states.

NODE=S042R95

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT	
2.94±0.11±0.18 OUR EVALUATION		(Produced by HFLAV)				→ UNCHECKED ←
2.45±0.32 OUR AVERAGE		Error includes scale factor of 1.6. See the ideogram below.				
$3.22\pm0.27\pm0.24$		[1] SIBIDANOV	13	BELL	$e^+e^- \to \Upsilon(4S)$	
$1.75\pm0.15\pm0.27$		[2] DEL-AMO-SA...	11C	BABR	$e^+e^- \to \Upsilon(4S)$	
$2.93\pm0.37\pm0.37$		[3] ADAM	07	CLE2	$e^+e^- \to \Upsilon(4S)$	
$2.17\pm0.54\pm0.32$		[4] HOKUUE	07	BELL	$e^+e^- \to \Upsilon(4S)$	
$2.57\pm0.29{}^{+0.53}_{-0.62}$		[5] BEHRENS	00	CLE2	$e^+e^- \to \Upsilon(4S)$	SYCLP=A
• • • We do not use the following data for averages, fits, limits, etc. • • •						
$2.14\pm0.21\pm0.56$		[2] AUBERT,B	05O	BABR	Repl. by DEL-AMO-SANCHEZ 11C	
$2.17\pm0.34{}^{+0.62}_{-0.68}$		[6] ATHAR	03	CLE2	Repl. by ADAM 07	SYCLP=A
$3.29\pm0.42\pm0.72$		[7] AUBERT	03E	BABR	Repl. by AUBERT,B 05O	SYCLP=A
$2.69\pm0.41{}^{+0.61}_{-0.64}$		[8] BEHRENS	00	CLE2	$e^+e^- \to \Upsilon(4S)$	OCCUR=2
$2.5\ \pm0.4\ {}^{+0.7}_{-0.9}$		[9] ALEXANDER	96T	CLE2	Repl. by BEHRENS 00	
<4.1	90	[10] BEAN	93B	CLE2	$e^+e^- \to \Upsilon(4S)$	

[1] The signal events are tagged by a second B meson reconstructed in the fully hadronic decays. NODE=S042R95;LINKAGE=C

[2] B^+ and B^0 decays combined assuming isospin symmetry. Systematic errors include both experimental and form-factor uncertainties. NODE=S042R95;LINKAGE=IS

[3] The B^0 and B^+ results are combined assuming the isospin, B lifetimes, and relative charged/neutral B production at the $\Upsilon(4S)$. NODE=S042R95;LINKAGE=AD

[4] The signal events are tagged by a second B meson reconstructed in the semileptonic mode $B \to D^{(*)} \ell \nu_\ell$. NODE=S042R95;LINKAGE=HO

[5] Averaging with ALEXANDER 96T results including experimental and theoretical correlations considered, BEHRENS 00 reports systematic errors ${}^{+0.33}_{-0.46} \pm 0.41$, where the second error is theoretical model dependence. We combine these in quadrature. NODE=S042R95;LINKAGE=BH

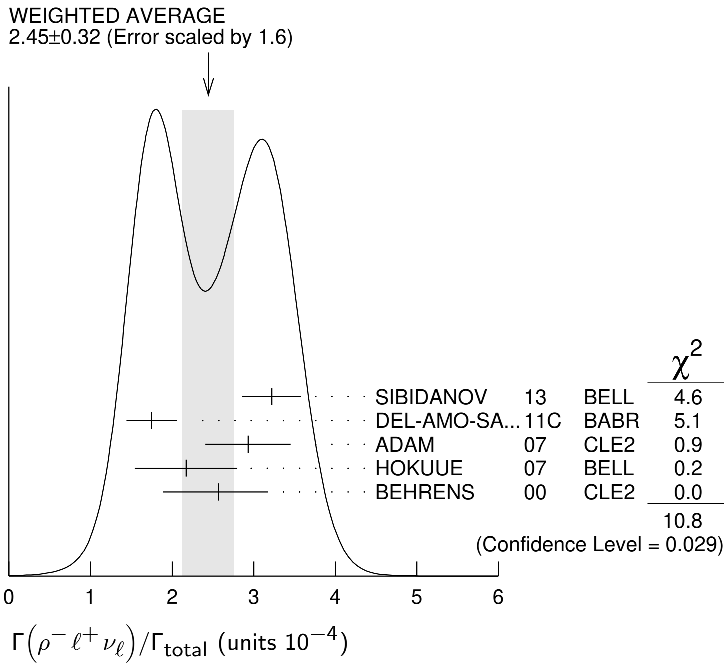
[6] ATHAR 03 reports systematic errors ${}^{+0.47}_{-0.50} \pm 0.41 \pm 0.01$, which are experimental systematic, systematic due to residual form-factor uncertainties in the signal, and systematic due to residual form-factor uncertainties in the cross-feed modes, respectively. We combine these in quadrature. NODE=S042R95;LINKAGE=AT

[7] Uses isospin constraints and extrapolation to all electron energies according to five different form-factor calculations. The second error combines the systematic and theoretical uncertainties in quadrature. NODE=S042R95;LINKAGE=IC

[8] BEHRENS 00 reports ${}^{+0.35}_{-0.40} \pm 0.50$, where the second error is the theoretical model dependence. We combine these in quadrature. B^+ and B^0 decays combined using isospin symmetry: $\Gamma(B^0 \to \rho^- \ell^+ \nu) = 2\Gamma(B^+ \to \rho^0 \ell^+ \nu) \approx 2\Gamma(B^+ \to \omega \ell^+ \nu)$. No evidence for $\omega \ell \nu$ is reported. NODE=S042R95;LINKAGE=HI

[9] ALEXANDER 96T reports ${}^{+0.5}_{-0.7} \pm 0.5$ where the second error is the theoretical model dependence. We combine these in quadrature. B^+ and B^0 decays combined using isospin symmetry: $\Gamma(B^0 \to \rho^- \ell^+ \nu) = 2\Gamma(B^+ \to \rho^0 \ell^+ \nu) \approx 2\Gamma(B^+ \to \omega \ell^+ \nu)$. No evidence for $\omega \ell \nu$ is reported. NODE=S042R95;LINKAGE=B

[10] BEAN 93B limit set using ISGW Model. Using isospin and the quark model to combine $\Gamma(\rho^0 \ell^+ \nu_\ell)$ and $\Gamma(\omega \ell^+ \nu_\ell)$ with this result, they obtain a limit $<(1.6\text{–}2.7) \times 10^{-4}$ at 90% CL for $B^+ \to (\omega \text{ or } \rho^0) \ell^+ \nu_\ell$. The range corresponds to the ISGW, WSB, and KS models. An upper limit on $|V_{ub}/V_{cb}| < 0.08\text{–}0.13$ at 90% CL is derived as well. NODE=S042R95;LINKAGE=A



$\Gamma(\pi^- \ell^+ \nu_\ell)/\Gamma_{\text{total}}$ Γ_{23}/Γ

NODE=S042S48
NODE=S042S48

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
1.50 ±0.05 OUR EVALUATION	(Produced by HFLAV)		
1.473±0.035 OUR AVERAGE			
[(1.46 ± 0.04) × 10^{-4} OUR 2025 AVERAGE]			
1.516±0.042±0.059	[1] ADACHI 25I	BELL	$e^+ e^- \to \Upsilon(4S)$
1.49 ±0.09 ±0.07	[2] SIBIDANOV 13	BELL	$e^+ e^- \to \Upsilon(4S)$
1.47 ±0.05 ±0.06	[3,4] LEES 12AA	BABR	$e^+ e^- \to \Upsilon(4S)$
1.41 ±0.05 ±0.07	[5] DEL-AMO-SA...11C	BABR	$e^+ e^- \to \Upsilon(4S)$
1.49 ±0.04 ±0.07	[3] HA 11	BELL	$e^+ e^- \to \Upsilon(4S)$
1.54 ±0.17 ±0.09	[5] AUBERT 08AV	BABR	$e^+ e^- \to \Upsilon(4S)$
1.37 ±0.15 ±0.11	[6,7] ADAM 07	CLE2	$e^+ e^- \to \Upsilon(4S)$
1.38 ±0.19 ±0.14	[8] HOKUUE 07	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
1.53 ±0.18 ±0.12	[2,9] CAO 23	BELL	$e^+ e^- \to \Upsilon(4S)$
1.42 ±0.05 ±0.08	[3] DEL-AMO-SA...11F	BABR	Repl. by LEES 12AA
1.46 ±0.07 ±0.08	[10] AUBERT 07J	BABR	Repl. by DEL-AMO-SANCHEZ 11F
1.33 ±0.17 ±0.11	[11] AUBERT,B 06K	BABR	Repl. by AUBERT 08AV
1.38 ±0.10 ±0.18	[12] AUBERT,B 05O	BABR	Repl. by DEL-AMO-SANCHEZ 11C
1.33 ±0.18 ±0.13	[13] ATHAR 03	CLE2	Repl. by ADAM 07
1.8 ±0.4 ±0.4	[14] ALEXANDER 96T	CLE2	Repl. by ATHAR 03

→ UNCHECKED ←
NEW

[1] Uses B($\Upsilon(4S) \to B^+ B^-$)/B($\Upsilon(4S) \to B^0 \overline{B}^0$) = 1.065 ± 0.052.
NODE=S042S48;LINKAGE=D

[2] The signal events are tagged by a second B meson reconstructed in the fully hadronic decays.
NODE=S042S48;LINKAGE=A

[3] Uses loose neutrino reconstruction technique. Assumes B($\Upsilon(4S) \to B^+ B^-$) = (51.6 ± 0.6)% and B($\Upsilon(4S) \to B^0 \overline{B}^0$) = (48.4 ± 0.6)%.
NODE=S042S48;LINKAGE=DE

[4] Reports also a branching fraction value B($B^0 \to \pi^- \ell^+ \nu$) = $(1.45 \pm 0.04 \pm 0.06) \times 10^{-4}$ from the decays of B^+ and B^0 that are combined using the isospin symmetry relation.
NODE=S042S48;LINKAGE=LE

[5] Using the isospin symmetry relation, B^+ and B^0 branching fractions are combined.
NODE=S042S48;LINKAGE=AB

[6] The B^0 and B^+ results are combined assuming the isospin, B lifetimes, and relative charged/neutral B production at the $\Upsilon(4S)$.
NODE=S042S48;LINKAGE=AD

[7] Also report the rate for $q^2 > 16$ GeV^2 of $(0.41 \pm 0.08 \pm 0.04) \times 10^{-4}$ from which they obtain $|V_{ub}| = 3.6 \pm 0.4 \pm 0.2^{+0.6}_{-0.4}$ (last error is from theory).
NODE=S042S48;LINKAGE=AM

[8] The signal events are tagged by a second B meson reconstructed in the semileptonic mode $B \to D^{(*)} \ell \nu_\ell$.
NODE=S042S48;LINKAGE=HO

[9] This analysis provides the inclusive and exclusive measurement of $|V_{ub}|$.
NODE=S042S48;LINKAGE=C

[10] The analysis uses events in which the signal B decays are reconstructed with an innovative loose neutrino reconstruction technique.
NODE=S042S48;LINKAGE=AU

[11] The signals are tagged by a second B meson reconstructed in a semileptonic or hadronic decay. The B^0 and B^+ results are combined assuming the isospin symmetry.
NODE=S042S48;LINKAGE=RT

[12] B^+ and B^0 decays combined assuming isospin symmetry. Systematic errors include both experimental and form-factor uncertainties.
NODE=S042S48;LINKAGE=IS

[13] ATHAR 03 reports systematic errors $0.11 \pm 0.01 \pm 0.07$, which are experimental systematic, systematic due to residual form-factor uncertainties in the signal, and systematic due to residual form-factor uncertainties in the cross-feed modes, respectively. We combine these in quadrature. NODE=S042S48;LINKAGE=AT

[14] ALEXANDER 96T gives systematic errors $\pm 0.3 \pm 0.2$ where the second error reflects the estimated model dependence. We combine these in quadrature. Assumes isospin symmetry: $\Gamma(B^0 \to \pi^- \ell^+ \nu) = 2 \times \Gamma(B^+ \to \pi^0 \ell^+ \nu)$. NODE=S042S48;LINKAGE=B

$\Gamma(\pi^- \mu^+ \nu_\mu)/\Gamma_{total}$ Γ_{24}/Γ

NODE=S042R70
NODE=S042R70

VALUE	DOCUMENT ID		TECN
• • • We do not use the following data for averages, fits, limits, etc. • • •			
seen	[1] ALBRECHT	91C	ARG

[1] In ALBRECHT 91C, one event is fully reconstructed providing evidence for the $b \to u$ transition. NODE=S042R70;LINKAGE=A

$\Gamma(\pi^- \tau^+ \nu_\tau)/\Gamma_{total}$ Γ_{25}/Γ

NODE=S042R86
NODE=S042R86

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.5 \times 10^{-4}$	90	[1] HAMER	16	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R86;LINKAGE=EP

$\Gamma(K^\pm X)/\Gamma_{total}$ Γ_{26}/Γ

NODE=S042S49
NODE=S042S49

VALUE	DOCUMENT ID		TECN	COMMENT
0.78±0.08	[1] ALBRECHT	96D	ARG	$e^+ e^- \to \Upsilon(4S)$

[1] Average multiplicity. NODE=S042S49;LINKAGE=A

$\Gamma(D^0 X)/\Gamma_{total}$ Γ_{27}/Γ

NODE=S042Q13
NODE=S042Q13

VALUE	DOCUMENT ID		TECN	COMMENT
0.081±0.014±0.005	[1] AUBERT	07N	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.063±0.019±0.005	[1] AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

[1] Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties. NODE=S042Q13;LINKAGE=AU

$\Gamma(\overline{D}^0 X)/\Gamma_{total}$ Γ_{28}/Γ

NODE=S042Q14
NODE=S042Q14

VALUE	DOCUMENT ID		TECN	COMMENT
$0.474 \pm 0.020^{+0.020}_{-0.019}$	[1] AUBERT	07N	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.511±0.031±0.028	[1] AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

[1] Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties. NODE=S042Q14;LINKAGE=AU

$\Gamma(D^0 X)/[\Gamma(D^0 X)+\Gamma(\overline{D}^0 X)]$ $\Gamma_{27}/(\Gamma_{27}+\Gamma_{28})$

NODE=S042Q15
NODE=S042Q15

VALUE	DOCUMENT ID		TECN	COMMENT
0.146±0.022±0.006	AUBERT	07N	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.110±0.031±0.008	AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

$\Gamma(D^+ X)/\Gamma_{total}$ Γ_{29}/Γ

NODE=S042Q16
NODE=S042Q16

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.039	90	[1] AUBERT	07N	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.051	90	[1] AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

[1] Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties. NODE=S042Q16;LINKAGE=AU

$\Gamma(D^- X)/\Gamma_{total}$ Γ_{30}/Γ

NODE=S042Q17
NODE=S042Q17

VALUE	DOCUMENT ID		TECN	COMMENT
$0.369 \pm 0.016^{+0.030}_{-0.027}$	[1] AUBERT	07N	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.397 \pm 0.030^{+0.040}_{-0.038}$	[1] AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

[1] Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties. NODE=S042Q17;LINKAGE=AU

$\Gamma(D^+ X)/[\Gamma(D^+ X)+\Gamma(D^- X)]$ — $\Gamma_{29}/(\Gamma_{29}+\Gamma_{30})$

NODE=S042Q18

VALUE	DOCUMENT ID		TECN	COMMENT
0.058±0.028±0.006	AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.055±0.040±0.006	AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

$\Gamma(D_s^+ X)/\Gamma_{total}$ — Γ_{31}/Γ

NODE=S042Q19

VALUE	DOCUMENT ID		TECN	COMMENT
$0.103\pm0.012^{+0.017}_{-0.014}$	[1] AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.109\pm0.021^{+0.039}_{-0.024}$	[1] AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

[1] Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties. NODE=S042Q19;LINKAGE=AU

$\Gamma(D_s^- X)/\Gamma_{total}$ — Γ_{32}/Γ

NODE=S042Q20

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.026	90	[1] AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.087	90	[1] AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

[1] Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties. NODE=S042Q20;LINKAGE=AU

$\Gamma(D_s^+ X)/[\Gamma(D_s^+ X)+\Gamma(D_s^- X)]$ — $\Gamma_{31}/(\Gamma_{31}+\Gamma_{32})$

NODE=S042Q21

VALUE	DOCUMENT ID		TECN	COMMENT
0.879±0.066±0.005	AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.733±0.092±0.010	AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

$\Gamma(\Lambda_c^+ X)/\Gamma_{total}$ — Γ_{33}/Γ

NODE=S042Q22

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.031	90	[1] AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.038	90	[1] AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

[1] Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties. NODE=S042Q22;LINKAGE=AU

$\Gamma(\overline{\Lambda}_c^- X)/\Gamma_{total}$ — Γ_{34}/Γ

NODE=S042Q23

VALUE	DOCUMENT ID		TECN	COMMENT
$0.05\ \pm0.010^{+0.019}_{-0.011}$	[1] AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.049\pm0.017^{+0.018}_{-0.011}$	[1] AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

[1] Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties. NODE=S042Q23;LINKAGE=AU

$\Gamma(\Lambda_c^+ X)/[\Gamma(\Lambda_c^+ X)+\Gamma(\overline{\Lambda}_c^- X)]$ — $\Gamma_{33}/(\Gamma_{33}+\Gamma_{34})$

NODE=S042Q24

VALUE	DOCUMENT ID		TECN	COMMENT
$0.243^{+0.119}_{-0.121}\pm0.003$	AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.286±0.142±0.007	AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

$\Gamma(\overline{c} X)/\Gamma_{total}$ — Γ_{35}/Γ

NODE=S042Q25

VALUE	DOCUMENT ID		TECN	COMMENT
$0.947\pm0.030^{+0.045}_{-0.040}$	[1] AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.039\pm0.051^{+0.063}_{-0.058}$	[1] AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

[1] Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties. NODE=S042Q25;LINKAGE=AU

$\Gamma(cX)/\Gamma_{\rm total}$ Γ_{36}/Γ

NODE=S042Q26
NODE=S042Q26

VALUE	DOCUMENT ID		TECN	COMMENT
$0.246\pm0.024^{+0.021}_{-0.017}$	[1] AUBERT	07N	BABR	$e^+e^-\to\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.237\pm0.036^{+0.041}_{-0.027}$	[1] AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

[1] Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties. NODE=S042Q26;LINKAGE=AU

$\Gamma(\overline{c}/cX)/\Gamma_{\rm total}$ Γ_{37}/Γ

NODE=S042Q27
NODE=S042Q27

VALUE	DOCUMENT ID		TECN	COMMENT
$1.193\pm0.030^{+0.053}_{-0.049}$	[1] AUBERT	07N	BABR	$e^+e^-\to\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.276\pm0.062^{+0.088}_{-0.074}$	[1] AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

[1] Events are selected by completely reconstructing one B and searching for a reconstructed charmed particle in the rest of the event. The last error includes systematic and charm branching ratio uncertainties. NODE=S042Q27;LINKAGE=AU

$\Gamma(D^-\pi^+)/\Gamma_{\rm total}$ Γ_{38}/Γ

NODE=S042R30
NODE=S042R30

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
2.51±0.08 OUR FIT					
2.56±0.08 OUR AVERAGE					
$2.48\pm0.01\pm0.10$		WAHEED	22	BELL	$e^+e^-\to\Upsilon(4S)$
$2.55\pm0.05\pm0.16$		[1] AUBERT	07H	BABR	$e^+e^-\to\Upsilon(4S)$
$3.03\pm0.23\pm0.23$		[2] AUBERT,BE	06J	BABR	$e^+e^-\to\Upsilon(4S)$
$2.68\pm0.12\pm0.24$		[1,3] AHMED	02B	CLE2	$e^+e^-\to\Upsilon(4S)$
$2.7\pm0.6\pm0.5$		[4] BORTOLETTO	92	CLEO	$e^+e^-\to\Upsilon(4S)$
$4.8\pm1.1\pm1.1$	22	[5] ALBRECHT	90J	ARG	$e^+e^-\to\Upsilon(4S)$
$5.1\ {}^{+2.8}_{-2.5}\ {}^{+1.3}_{-1.2}$	4	[6] BEBEK	87	CLEO	$e^+e^-\to\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$2.74\pm0.20\pm0.05$		[1,7] AUBERT,B	04O	BABR	Repl. by AUBERT 07H
$2.84\pm0.42\pm0.05$	81	[8] ALAM	94	CLE2	Repl. by AHMED 02B
$3.1\pm1.3\pm1.0$	7	[5] ALBRECHT	88K	ARG	$e^+e^-\to\Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R30;LINKAGE=EP

[2] Uses a missing-mass method. Does not depend on D branching fractions or B^+/B^0 production rates. NODE=S042R30;LINKAGE=RT

[3] AHMED 02B reports an additional uncertainty on the branching ratios to account for 4.5% uncertainty on relative production of B^0 and B^+, which is not included here. NODE=S042R30;LINKAGE=H3

[4] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. NODE=S042R30;LINKAGE=B9

[5] ALBRECHT 88K assumes $B^0\overline{B}^0$:B^+B^- production ratio is 45:55. Superseded by ALBRECHT 90J which assumes 50:50. NODE=S042R30;LINKAGE=B

[6] BEBEK 87 value has been updated in BERKELMAN 91 to use same assumptions as noted for BORTOLETTO 92. NODE=S042R30;LINKAGE=A

[7] AUBERT,B 04O reports $[\Gamma(B^0\to D^-\pi^+)/\Gamma_{\rm total}]\times[B(D^+\to K^0_S\pi^+)] = (42.7\pm2.1\pm2.2)\times10^{-6}$ which we divide by our best value $B(D^+\to K^0_S\pi^+) = (1.557\pm0.031)\times10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R30;LINKAGE=AE

[8] ALAM 94 reports $[\Gamma(B^0\to D^-\pi^+)/\Gamma_{\rm total}]\times[B(D^+\to K^-2\pi^+)] = (0.265\pm0.032\pm0.023)\times10^{-3}$ which we divide by our best value $B(D^+\to K^-2\pi^+) = (9.34\pm0.16)\times10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R30;LINKAGE=AB

$\Gamma(D^-\ell^+\nu_\ell)/\Gamma(D^-\pi^+)$ Γ_5/Γ_{38}

NODE=S042S08
NODE=S042S08

VALUE	DOCUMENT ID		TECN	COMMENT
$9.9\pm1.0\pm0.9$	AALTONEN	09E	CDF	$p\overline{p}$ at 1.96 TeV

$\Gamma(D^-\rho^+)/\Gamma_{total}$ Γ_{39}/Γ

NODE=S042R33

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0076±0.0012 OUR AVERAGE					
0.0075±0.0013±0.0001	79	[1] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$
0.009 ±0.005 ±0.003	9	[2] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.022 ±0.012 ±0.009	6	[2] ALBRECHT	88K	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALAM 94 reports $[\Gamma(B^0 \to D^-\rho^+)/\Gamma_{total}] \times [B(D^+ \to K^-2\pi^+)] = 0.000704 \pm 0.000096 \pm 0.000070$ which we divide by our best value $B(D^+ \to K^-2\pi^+) = (9.34 \pm 0.16) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R33;LINKAGE=AB

[2] ALBRECHT 88K assumes $B^0\overline{B}^0$:B^+B^- production ratio is 45:55. Superseded by ALBRECHT 90J which assumes 50:50. NODE=S042R33;LINKAGE=A

$\Gamma(D^-K^0\pi^+)/\Gamma_{total}$ Γ_{40}/Γ

NODE=S042Q38

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
4.9±0.7±0.5	[1] AUBERT,BE	05B	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q38;LINKAGE=EP

$\Gamma(D^-K^*(892)^+)/\Gamma_{total}$ Γ_{41}/Γ

NODE=S042B12

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
4.5±0.7 OUR AVERAGE				
4.6±0.6±0.5	[1] AUBERT,BE	05B	BABR	$e^+e^- \to \Upsilon(4S)$
3.7±1.5±1.0	[1] MAHAPATRA	02	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B12;LINKAGE=EP

$\Gamma(D^-\omega\pi^+)/\Gamma_{total}$ Γ_{42}/Γ

NODE=S042B8

VALUE	DOCUMENT ID		TECN	COMMENT
0.0028±0.0005±0.0004	[1] ALEXANDER	01B	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. The signal is consistent with all observed $\omega\pi^+$ having proceeded through the ρ'^+ resonance at mass $1349 \pm 25^{+10}_{-5}$ MeV and width $547 \pm 86^{+46}_{-45}$ MeV. NODE=S042B8;LINKAGE=AK

$\Gamma(D^-K^+)/\Gamma(D^-\pi^+)$ Γ_{43}/Γ_{38}

NODE=S042C17

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
8.19±0.20 OUR AVERAGE				
8.19±0.20±0.23	WAHEED	22	BELL	$e^+e^- \to \Upsilon(4S)$
8.22±0.11±0.25	AAIJ	13P	LHCB	pp at 7 TeV
6.8 ±1.5 ±0.7	ABE	01I	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(D^-K^+\pi^+\pi^-)/\Gamma(D^-\pi^+\pi^+\pi^-)$ Γ_{44}/Γ_{50}

NODE=S042T98

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
5.9±1.1±0.5	AAIJ	12T	LHCB	pp at 7 TeV

$\Gamma(D^-K^+\overline{K}^0)/\Gamma_{total}$ Γ_{45}/Γ

NODE=S042B19

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
1.64±0.24±0.10		[1] ADACHI	24L	BEL2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<3.1	90	[2] DRUTSKOY	02	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Used 362 fb^{-1} Belle II data and $B(\Upsilon(4S) \to B^0\overline{B}^0)$=0.484 ± 0.012. NODE=S042B19;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B19;LINKAGE=EP

$\Gamma(D^-K^+\overline{K}^*(892)^0)/\Gamma_{total}$ Γ_{46}/Γ

NODE=S042B21

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
7.7 ±0.6 OUR AVERAGE				
7.56±0.45±0.38	[1] ADACHI	24L	BEL2	$e^+e^- \to \Upsilon(4S)$
8.8 ±1.1 ±1.5	[2] DRUTSKOY	02	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Used 362 fb^{-1} Belle II data and $B(\Upsilon(4S) \to B^0\overline{B}^0)$=0.484 ± 0.012. NODE=S042B21;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B21;LINKAGE=EP

$\Gamma(\overline{D}^0\pi^+\pi^-)/\Gamma_{total}$ Γ_{47}/Γ

NODE=S042R1
NODE=S042R1

VALUE (units 10^{-4})	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
8.8 ±0.5 OUR AVERAGE						
8.95±0.15±0.52			[1] AAIJ	15Y	LHCB	pp at 7, 8 TeV
8.4 ±0.4 ±0.8			[2] KUZMIN	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
8.0 ±0.6 ±1.5			[2,3] SATPATHY	03	BELL	Repl. by KUZMIN 07
< 16	90		[2] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$
< 70	90		[4] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
<340	90		[5] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$
700 ± 500		5	[6] BEHRENDS	83	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] The second uncertainty combines in quadrature all systematic uncertainties quoted in the paper. AAIJ 15Y reports $B(B^0 \to \overline{D}^0\pi^+\pi^-) = (8.46 \pm 0.14 \pm 0.49) \times 10^{-4}$ in the kinematic region $m(\overline{D}^0\pi^\pm) > 2.1$ GeV which we corrected to the full phase-space dividing by 0.945 from Belle. NODE=S042R1;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R1;LINKAGE=EP

[3] No assumption about the intermediate mechanism is made in the analysis. NODE=S042R1;LINKAGE=SP

[4] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. The product branching fraction into $D_0^*(2340)\pi$ followed by $D_0^*(2340) \to D^0\pi$ is < 0.0001 at 90% CL and into $D_2^*(2460)$ followed by $D_2^*(2460) \to D^0\pi$ is < 0.0004 at 90% CL. NODE=S042R1;LINKAGE=B9

[5] BEBEK 87 assume the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. $B(D^0 \to K^-\pi^+) = (4.2 \pm 0.4 \pm 0.4)\%$ and $B(D^0 \to K^-\pi^+\pi^+\pi^-) = (9.1 \pm 0.8 \pm 0.8)\%$ were used. NODE=S042R1;LINKAGE=C

[6] Corrected by us using assumptions: $B(D^0 \to K^-\pi^+) = (0.042 \pm 0.006)$ and $B(\Upsilon(4S) \to B^0\overline{B}^0) = 50\%$. The product branching ratio is $B(B^0 \to \overline{D}^0\pi^+\pi^-)B(\overline{D}^0 \to K^+\pi^-) = (0.39 \pm 0.26) \times 10^{-2}$. NODE=S042R1;LINKAGE=G

$\Gamma(D^*(2010)^-\pi^+)/\Gamma_{total}$ Γ_{48}/Γ

NODE=S042R2
NODE=S042R2

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
2.66±0.07 OUR AVERAGE					
2.62±0.02±0.09		[1] KROHN	23	BELL	$e^+e^- \to \Upsilon(4S)$
2.79±0.08±0.17		[2] AUBERT	07H	BABR	$e^+e^- \to \Upsilon(4S)$
2.48±0.34±0.08		[3,4] AUBERT,BE	06J	BABR	$e^+e^- \to \Upsilon(4S)$
2.81±0.24±0.05		[5] BRANDENB...	98	CLE2	$e^+e^- \to \Upsilon(4S)$
2.6 ±0.3 ±0.4	82	[6] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$
3.37±0.96±0.02		[7] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
2.36±0.88±0.02	12	[8] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$
$2.36^{+1.50}_{-1.10}\pm0.02$	5	[9] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
10 ±4 ±1	8	[10] AKERS	94J	OPAL	$e^+e^- \to Z$
2.7 ±1.4 ±1.0	5	[11] ALBRECHT	87C	ARG	$e^+e^- \to \Upsilon(4S)$
3.5 ±2 ±2		[12] ALBRECHT	86F	ARG	$e^+e^- \to \Upsilon(4S)$
17 ±5 ±5	41	[13] GILES	84	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] KROHN 23 reports $(2.623 \pm 0.016 \pm 0.086) \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to D^*(2010)^-\pi^+)/\Gamma_{total}]$ / $[B(\Upsilon(4S) \to B^0\overline{B}^0)]$ assuming $B(\Upsilon(4S) \to B^0\overline{B}^0) = 0.486 \pm 0.006$. NODE=S042R2;LINKAGE=E

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R2;LINKAGE=EP

[3] AUBERT,BE 06J reports $[\Gamma(B^0 \to D^*(2010)^-\pi^+)/\Gamma_{total}]$ / $[B(B^0 \to D^-\pi^+)] = 0.99 \pm 0.11 \pm 0.08$ which we multiply by our best value $B(B^0 \to D^-\pi^+) = (2.51 \pm 0.08) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R2;LINKAGE=AR

[4] Uses a missing-mass method. Does not depend on D branching fractions or B^+/B^0 production rates. NODE=S042R2;LINKAGE=RT

[5] BRANDENBURG 98 assume equal production of B^+ and B^0 at $\Upsilon(4S)$ and use the D^* reconstruction technique. The first error is their experiment's error and the second error is the systematic error from the PDG 96 value of $B(D^* \to D\pi)$. NODE=S042R2;LINKAGE=BG

[6] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II $B(D^*(2010)^+ \to D^0\pi^+)$ and absolute $B(D^0 \to K^-\pi^+)$ and the PDG 1992 $B(D^0 \to K^-\pi^+\pi^0)/B(D^0 \to K^-\pi^+)$ and $B(D^0 \to K^-2\pi^+\pi^-)/B(D^0 \to K^-\pi^+)$. NODE=S042R2;LINKAGE=EF

[7] BORTOLETTO 92 reports $(4.0 \pm 1.0 \pm 0.7) \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to D^*(2010)^-\pi^+)/\Gamma_{total}] \times [B(D^*(2010)^+ \to D^0\pi^+)]$ assuming $B(D^*(2010)^+ \to D^0\pi^+) = 0.57 \pm 0.06$, which we rescale to our best value $B(D^*(2010)^+ \to D^0\pi^+) = (67.7 \pm 0.5) \times 10^{-2}$. Our first error is their experiment's error and our second error NODE=S042R2;LINKAGE=Q1

is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D.

[8] ALBRECHT 90J reports $(2.8 \pm 0.9 \pm 0.6) \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to D^*(2010)^- \pi^+)/\Gamma_{total}] \times [B(D^*(2010)^+ \to D^0\pi^+)]$ assuming $B(D^*(2010)^+ \to D^0\pi^+) = 0.57 \pm 0.06$, which we rescale to our best value $B(D^*(2010)^+ \to D^0\pi^+) = (67.7 \pm 0.5) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. NODE=S042R2;LINKAGE=Q2

[9] BEBEK 87 reports $(2.8^{+1.5}_{-1.2}{}^{+1.0}_{-0.6}) \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to D^*(2010)^- \pi^+)/\Gamma_{total}] \times [B(D^*(2010)^+ \to D^0\pi^+)]$ assuming $B(D^*(2010)^+ \to D^0\pi^+) = 0.57 \pm 0.06$, which we rescale to our best value $B(D^*(2010)^+ \to D^0\pi^+) = (67.7 \pm 0.5) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Updated in BERKELMAN 91 to use same assumptions as noted for BORTOLETTO 92 and ALBRECHT 90J. NODE=S042R2;LINKAGE=D

[10] Assumes $B(Z \to b\overline{b}) = 0.217$ and 38% B_d production fraction. NODE=S042R2;LINKAGE=C

[11] ALBRECHT 87C use PDG 86 branching ratios for D and $D^*(2010)$ and assume $B(\Upsilon(4S) \to B^+B^-) = 55\%$ and $B(\Upsilon(4S) \to B^0\overline{B}^0) = 45\%$. Superseded by ALBRECHT 90J. NODE=S042R2;LINKAGE=A

[12] ALBRECHT 86F uses pseudomass that is independent of D^0 and D^+ branching ratios. NODE=S042R2;LINKAGE=H

[13] Assumes $B(D^*(2010)^+ \to D^0\pi^+) = 0.60^{+0.08}_{-0.15}$. Assumes $B(\Upsilon(4S) \to B^0\overline{B}^0) = 0.40 \pm 0.02$ Does not depend on D branching ratios. NODE=S042R2;LINKAGE=G

$\Gamma(D^*(2010)^- \ell^+ \nu_\ell)/\Gamma(D^*(2010)^- \pi^+)$ — Γ_7/Γ_{48}

NODE=S042S09
NODE=S042S09

VALUE	DOCUMENT ID		TECN	COMMENT
16.5±2.3±1.1	AALTONEN	09E	CDF	$p\overline{p}$ at 1.96 TeV

$\Gamma(\overline{D}^0 K^+ K^-)/\Gamma(\overline{D}^0 \pi^+ \pi^-)$ — Γ_{49}/Γ_{47}

NODE=S042T96
NODE=S042T96

VALUE	DOCUMENT ID		TECN	COMMENT
0.069±0.004±0.003	AAIJ	18AZ	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.056±0.011±0.007	[1] AAIJ	12AM	LHCB	pp at 7 TeV

[1] Superseded by AAIJ 21Q. NODE=S042T96;LINKAGE=A

$\Gamma(D^- \pi^+ \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{50}/Γ

NODE=S042R88
NODE=S042R88

VALUE	DOCUMENT ID		TECN	COMMENT
0.0060±0.0006 OUR FIT				
0.0080±0.0021±0.0014	[1] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. NODE=S042R88;LINKAGE=B9

$\Gamma(D^- \pi^+ \pi^+ \pi^-)/\Gamma(D^- \pi^+)$ — Γ_{50}/Γ_{38}

NODE=S042Q97
NODE=S042Q97

VALUE	DOCUMENT ID		TECN	COMMENT
2.39±0.23 OUR FIT				
2.38±0.11±0.21	AAIJ	11E	LHCB	pp at 7 TeV

$\Gamma((D^- \pi^+ \pi^+ \pi^-)\ \text{nonresonant})/\Gamma_{total}$ — Γ_{51}/Γ

NODE=S042R89
NODE=S042R89

VALUE	DOCUMENT ID		TECN	COMMENT
0.0039±0.0014±0.0013	[1] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. NODE=S042R89;LINKAGE=B9

$\Gamma(D^- \pi^+ \rho^0)/\Gamma_{total}$ — Γ_{52}/Γ

NODE=S042R91
NODE=S042R91

VALUE	DOCUMENT ID		TECN	COMMENT
0.0011±0.0009±0.0004	[1] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. NODE=S042R91;LINKAGE=B9

$\Gamma(D^- a_1(1260)^+)/\Gamma_{total}$ — Γ_{53}/Γ

NODE=S042R93
NODE=S042R93

VALUE	DOCUMENT ID		TECN	COMMENT
0.0060±0.0022±0.0024	[1] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. NODE=S042R93;LINKAGE=B9

$\Gamma(D^*(2010)^- \pi^+ \pi^0)/\Gamma_{total}$ — Γ_{54}/Γ

NODE=S042R19
NODE=S042R19

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0152±0.0052±0.0001	51	[1] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.015 ±0.008 ±0.008	8	[2] ALBRECHT	87C	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALBRECHT 90J reports $0.018 \pm 0.004 \pm 0.005$ from a measurement of $[\Gamma(B^0 \to D^*(2010)^- \pi^+ \pi^0)/\Gamma_{total}] \times [B(D^*(2010)^+ \to D^0 \pi^+)]$ assuming $B(D^*(2010)^+ \to D^0 \pi^+) = 0.57 \pm 0.06$, which we rescale to our best value $B(D^*(2010)^+ \to D^0 \pi^+) = (67.7 \pm 0.5) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. NODE=S042R19;LINKAGE=B9

[2] ALBRECHT 87C use PDG 86 branching ratios for D and $D^*(2010)$ and assume $B(\Upsilon(4S) \to B^+ B^-) = 55\%$ and $B(\Upsilon(4S) \to B^0 \overline{B}^0) = 45\%$. Superseded by ALBRECHT 90J. NODE=S042R19;LINKAGE=A

$\Gamma(D^*(2010)^- \rho^+)/\Gamma_{total}$ — Γ_{55}/Γ

NODE=S042R3
NODE=S042R3

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
6.8 ± 0.9 OUR AVERAGE					
6.8 ± 0.3 ± 0.9		[1,2] CSORNA	03	CLE2	$e^+e^- \to \Upsilon(4S)$
16.0 ±11.3 ± 0.1		[3] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
5.89± 3.52± 0.04	19	[4] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
		[2,5] MATVIENKO	15	BELL	$e^+e^- \to \Upsilon(4S)$
7.4 ± 1.0 ± 1.4	76	[6,7] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$
81 ±29 $^{+59}_{-24}$	19	[8] CHEN	85	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] The second error combines the systematic and theoretical uncertainties in quadrature. CSORNA 03 includes data used in ALAM 94. A full angular fit to three complex helicity amplitudes is performed. NODE=S042R3;LINKAGE=CS

[2] Assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$ resonance. NODE=S042R3;LINKAGE=EP

[3] BORTOLETTO 92 reports $0.019 \pm 0.008 \pm 0.011$ from a measurement of $[\Gamma(B^0 \to D^*(2010)^- \rho^+)/\Gamma_{total}] \times [B(D^*(2010)^+ \to D^0 \pi^+)]$ assuming $B(D^*(2010)^+ \to D^0 \pi^+) = 0.57 \pm 0.06$, which we rescale to our best value $B(D^*(2010)^+ \to D^0 \pi^+) = (67.7 \pm 0.5) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. NODE=S042R3;LINKAGE=B9

[4] ALBRECHT 90J reports $0.007 \pm 0.003 \pm 0.003$ from a measurement of $[\Gamma(B^0 \to D^*(2010)^- \rho^+)/\Gamma_{total}] \times [B(D^*(2010)^+ \to D^0 \pi^+)]$ assuming $B(D^*(2010)^+ \to D^0 \pi^+) = 0.57 \pm 0.06$, which we rescale to our best value $B(D^*(2010)^+ \to D^0 \pi^+) = (67.7 \pm 0.5) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. NODE=S042R3;LINKAGE=9B

[5] MATVIENKO 15 reports $B(B^0 \to D^*(2010)^- \rho^+,\ \rho^+ \to \omega \pi^+) = (1.48 \pm 0.27^{+0.15}_{-0.09}{}^{+0.21}_{-0.56}) \times 10^{-3}$. The last uncertainty is a model one. NODE=S042R3;LINKAGE=MA

[6] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II $B(D^*(2010)^+ \to D^0 \pi^+)$ and absolute $B(D^0 \to K^- \pi^+)$ and the PDG 1992 $B(D^0 \to K^- \pi^+ \pi^0)/B(D^0 \to K^- \pi^+)$ and $B(D^0 \to K^- 2\pi^+ \pi^-)/B(D^0 \to K^- \pi^+)$. NODE=S042R3;LINKAGE=EF

[7] This decay is nearly completely longitudinally polarized, $\Gamma_L/\Gamma = (93 \pm 5 \pm 5)\%$, as expected from the factorization hypothesis (ROSNER 90). The nonresonant $\pi^+ \pi^0$ contribution under the ρ^+ is less than 9% at 90% CL. NODE=S042R3;LINKAGE=N

[8] Uses $B(D^* \to D^0 \pi^+) = 0.6 \pm 0.15$ and $B(\Upsilon(4S) \to B^0 \overline{B}^0) = 0.4$. Does not depend on D branching ratios. NODE=S042R3;LINKAGE=C

$\Gamma(D^*(2010)^- K^+)/\Gamma_{total}$ — Γ_{56}/Γ

NODE=S042B5
NODE=S042B5

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
2.16±0.08 OUR AVERAGE				
2.22±0.06±0.08	[1] KROHN	23	BELL	$e^+e^- \to \Upsilon(4S)$
2.06±0.12±0.06	[2] AUBERT	06A	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2.0 ±0.4 ±0.1	[3] ABE	01I	BELL	Repl. by KROHN 23

[1] KROHN 23 reports $(2.221 \pm 0.063 \pm 0.077) \times 10^{-4}$ from a measurement of $[\Gamma(B^0 \to D^*(2010)^- K^+)/\Gamma_{total}]$ / $[B(\Upsilon(4S) \to B^0\overline{B}^0)]$ assuming $B(\Upsilon(4S) \to B^0\overline{B}^0) = 0.486 \pm 0.006$. NODE=S042B5;LINKAGE=A

[2] AUBERT 06A reports $[\Gamma(B^0 \to D^*(2010)^- K^+)/\Gamma_{total}]$ / $[B(B^0 \to D^*(2010)^- \pi^+)] = 0.0776 \pm 0.0034 \pm 0.0029$ which we multiply by our best value $B(B^0 \to D^*(2010)^- \pi^+) = (2.66 \pm 0.07) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042B5;LINKAGE=AU

[3] ABE 01I reports $[\Gamma(B^0 \to D^*(2010)^- K^+)/\Gamma_{total}]$ / $[B(B^0 \to D^*(2010)^- \pi^+)] = 0.074 \pm 0.015 \pm 0.006$ which we multiply by our best value $B(B^0 \to D^*(2010)^- \pi^+) = (2.66 \pm 0.07) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042B5;LINKAGE=AB

$\Gamma(D^*(2010)^- K^+)/\Gamma(D^*(2010)^- \pi^+)$ Γ_{56}/Γ_{48}

NODE=S042RB0
NODE=S042RB0

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
8.22±0.29 OUR AVERAGE Error includes scale factor of 1.3.				
8.41±0.24±0.13	KROHN	23	BELL	$e^+e^- \to \Upsilon(4S)$
7.76±0.34±0.26	AAIJ	13AO	LHCB	pp at 7 TeV

$\Gamma(D^*(2010)^- K^0 \pi^+)/\Gamma_{total}$ Γ_{57}/Γ

NODE=S042Q39
NODE=S042Q39

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
3.0±0.7±0.3	[1] AUBERT,BE	05B	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q39;LINKAGE=EP

$\Gamma(D^*(2010)^- K^*(892)^+)/\Gamma_{total}$ Γ_{58}/Γ

NODE=S042B13
NODE=S042B13

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
3.3±0.6 OUR AVERAGE				
3.2±0.6±0.3	[1] AUBERT,BE	05B	BABR	$e^+e^- \to \Upsilon(4S)$
3.8±1.3±0.8	[2] MAHAPATRA	02	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B13;LINKAGE=EP

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and an unpolarized final state. NODE=S042B13;LINKAGE=PE

$\Gamma(D^*(2010)^- K^+ \overline{K}^0)/\Gamma_{total}$ Γ_{59}/Γ

NODE=S042B20
NODE=S042B20

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
1.82±0.38±0.10		[1] ADACHI	24L	BEL2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<4.7	90	[2] DRUTSKOY	02	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Used 362 fb^{-1} Belle II data and $B(\Upsilon(4S) \to B^0\overline{B}^0)=0.484 \pm 0.012$. NODE=S042B20;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B20;LINKAGE=EP

$\Gamma(D^*(2010)^- K^+ \overline{K}^*(892)^0)/\Gamma_{total}$ Γ_{60}/Γ

NODE=S042B22
NODE=S042B22

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
13.1 ±1.3 OUR AVERAGE				
13.12±1.21±0.71	[1] ADACHI	24L	BEL2	$e^+e^- \to \Upsilon(4S)$
12.9 ±2.2 ±2.5	[2] DRUTSKOY	02	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Used 362 fb^{-1} Belle II data and $B(\Upsilon(4S) \to B^0\overline{B}^0)=0.484 \pm 0.012$. NODE=S042B22;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B22;LINKAGE=EP

$\Gamma(D^*(2010)^- \pi^+ \pi^+ \pi^-)/\Gamma_{total}$ Γ_{61}/Γ

NODE=S042R20
NODE=S042R20

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
7.21±0.29 OUR AVERAGE					
7.26±0.11± 0.31		[1] LEES	16H	BABR	$e^+e^- \to \Upsilon(4S)$
6.81±0.23± 0.72		[2] MAJUMDER	04	BELL	$e^+e^- \to \Upsilon(4S)$
6.3 ±1.0 ± 1.1		[3,4] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$
13.4 ±3.6 ± 0.1		[5] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
10.1 ±4.1 ± 0.1		[6] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
33 ±9 ±16		[7] ALBRECHT	87C	ARG	$e^+e^- \to \Upsilon(4S)$
<42	90	[8] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Assumes B($\Upsilon(4S) \to B^0 \overline{B}^0$) = 0.486 ± 0.006. NODE=S042R20;LINKAGE=C

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R20;LINKAGE=EP

[3] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II B($D^*(2010)^+ \to D^0\pi^+$) and absolute B($D^0 \to K^-\pi^+$) and the PDG 1992 B($D^0 \to K^-\pi^+\pi^0$)/B($D^0 \to K^-\pi^+$) and B($D^0 \to K^-2\pi^+\pi^-$)/B($D^0 \to K^-\pi^+$). NODE=S042R20;LINKAGE=EF

[4] The three pion mass is required to be between 1.0 and 1.6 GeV consistent with an a_1 meson. (If this channel is dominated by a_1^+, the branching ratio for $\overline{D}^{*-} a_1^+$ is twice that for $\overline{D}^{*-}\pi^+\pi^+\pi^-$.) NODE=S042R20;LINKAGE=M

[5] BORTOLETTO 92 reports 0.0159 ± 0.0028 ± 0.0037 from a measurement of [$\Gamma(B^0 \to D^*(2010)^-\pi^+\pi^+\pi^-)/\Gamma_{total}$] × [B($D^*(2010)^+ \to D^0\pi^+$)] assuming B($D^*(2010)^+ \to D^0\pi^+$) = 0.57 ± 0.06, which we rescale to our best value B($D^*(2010)^+ \to D^0\pi^+$) = (67.7 ± 0.5) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. NODE=S042R20;LINKAGE=B9

[6] ALBRECHT 90J reports 0.012 ± 0.003 ± 0.004 from a measurement of [$\Gamma(B^0 \to D^*(2010)^-\pi^+\pi^+\pi^-)/\Gamma_{total}$] × [B($D^*(2010)^+ \to D^0\pi^+$)] assuming B($D^*(2010)^+ \to D^0\pi^+$) = 0.57 ± 0.06, which we rescale to our best value B($D^*(2010)^+ \to D^0\pi^+$) = (67.7 ± 0.5) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. NODE=S042R20;LINKAGE=9B

[7] ALBRECHT 87C use PDG 86 branching ratios for D and $D^*(2010)$ and assume B($\Upsilon(4S) \to B^+B^-$) = 55% and B($\Upsilon(4S) \to B^0\overline{B}^0$) = 45%. Superseded by ALBRECHT 90J. NODE=S042R20;LINKAGE=A

[8] BEBEK 87 value has been updated in BERKELMAN 91 to use same assumptions as noted for BORTOLETTO 92. NODE=S042R20;LINKAGE=B

$\Gamma((D^*(2010)^-\pi^+\pi^+\pi^-)\text{ nonresonant})/\Gamma_{total}$ Γ_{62}/Γ

NODE=S042R90
NODE=S042R90

VALUE	DOCUMENT ID	TECN	COMMENT
0.0000±0.0019±0.0016	[1] BORTOLETTO92	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D and $D^*(2010)$. NODE=S042R90;LINKAGE=B9

$\Gamma(D^*(2010)^-\pi^+\rho^0)/\Gamma_{total}$ Γ_{63}/Γ

NODE=S042R92
NODE=S042R92

VALUE	DOCUMENT ID	TECN	COMMENT
0.00573±0.00317±0.00004	[1] BORTOLETTO92	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] BORTOLETTO 92 reports 0.0068 ± 0.0032 ± 0.0021 from a measurement of [$\Gamma(B^0 \to D^*(2010)^-\pi^+\rho^0)/\Gamma_{total}$] × [B($D^*(2010)^+ \to D^0\pi^+$)] assuming B($D^*(2010)^+ \to D^0\pi^+$) = 0.57 ± 0.06, which we rescale to our best value B($D^*(2010)^+ \to D^0\pi^+$) = (67.7 ± 0.5) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. NODE=S042R92;LINKAGE=B9

$\Gamma(D^*(2010)^- a_1(1260)^+)/\Gamma_{total}$ Γ_{64}/Γ

NODE=S042R87
NODE=S042R87

VALUE	DOCUMENT ID		TECN	COMMENT
0.0130±0.0027 OUR AVERAGE				
0.0126±0.0020±0.0022	[1,2] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$
0.0152±0.0070±0.0001	[3] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] ALAM 94 value is twice their $\Gamma(D^*(2010)^-\pi^+\pi^+\pi^-)/\Gamma_{total}$ value based on their observation that the three pions are dominantly in the $a_1(1260)$ mass range 1.0 to 1.6 GeV. NODE=S042R87;LINKAGE=A9

[2] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II B($D^*(2010)^+ \to D^0\pi^+$) and absolute B($D^0 \to K^-\pi^+$) and the PDG 1992 B($D^0 \to K^-\pi^+\pi^0$)/B($D^0 \to K^-\pi^+$) and B($D^0 \to K^-2\pi^+\pi^-$)/B($D^0 \to K^-\pi^+$). NODE=S042R87;LINKAGE=EF

[3] BORTOLETTO 92 reports 0.018 ± 0.006 ± 0.006 from a measurement of [$\Gamma(B^0 \to D^*(2010)^- a_1(1260)^+)/\Gamma_{total}$] × [B($D^*(2010)^+ \to D^0\pi^+$)] assuming B($D^*(2010)^+ \to D^0\pi^+$) = 0.57 ± 0.06, which we rescale to our best value B($D^*(2010)^+ \to D^0\pi^+$) = (67.7 ± 0.5) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. NODE=S042R87;LINKAGE=B9

$\Gamma(\overline{D}_1(2420)^0\pi^-\pi^+,\ \overline{D}_1^0 \to D^{*-}\pi^+)/\Gamma(D^*(2010)^-\pi^+\pi^+\pi^-)$ Γ_{65}/Γ_{61}

NODE=S042RA7
NODE=S042RA7

VALUE	DOCUMENT ID		TECN	COMMENT
(2.04±0.42±0.22) × 10^{-2}	AAIJ	13AO	LHCB	pp at 7 TeV

$\Gamma(D^*(2010)^- K^+ \pi^- \pi^+)/\Gamma(D^*(2010)^- \pi^+ \pi^+ \pi^-)$ Γ_{66}/Γ_{61}

NODE=S042RA8
NODE=S042RA8

VALUE	DOCUMENT ID	TECN	COMMENT
(6.47±0.37±0.35) × 10^{-2}	AAIJ 13AO	LHCB	pp at 7 TeV

$\Gamma(D^*(2010)^- \pi^+ \pi^+ \pi^- \pi^0)/\Gamma_{total}$ Γ_{67}/Γ

NODE=S042R65
NODE=S042R65

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.0176±0.0027 OUR AVERAGE				
0.0172±0.0014±0.0024		[1] ALEXANDER 01B	CLE2	$e^+ e^- \to \Upsilon(4S)$
0.0345±0.0181±0.0003	28	[2] ALBRECHT 90J	ARG	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. The signal is consistent with all observed $\omega\pi^+$ having proceeded through the ρ'^+ resonance at mass $1349 \pm 25^{+10}_{-5}$ MeV and width $547 \pm 86^{+46}_{-45}$ MeV.

NODE=S042R65;LINKAGE=AK

[2] ALBRECHT 90J reports $0.041 \pm 0.015 \pm 0.016$ from a measurement of $[\Gamma(B^0 \to D^*(2010)^- \pi^+ \pi^+ \pi^- \pi^0)/\Gamma_{total}] \times [B(D^*(2010)^+ \to D^0 \pi^+)]$ assuming $B(D^*(2010)^+ \to D^0 \pi^+) = 0.57 \pm 0.06$, which we rescale to our best value $B(D^*(2010)^+ \to D^0 \pi^+) = (67.7 \pm 0.5) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D.

NODE=S042R65;LINKAGE=B9

$\Gamma(D^{*-} 3\pi^+ 2\pi^-)/\Gamma_{total}$ Γ_{68}/Γ

NODE=S042Q12
NODE=S042Q12

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
4.72±0.59±0.71	[1] MAJUMDER 04	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q12;LINKAGE=EP

$\Gamma(D^*(2010)^- \omega\pi^+)/\Gamma_{total}$ Γ_{69}/Γ

NODE=S042B7
NODE=S042B7

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
2.46±0.18 OUR AVERAGE Error includes scale factor of 1.2.			
2.31±0.11±0.14	[1] MATVIENKO 15	BELL	$e^+ e^- \to \Upsilon(4S)$
2.88±0.21±0.31	[1] AUBERT 06L	BABR	$e^+ e^- \to \Upsilon(4S)$
2.9 ±0.3 ±0.4	[1,2] ALEXANDER 01B	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B7;LINKAGE=EP

[2] The signal is consistent with all observed $\omega\pi^+$ having proceeded through the ρ'^+ resonance at mass $1349 \pm 25^{+10}_{-5}$ MeV and width $547 \pm 86^{+46}_{-45}$ MeV.

NODE=S042B7;LINKAGE=AK

$\Gamma(\overline{D}_1(2430)^0 \omega,\ \overline{D}{}_1^0 \to D^{*-} \pi^+)/\Gamma_{total}$ Γ_{70}/Γ

NODE=S042B75
NODE=S042B75

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
$2.7^{+0.8}_{-0.4}$ OUR AVERAGE			
$2.5\pm0.4^{+0.8}_{-0.2}$	[1,2] MATVIENKO 15	BELL	$e^+ e^- \to \Upsilon(4S)$
4.1±1.2±1.1	[3] AUBERT 06L	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0.

NODE=S042B75;LINKAGE=EP

[2] The measurement is obtained by amplitude analysis of $B^0 \to D^{*-} \omega \pi^+$. The second uncertainty combines in quadrature experimental systematic and model uncertainties.

NODE=S042B75;LINKAGE=MA

[3] Obtained by fitting the events with $\cos\theta_{D^*} < 0.5$ and scaling up the result by a factor of 4/3. No interference effects between $B^0 \to D'_1 \omega$ and $D^* \omega \pi$ are assumed.

NODE=S042B75;LINKAGE=AU

$\Gamma(D^{*-} \rho(1450)^+,\ \rho^+ \to \omega\pi^+)/\Gamma_{total}$ Γ_{71}/Γ

NODE=S042C45
NODE=S042C45

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
$1.07^{+0.15}_{-0.31}{}^{+0.40}_{-0.13}$	[1,2] MATVIENKO 15	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Obtained by amplitude analysis of $\overline{B}{}^0 \to D^{*-} \omega \pi^+$. The second uncertainty combines in qudrature experimental systematic and model uncertainties.

NODE=S042C45;LINKAGE=A

[2] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$.

NODE=S042C45;LINKAGE=EP

$\Gamma(\overline{D}_1(2420)^0 \omega,\ \overline{D}{}_1^0 \to D^{*-} \pi^+)/\Gamma_{total}$ Γ_{72}/Γ

NODE=S042C46
NODE=S042C46

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
0.7±0.2±0.1	[1,2] MATVIENKO 15	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Obtained by amplitude analysis of $\overline{B}{}^0 \to D^{*-} \omega \pi^+$. The second uncertainty combines in qudrature experimental systematic and model uncertainties.

NODE=S042C46;LINKAGE=A

[2] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$.

NODE=S042C46;LINKAGE=EP

$\Gamma(\overline{D}_2^*(2460)^0\omega,\ \overline{D}_2^0 \to D^{*-}\pi^+)/\Gamma_{total}$ Γ_{73}/Γ

NODE=S042C47
NODE=S042C47

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
0.4±0.1±0.1	[1,2] MATVIENKO	15	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Obtained by amplitude analysis of $\overline{B}^0 \to D^{*-}\omega\pi^+$. The second uncertainty combines in qudrature experimental systematic and model uncertainties. NODE=S042C47;LINKAGE=A

[2] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$. NODE=S042C47;LINKAGE=EP

$\Gamma(D^{*-}b_1(1235)^+,\ b_1^+ \to \omega\pi^+)/\Gamma_{total}$ Γ_{74}/Γ

NODE=S042C48
NODE=S042C48

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.7 × 10^{-4}	90	[1] MATVIENKO	15	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$. NODE=S042C48;LINKAGE=EP

$\Gamma(\overline{D}^{**-}\pi^+)/\Gamma_{total}$ Γ_{75}/Γ

NODE=S042R77

D^{**-} represents an excited state with mass 2.2 < M < 2.8 GeV/c^2.

NODE=S042R77
NODE=S042R77

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
1.9±0.9±0.1	[1,2] AUBERT,BE	06J	BABR	$e^+e^- \to \Upsilon(4S)$

[1] AUBERT,BE 06J reports $[\Gamma(B^0 \to \overline{D}^{**-}\pi^+)/\Gamma_{total}]$ / $[B(B^0 \to D^-\pi^+)] = 0.77 \pm 0.22 \pm 0.29$ which we multiply by our best value $B(B^0 \to D^-\pi^+) = (2.51 \pm 0.08) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R77;LINKAGE=AR

[2] Uses a missing-mass method. Does not depend on D branching fractions or B^+/B^0 production rates. NODE=S042R77;LINKAGE=RT

$\Gamma(D_1(2420)^-\pi^+,\ D_1^- \to D^-\pi^+\pi^-)/\Gamma_{total}$ Γ_{76}/Γ

NODE=S042Q64
NODE=S042Q64

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$0.99^{+0.20}_{-0.25}$ OUR FIT				
$0.89 \pm 0.15^{+0.17}_{-0.32}$	[1] ABE	05A	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q64;LINKAGE=EP

$\Gamma(D_1(2420)^-\pi^+,\ D_1^- \to D^-\pi^+\pi^-)/\Gamma(D^-\pi^+\pi^+\pi^-)$ Γ_{76}/Γ_{50}

NODE=S042Q98
NODE=S042Q98

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
1.7±0.4 OUR FIT				
$2.1 \pm 0.5^{+0.3}_{-0.5}$	AAIJ	11E	LHCB	pp at 7 TeV

$\Gamma(D_1(2420)^-\pi^+,\ D_1^- \to D^{*-}\pi^+\pi^-)/\Gamma_{total}$ Γ_{77}/Γ

NODE=S042Q65
NODE=S042Q65

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<0.33	90	[1] ABE	05A	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q65;LINKAGE=EP

$\Gamma(D^*(2010)^-\pi^+\pi^+\pi^-)/\Gamma(D^*(2010)^-\pi^+)$ Γ_{61}/Γ_{48}

NODE=S042RA9
NODE=S042RA9

VALUE	DOCUMENT ID		TECN	COMMENT
2.64±0.04±0.13	AAIJ	13AO	LHCB	pp at 7 TeV

$\Gamma(\overline{D}_2^*(2460)^-\pi^+,\ D_2^{*-} \to D^0\pi^-)/\Gamma_{total}$ Γ_{78}/Γ

NODE=S042S22
NODE=S042S22

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
2.38±0.16 OUR AVERAGE					
2.44±0.07±0.16		[1] AAIJ	15Y	LHCB	pp at 7, 8 TeV
2.15±0.17±0.31		[2,3] KUZMIN	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<14.7	90	[2] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Result obtained using the isobar formalism. The second uncertainty combines in quadrature all systematic uncertainties quoted in the paper. NODE=S042S22;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S22;LINKAGE=EP

[3] Our second uncertainty combines systematics and model errors quoted in the paper. NODE=S042S22;LINKAGE=KU

$\Gamma(\overline{D}_0^*(2400)^-\pi^+,\ D_0^{*-} \to D^0\pi^-)/\Gamma_{total}$ Γ_{79}/Γ

NODE=S042Q72
NODE=S042Q72

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
0.76±0.08 OUR AVERAGE				
0.77±0.05±0.06	[1] AAIJ	15Y	LHCB	pp at 7, 8 TeV
0.60±0.13±0.27	[2,3] KUZMIN	07	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Result obtained using the isobar formalism. The second uncertainty combines in quadrature all systematic uncertainties quoted in the paper. NODE=S042Q72;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q72;LINKAGE=EP

[3] Our second uncertainty combines systematics and model errors quoted in the paper. NODE=S042Q72;LINKAGE=KU

$\Gamma(D_2^*(2460)^- \pi^+,\ D_2^{*-} \to D^{*-}\pi^+\pi^-)/\Gamma_{total}$ — Γ_{80}/Γ

NODE=S042Q66

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<0.24	90	[1] ABE	05A	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q66;LINKAGE=EP

$\Gamma(\overline{D}_2^*(2460)^- \rho^+)/\Gamma_{total}$ — Γ_{81}/Γ

NODE=S042S23

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0049	90	[1] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] ALAM 94 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II absolute B($D^0 \to K^-\pi^+$) and B($D_2^*(2460)^+ \to D^0\pi^+$) = 30%.

NODE=S042S23;LINKAGE=A

$\Gamma(D^0\overline{D}^0)/\Gamma_{total}$ — Γ_{82}/Γ

NODE=S042R03

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
0.14±0.06±0.03		[1] AAIJ	13AP	LHCB	pp at 7 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.43	90	[2] ADACHI	08	BELL	$e^+e^- \to \Upsilon(4S)$
<0.6	90	[2] AUBERT,B	06A	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses B($B^0 \to D^-D^+$) = $(2.11 \pm 0.31) \times 10^{-4}$ and B($B^+ \to \overline{D}^0 D_s^+$) = $(10.1 \pm 1.7) \times 10^{-3}$.

NODE=S042R03;LINKAGE=AI

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042R03;LINKAGE=EP

$\Gamma(D^{*0}\overline{D}^0)/\Gamma_{total}$ — Γ_{83}/Γ

NODE=S042R04

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<2.9	90	[1] AUBERT,B	06A	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042R04;LINKAGE=EP

$\Gamma(D^-D^+)/\Gamma_{total}$ — Γ_{84}/Γ

NODE=S042S83

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
2.11±0.18 OUR AVERAGE					
2.12±0.16±0.18		[1] ROHRKEN	12	BELL	$e^+e^- \to \Upsilon(4S)$
1.97±0.20±0.20		[1] FRATINA	07	BELL	$e^+e^- \to \Upsilon(4S)$
2.8 ±0.4 ±0.5		[1] AUBERT,B	06A	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.91±0.51±0.30		[1] MAJUMDER	05	BELL	Repl. by FRATINA 07
< 9.4	90	[1] LIPELES	00	CLE2	$e^+e^- \to \Upsilon(4S)$
<59	90	BARATE	98Q	ALEP	$e^+e^- \to Z$
<12	90	ASNER	97	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S83;LINKAGE=EP

$\Gamma(D^\pm D^{*\mp}(CP\text{-averaged}))/\Gamma_{total}$ — Γ_{85}/Γ

NODE=S042C09

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
6.14±0.29±0.50	[1] ROHRKEN	12	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042C09;LINKAGE=EP

$\Gamma(D^-D_s^+)/\Gamma_{total}$ — Γ_{86}/Γ

NODE=S042R48

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
8.1±0.6 OUR AVERAGE	Error includes scale factor of 1.1.				
8.9±0.5±0.5		[1] ADACHI	24L	BEL2	$e^+e^- \to \Upsilon(4S)$
7.3±0.4±0.7		[2] ZUPANC	07	BELL	$e^+e^- \to \Upsilon(4S)$
6.6±1.4±0.6		[3] AUBERT	06N	BABR	$e^+e^- \to \Upsilon(4S)$
6.8±2.4±0.6		[4] GIBAUT	96	CLE2	$e^+e^- \to \Upsilon(4S)$
10 ±9 ±1		[5] ALBRECHT	92G	ARG	$e^+e^- \to \Upsilon(4S)$
5.3±3.0±0.5		[6] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
12 ±7	3	[7] BORTOLETTO	90	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Used 362 fb^{-1} Belle II data and B(Υ(4S) $\rightarrow$ $B^0\overline{B}^0$)=0.484 $\pm$ 0.012. NODE=S042R48;LINKAGE=B

[2] ZUPANC 07 reports $(7.5\pm0.2\pm1.1)\times10^{-3}$ from a measurement of [$\Gamma(B^0 \rightarrow D^- D_s^+)/\Gamma_{total}$] $\times$ [B($D_s^+ \rightarrow \phi\pi^+$)] assuming B($D_s^+ \rightarrow \phi\pi^+$) = $(4.4 \pm 0.6) \times 10^{-2}$, which we rescale to our best value B($D_s^+ \rightarrow \phi\pi^+$) = $(4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R48;LINKAGE=ZU

[3] AUBERT 06N reports $(0.64 \pm 0.13 \pm 0.10) \times 10^{-2}$ from a measurement of [$\Gamma(B^0 \rightarrow D^- D_s^+)/\Gamma_{total}$] $\times$ [B($D_s^+ \rightarrow \phi\pi^+$)] assuming B($D_s^+ \rightarrow \phi\pi^+$) = 0.0462 $\pm$ 0.0062, which we rescale to our best value B($D_s^+ \rightarrow \phi\pi^+$) = $(4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R48;LINKAGE=AN

[4] GIBAUT 96 reports 0.0087 $\pm$ 0.0024 $\pm$ 0.0020 from a measurement of [$\Gamma(B^0 \rightarrow D^- D_s^+)/\Gamma_{total}$] $\times$ [B($D_s^+ \rightarrow \phi\pi^+$)] assuming B($D_s^+ \rightarrow \phi\pi^+$) = 0.035, which we rescale to our best value B($D_s^+ \rightarrow \phi\pi^+$) = $(4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R48;LINKAGE=Z9

[5] ALBRECHT 92G reports 0.017 $\pm$ 0.013 $\pm$ 0.006 from a measurement of [$\Gamma(B^0 \rightarrow D^- D_s^+)/\Gamma_{total}$] $\times$ [B($D_s^+ \rightarrow \phi\pi^+$)] assuming B($D_s^+ \rightarrow \phi\pi^+$) = 0.027, which we rescale to our best value B($D_s^+ \rightarrow \phi\pi^+$) = $(4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes PDG 1990 D^+ branching ratios, e.g., B($D^+ \rightarrow K^- 2\pi^+$) = 7.7 $\pm$ 1.0%. NODE=S042R48;LINKAGE=CA

[6] BORTOLETTO 92 reports 0.0080 $\pm$ 0.0045 $\pm$ 0.0030 from a measurement of [$\Gamma(B^0 \rightarrow D^- D_s^+)/\Gamma_{total}$] $\times$ [B($D_s^+ \rightarrow \phi\pi^+$)] assuming B($D_s^+ \rightarrow \phi\pi^+$) = 0.030 $\pm$ 0.011, which we rescale to our best value B($D_s^+ \rightarrow \phi\pi^+$) = $(4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. NODE=S042R48;LINKAGE=B9

[7] BORTOLETTO 90 assume B($D_s \rightarrow \phi\pi^+$) = 2%. Superseded by BORTOLETTO 92. NODE=S042R48;LINKAGE=A

$\Gamma(D^*(2010)^- D_s^+)/\Gamma_{total}$ Γ_{88}/Γ

NODE=S042R47

NODE=S042R47

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
8.2± 0.8 OUR AVERAGE					
8.3± 1.0±0.6		[1] ADACHI	24L	BEL2	$e^+e^- \rightarrow \Upsilon(4S)$
7.3± 1.3±0.7		[2] AUBERT	06N	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
8.3± 1.5±0.7		[3] AUBERT	03I	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
8.8± 1.7±0.8		[4] AHMED	00B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
8 ± 6 ±1		[5] ALBRECHT	92G	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
11 ± 6 ±1		[6] BORTOLETTO	92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
7.2± 2.2±0.6		[7] GIBAUT	96	CLE2	Repl. by AHMED 00B
24 ±14	3	[8] BORTOLETTO	90	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Used 362 fb^{-1} Belle II data and B(Υ(4S) $\rightarrow$ $B^0\overline{B}^0$)=0.484 $\pm$ 0.012. NODE=S042R47;LINKAGE=B

[2] AUBERT 06N reports $(0.71 \pm 0.13 \pm 0.09) \times 10^{-2}$ from a measurement of [$\Gamma(B^0 \rightarrow D^*(2010)^- D_s^+)/\Gamma_{total}$] $\times$ [B($D_s^+ \rightarrow \phi\pi^+$)] assuming B($D_s^+ \rightarrow \phi\pi^+$) = 0.0462 $\pm$ 0.0062, which we rescale to our best value B($D_s^+ \rightarrow \phi\pi^+$) = $(4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R47;LINKAGE=AN

[3] AUBERT 03I reports 0.0103 $\pm$ 0.0014 $\pm$ 0.0013 from a measurement of [$\Gamma(B^0 \rightarrow D^*(2010)^- D_s^+)/\Gamma_{total}$] $\times$ [B($D_s^+ \rightarrow \phi\pi^+$)] assuming B($D_s^+ \rightarrow \phi\pi^+$) = 0.036, which we rescale to our best value B($D_s^+ \rightarrow \phi\pi^+$) = $(4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R47;LINKAGE=AI

[4] AHMED 00B reports 0.0110 $\pm$ 0.0018 $\pm$ 0.0011 from a measurement of [$\Gamma(B^0 \rightarrow D^*(2010)^- D_s^+)/\Gamma_{total}$] $\times$ [B($D_s^+ \rightarrow \phi\pi^+$)] assuming B($D_s^+ \rightarrow \phi\pi^+$) = 0.036, which we rescale to our best value B($D_s^+ \rightarrow \phi\pi^+$) = $(4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R47;LINKAGE=AH

[5] ALBRECHT 92G reports 0.014 $\pm$ 0.010 $\pm$ 0.003 from a measurement of [$\Gamma(B^0 \rightarrow D^*(2010)^- D_s^+)/\Gamma_{total}$] $\times$ [B($D_s^+ \rightarrow \phi\pi^+$)] assuming B($D_s^+ \rightarrow \phi\pi^+$) = 0.027, which we rescale to our best value B($D_s^+ \rightarrow \phi\pi^+$) = $(4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes PDG 1990 D^+ and $D^*(2010)^+$ branching ratios, e.g., B($D^0 \rightarrow$ NODE=S042R47;LINKAGE=CA

$K^- \pi^+) = 3.71 \pm 0.25\%$, $B(D^+ \to K^- 2\pi^+) = 7.1 \pm 1.0\%$, and $B(D^*(2010)^+ \to D^0 \pi^+) = 55 \pm 4\%$.

[6] BORTOLETTO 92 reports $0.016 \pm 0.009 \pm 0.006$ from a measurement of $[\Gamma(B^0 \to D^*(2010)^- D_s^+)/\Gamma_{\text{total}}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.030 \pm 0.011$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D and $D^*(2010)$. NODE=S042R47;LINKAGE=B9

[7] GIBAUT 96 reports $0.0093 \pm 0.0023 \pm 0.0016$ from a measurement of $[\Gamma(B^0 \to D^*(2010)^- D_s^+)/\Gamma_{\text{total}}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.035$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R47;LINKAGE=Z9

[8] BORTOLETTO 90 assume $B(D_s \to \phi\pi^+) = 2\%$. Superseded by BORTOLETTO 92. NODE=S042R47;LINKAGE=A

$\Gamma(D^*(2010)^- D_s^+,\ D^{*-} \to \overline{D}^0 \pi^-,\ m(\overline{D}^0 \pi^-)>2.05\ \text{GeV})/\Gamma(\overline{D}^0 D_s^+ \pi^-,\ m(\overline{D}^0 \pi^-)>2.05\ \text{GeV})$ Γ_{89}/Γ_{87}

NODE=S042P91
NODE=S042P91

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
15.8±1.3±2.4	[1] AAIJ	23B	LHCB	pp at 7, 8, 13 TeV

[1] Uses simultaneous fits of $\overline{B}^0 \to \overline{D}^0 D_s^+ \pi^-$ and $B^+ \to D^- D_s^+ \pi^+$ amplitudes assuming isospin symmetry. NODE=S042P91;LINKAGE=A

$\Gamma(D_2^*(2460)^- D_s^+,\ D_2^{*-} \to \overline{D}^0 \pi^-)/\Gamma(\overline{D}^0 D_s^+ \pi^-,\ m(\overline{D}^0 \pi^-)>2.05\ \text{GeV})$ Γ_{90}/Γ_{87}

NODE=S042P92
NODE=S042P92

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
22.38±0.88±0.60	[1] AAIJ	23B	LHCB	pp at 7, 8, 13 TeV

[1] Uses simultaneous fits of $\overline{B}^0 \to \overline{D}^0 D_s^+ \pi^-$ and $B^+ \to D^- D_s^+ \pi^+$ amplitudes assuming isospin symmetry. NODE=S042P92;LINKAGE=A

$\Gamma(D_1^*(2600)^- D_s^+,\ D_1^{*-} \to \overline{D}^0 \pi^-)/\Gamma(\overline{D}^0 D_s^+ \pi^-,\ m(\overline{D}^0 \pi^-)>2.05\ \text{GeV})$ Γ_{91}/Γ_{87}

NODE=S042P93
NODE=S042P93

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
1.35±0.40±0.59	[1] AAIJ	23B	LHCB	pp at 7, 8, 13 TeV

[1] Uses simultaneous fits of $\overline{B}^0 \to \overline{D}^0 D_s^+ \pi^-$ and $B^+ \to D^- D_s^+ \pi^+$ amplitudes assuming isospin symmetry. NODE=S042P93;LINKAGE=A

$\Gamma(D_3^*(2750)^- D_s^+,\ D_3^{*-} \to \overline{D}^0 \pi^-)/\Gamma(\overline{D}^0 D_s^+ \pi^-,\ m(\overline{D}^0 \pi^-)>2.05\ \text{GeV})$ Γ_{92}/Γ_{87}

NODE=S042P94
NODE=S042P94

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
0.31±0.14±0.17	[1] AAIJ	23B	LHCB	pp at 7, 8, 13 TeV

[1] Uses simultaneous fits of $\overline{B}^0 \to \overline{D}^0 D_s^+ \pi^-$ and $B^+ \to D^- D_s^+ \pi^+$ amplitudes assuming isospin symmetry. NODE=S042P94;LINKAGE=A

$\Gamma(D_1^*(2760)^- D_s^+,\ D_1^{*-} \to \overline{D}^0 \pi^-)/\Gamma(\overline{D}^0 D_s^+ \pi^-,\ m(\overline{D}^0 \pi^-)>2.05\ \text{GeV})$ Γ_{93}/Γ_{87}

NODE=S042P95
NODE=S042P95

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
0.28±0.25±1.48	[1] AAIJ	23B	LHCB	pp at 7, 8, 13 TeV

[1] Uses simultaneous fits of $\overline{B}^0 \to \overline{D}^0 D_s^+ \pi^-$ and $B^+ \to D^- D_s^+ \pi^+$ amplitudes assuming isospin symmetry. NODE=S042P95;LINKAGE=A

$\Gamma(D_J^*(3000)^- D_s^+,\ D_J^{*-} \to \overline{D}^0 \pi^-)/\Gamma(\overline{D}^0 D_s^+ \pi^-,\ m(\overline{D}^0 \pi^-)>2.05\ \text{GeV})$ Γ_{94}/Γ_{87}

NODE=S042P96
NODE=S042P96

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
0.45±0.16±0.38	[1] AAIJ	23B	LHCB	pp at 7, 8, 13 TeV

[1] Uses simultaneous fits of $\overline{B}^0 \to \overline{D}^0 D_s^+ \pi^-$ and $B^+ \to D^- D_s^+ \pi^+$ amplitudes assuming isospin symmetry. NODE=S042P96;LINKAGE=A

$\Gamma(T_{cs0}^*(2870)^0 \overline{D}^0,\ T_{cs0}^{*0} \to D_s^+ \pi^-)/\Gamma(\overline{D}^0 D_s^+ \pi^-,\ m(\overline{D}^0 \pi^-)>2.05\ \text{GeV})$ Γ_{95}/Γ_{87}

NODE=S042P97
NODE=S042P97

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
2.48±0.67±0.77	[1] AAIJ	23B	LHCB	pp at 7, 8, 13 TeV

[1] Uses simultaneous fits of $\overline{B}^0 \to \overline{D}^0 D_s^+ \pi^-$ and $B^+ \to D^- D_s^+ \pi^+$ amplitudes assuming isospin symmetry. NODE=S042P97;LINKAGE=A

$\Gamma(D^- D_s^{*+})/\Gamma_{total}$ Γ_{96}/Γ

NODE=S042R98

VALUE	DOCUMENT ID		TECN	COMMENT
0.0074±0.0016 OUR AVERAGE				
0.0071±0.0016±0.0006	[1] AUBERT	06N	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
0.0078±0.0032±0.0007	[2] GIBAUT	96	CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$
0.016 ±0.012 ±0.001	[3] ALBRECHT	92G	ARG	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] AUBERT 06N reports $(0.69 \pm 0.16 \pm 0.09) \times 10^{-2}$ from a measurement of $[\Gamma(B^0 \rightarrow D^- D_s^{*+})/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)]$ assuming $B(D_s^+ \rightarrow \phi\pi^+) = 0.0462 \pm 0.0062$, which we rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R98;LINKAGE=AN

[2] GIBAUT 96 reports $0.0100 \pm 0.0035 \pm 0.0022$ from a measurement of $[\Gamma(B^0 \rightarrow D^- D_s^{*+})/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)]$ assuming $B(D_s^+ \rightarrow \phi\pi^+) = 0.035$, which we rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R98;LINKAGE=Z9

[3] ALBRECHT 92G reports $0.027 \pm 0.017 \pm 0.009$ from a measurement of $[\Gamma(B^0 \rightarrow D^- D_s^{*+})/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)]$ assuming $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes PDG 1990 D^+ branching ratios, e.g., $B(D^+ \rightarrow K^- 2\pi^+) = 7.7 \pm 1.0\%$. NODE=S042R98;LINKAGE=CA

$\Gamma(D^*(2010)^- D_s^{*+})/\Gamma_{total}$ Γ_{97}/Γ

NODE=S042R00

VALUE	DOCUMENT ID		TECN	COMMENT
0.0177±0.0014 OUR AVERAGE				
0.0173±0.0018±0.0015	[1] AUBERT	06N	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
0.0188±0.0009±0.0017	[2] AUBERT	05V	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
0.0158±0.0027±0.0014	[3] AUBERT	03I	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
0.015 ±0.004 ±0.001	[4] AHMED	00B	CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$
0.016 ±0.009 ±0.001	[5] ALBRECHT	92G	ARG	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.016 ±0.005 ±0.001	[6] GIBAUT	96	CLE2	Repl. by AHMED 00B

[1] AUBERT 06N reports $(1.68 \pm 0.21 \pm 0.19) \times 10^{-2}$ from a measurement of $[\Gamma(B^0 \rightarrow D^*(2010)^- D_s^{*+})/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)]$ assuming $B(D_s^+ \rightarrow \phi\pi^+) = 0.0462 \pm 0.0062$, which we rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R00;LINKAGE=AN

[2] A partial reconstruction technique is used and the result is independent of the particle decay rate of D_S^+ meson. It also provides a model-independent determination of $B(D_S^+ \rightarrow \phi\pi^+) = (4.81 \pm 0.52 \pm 0.38)\%$. NODE=S042R00;LINKAGE=AU

[3] AUBERT 03I reports $0.0197 \pm 0.0015 \pm 0.0030$ from a measurement of $[\Gamma(B^0 \rightarrow D^*(2010)^- D_s^{*+})/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)]$ assuming $B(D_s^+ \rightarrow \phi\pi^+) = 0.036$, which we rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R00;LINKAGE=AI

[4] AHMED 00B reports $0.0182 \pm 0.0037 \pm 0.0025$ from a measurement of $[\Gamma(B^0 \rightarrow D^*(2010)^- D_s^{*+})/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)]$ assuming $B(D_s^+ \rightarrow \phi\pi^+) = 0.036$, which we rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R00;LINKAGE=AH

[5] ALBRECHT 92G reports $0.026 \pm 0.014 \pm 0.006$ from a measurement of $[\Gamma(B^0 \rightarrow D^*(2010)^- D_s^{*+})/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)]$ assuming $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes PDG 1990 D^+ and $D^*(2010)^+$ branching ratios, e.g., $B(D^0 \rightarrow K^- \pi^+) = 3.71 \pm 0.25\%$, $B(D^+ \rightarrow K^- 2\pi^+) = 7.1 \pm 1.0\%$, and $B(D^*(2010)^+ \rightarrow D^0 \pi^+) = 55 \pm 4\%$. NODE=S042R00;LINKAGE=CA

[6] GIBAUT 96 reports $0.0203 \pm 0.0050 \pm 0.0036$ from a measurement of $[\Gamma(B^0 \rightarrow D^*(2010)^- D_s^{*+})/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)]$ assuming $B(D_s^+ \rightarrow \phi\pi^+) = 0.035$, which we rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R00;LINKAGE=Z9

$\Gamma(D^*(2010)^- D_s^{*+})/\Gamma(D^*(2010)^- D_s^+)$ — Γ_{97}/Γ_{88}

NODE=S042P66

VALUE	DOCUMENT ID		TECN	COMMENT
2.19±0.08±0.01	[1] AAIJ	21S	LHCB	pp at 13 TeV

[1] AAIJ 21S reports $[\Gamma(B^0 \to D^*(2010)^- D_s^{*+})/\Gamma(B^0 \to D^*(2010)^- D_s^+)] \times [B(D_s^{*+} \to D_s^+ \gamma)] = 2.045 \pm 0.022 \pm 0.071$ which we divide by our best value $B(D_s^{*+} \to D_s^+ \gamma) = (93.6 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042P66;LINKAGE=A

$\left[\Gamma(D^*(2010)^- D_s^+) + \Gamma(D^*(2010)^- D_s^{*+})\right]/\Gamma_{total}$ — $(\Gamma_{88}+\Gamma_{97})/\Gamma$

NODE=S042R64

VALUE (units 10^{-2})	EVTS	DOCUMENT ID		TECN	COMMENT
2.5 ±0.4 OUR AVERAGE					
2.40±0.35±0.22		[1] AUBERT	03I	BABR	$e^+e^- \to \Upsilon(4S)$
3.3 ±0.9 ±0.3	22	[2] BORTOLETTO	90	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] AUBERT 03I reports $(3.00 \pm 0.19 \pm 0.39) \times 10^{-2}$ from a measurement of $[\left[\Gamma(B^0 \to D^*(2010)^- D_s^+) + \Gamma(B^0 \to D^*(2010)^- D_s^{*+})\right]/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.036$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042R64;LINKAGE=AI

[2] BORTOLETTO 90 reports $(7.5 \pm 2.0) \times 10^{-2}$ from a measurement of $[\left[\Gamma(B^0 \to D^*(2010)^- D_s^+) + \Gamma(B^0 \to D^*(2010)^- D_s^{*+})\right]/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.02$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042R64;LINKAGE=A

$\Gamma(D_{s0}(2317)^- K^+,\ D_{s0}^- \to D_s^- \pi^0)/\Gamma_{total}$ — Γ_{98}/Γ

NODE=S042Q55

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
$\mathbf{4.2^{+1.4}_{-1.3}\pm0.4}$	[1] DRUTSKOY	05	BELL	$e^+e^- \to \Upsilon(4S)$

[1] DRUTSKOY 05 reports $(5.3^{+1.5}_{-1.3} \pm 1.6) \times 10^{-5}$ from a measurement of $[\Gamma(B^0 \to D_{s0}(2317)^- K^+,\ D_{s0}^- \to D_s^- \pi^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.036 \pm 0.009$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042Q55;LINKAGE=DR

$\Gamma(D_{s0}(2317)^- \pi^+,\ D_{s0}^- \to D_s^- \pi^0)/\Gamma_{total}$ — Γ_{99}/Γ

NODE=S042Q56

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
<2.5	90	[1] DRUTSKOY	05	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q56;LINKAGE=EP

$\Gamma(D_{sJ}(2457)^- K^+,\ D_{sJ}^- \to D_s^- \pi^0)/\Gamma_{total}$ — Γ_{100}/Γ

NODE=S042Q57

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
<0.94	90	[1] DRUTSKOY	05	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q57;LINKAGE=EP

$\Gamma(D_{sJ}(2457)^- \pi^+,\ D_{sJ}^- \to D_s^- \pi^0)/\Gamma_{total}$ — Γ_{101}/Γ

NODE=S042Q58

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
<0.40	90	[1] DRUTSKOY	05	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q58;LINKAGE=EP

$\Gamma(D_s^- D_s^+)/\Gamma_{total}$ — Γ_{102}/Γ

NODE=S042Q48

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{< 3.6 \times 10^{-5}}$	90	[1] ZUPANC	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<10 \quad \times 10^{-5}$	90	[1] AUBERT,BE	05F	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q48;LINKAGE=EP

$\Gamma(D_s^{*-} D_s^+)/\Gamma_{total}$ — Γ_{103}/Γ

NODE=S042Q49

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{<1.3 \times 10^{-4}}$	90	[1] AUBERT,BE	05F	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q49;LINKAGE=EP

$\Gamma(D_s^{*-} D_s^{*+})/\Gamma_{total}$ Γ_{104}/Γ

NODE=S042Q50

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<2.4 × 10⁻⁴	90	[1] AUBERT,BE 05F	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q50;LINKAGE=EP

$\Gamma(D_{s0}^*(2317)^+ D^-,\ D_{s0}^{*+} \to D_s^+ \pi^0)/\Gamma_{total}$ Γ_{105}/Γ

NODE=S042B57

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
1.05±0.16 OUR AVERAGE Error includes scale factor of 1.1. [(1.05 ± 0.16) × 10^{-3} OUR 2025 AVERAGE Scale factor = 1.1]			
$0.99^{+0.16}_{-0.15}\pm0.02$	[1,2] CHOI 15A	BELL	$e^+ e^- \to \Upsilon(4S)$
$1.4\ ^{+0.5}_{-0.4}\ \pm0.1$	[2,3] AUBERT,B 04S	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.69^{+0.29}_{-0.24}\pm0.06$	[2,4] KROKOVNY 03B	BELL	Repl. by CHOI 15A

NEW

[1] CHOI 15A reports $(10.2^{+1.3}_{-1.2} \pm 1.0 \pm 0.4) \times 10^{-4}$ from a measurement of $[\Gamma(B^0 \to D_{s0}^*(2317)^+ D^-,\ D_{s0}^{*+} \to D_s^+ \pi^0)/\Gamma_{total}] \times [B(D_s^+ \to K^+ K^- \pi^+)] \times [B(D^+ \to K^- 2\pi^+)]$ assuming $B(D_s^+ \to K^+ K^- \pi^+) = (5.39 \pm 0.21) \times 10^{-2}$,$B(D^+ \to K^- 2\pi^+) = (9.13 \pm 0.19) \times 10^{-2}$, which we rescale to our best values $B(D_s^+ \to K^+ K^- \pi^+) = (5.45 \pm 0.08) \times 10^{-2}$, $B(D^+ \to K^- 2\pi^+) = (9.34 \pm 0.16) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

NODE=S042B57;LINKAGE=C

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B57;LINKAGE=EP

[3] AUBERT,B 04S reports $(1.8 \pm 0.4^{+0.7}_{-0.5}) \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to D_{s0}^*(2317)^+ D^-,\ D_{s0}^{*+} \to D_s^+ \pi^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.036 \pm 0.009$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042B57;LINKAGE=RE

[4] KROKOVNY 03B reports $(0.86^{+0.33}_{-0.26} \pm 0.26) \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to D_{s0}^*(2317)^+ D^-,\ D_{s0}^{*+} \to D_s^+ \pi^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.036 \pm 0.009$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042B57;LINKAGE=RP

$\Gamma(D_{s0}(2317)^+ D^-,\ D_{s0}^+ \to D_s^{*+} \gamma)/\Gamma_{total}$ Γ_{106}/Γ

NODE=S042Q31

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
<0.95	90	[1] KROKOVNY 03B	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q31;LINKAGE=EP

$\Gamma(D_{s0}(2317)^+ D^*(2010)^-,\ D_{s0}^+ \to D_s^+ \pi^0)/\Gamma_{total}$ Γ_{107}/Γ

NODE=S042Q08

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
$\mathbf{1.5\pm0.4^{+0.5}_{-0.4}}$	[1] AUBERT,B 04S	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q08;LINKAGE=AU

$\Gamma(D_{sJ}(2457)^+ D^-)/\Gamma_{total}$ Γ_{108}/Γ

NODE=S042B58

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
3.5±1.1 OUR AVERAGE			
$2.6\pm1.5\pm0.7$	[1] AUBERT 06N	BABR	$e^+ e^- \to \Upsilon(4S)$
$4.8^{+2.2}_{-1.6}\pm1.1$	[2,3] AUBERT,B 04S	BABR	$e^+ e^- \to \Upsilon(4S)$
$3.9^{+1.5}_{-1.3}\pm0.9$	[2,4] KROKOVNY 03B	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Uses a missing-mass method in the events that one of the B mesons is fully reconstructed.

NODE=S042B58;LINKAGE=AN

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B58;LINKAGE=EP

[3] AUBERT,B 04S reports $[\Gamma(B^0 \to D_{sJ}(2457)^+ D^-)/\Gamma_{total}] \times [B(D_{s1}(2460)^+ \to D_s^{*+} \pi^0)] = (2.3^{+1.0}_{-0.7} \pm 0.3) \times 10^{-3}$ which we divide by our best value $B(D_{s1}(2460)^+ \to D_s^{*+} \pi^0) = (48 \pm 11) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042B58;LINKAGE=RE

[4] KROKOVNY 03B reports $[\Gamma(B^0 \to D_{sJ}(2457)^+ D^-)/\Gamma_{total}] \times [B(D_{s1}(2460)^+ \to D_s^{*+} \pi^0)] = (1.9^{+0.7}_{-0.6} \pm 0.2) \times 10^{-3}$ which we divide by our best value $B(D_{s1}(2460)^+ \to D_s^{*+} \pi^0) = (48 \pm 11) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042B58;LINKAGE=RP

$\Gamma(D_{sJ}(2457)^+ D^-,\ D_{sJ}^+ \to D_s^+ \gamma)/\Gamma_{total}$ Γ_{109}/Γ

NODE=S042Q10
NODE=S042Q10

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
$0.65^{+0.17}_{-0.14}$ OUR AVERAGE				
$0.64^{+0.24}_{-0.16}\pm0.06$	[1,2] AUBERT,B	04S	BABR	$e^+e^- \to \Upsilon(4S)$
$0.66^{+0.21}_{-0.19}\pm0.06$	[1,3] KROKOVNY	03B	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q10;LINKAGE=AU

[2] AUBERT,B 04S reports $(0.8 \pm 0.2^{+0.3}_{-0.2}) \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to D_{sJ}(2457)^+ D^-,\ D_{sJ}^+ \to D_s^+\gamma)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.036 \pm 0.009$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042Q10;LINKAGE=BR

[3] KROKOVNY 03B reports $(0.82^{+0.22}_{-0.19} \pm 0.25) \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to D_{sJ}(2457)^+ D^-,\ D_{sJ}^+ \to D_s^+\gamma)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.036 \pm 0.009$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042Q10;LINKAGE=BS

$\Gamma(D_{sJ}(2457)^+ D^-,\ D_{sJ}^+ \to D_s^{*+} \gamma)/\Gamma_{total}$ Γ_{110}/Γ

NODE=S042Q28
NODE=S042Q28

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
<0.60	90	[1] KROKOVNY	03B	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q28;LINKAGE=EP

$\Gamma(D_{sJ}(2457)^+ D^-,\ D_{sJ}^+ \to D_s^+ \pi^+\pi^-)/\Gamma_{total}$ Γ_{111}/Γ

NODE=S042Q29
NODE=S042Q29

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
<0.20	90	[1] KROKOVNY	03B	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q29;LINKAGE=EP

$\Gamma(D_{sJ}(2457)^+ D^-,\ D_{sJ}^+ \to D_s^+ \pi^0)/\Gamma_{total}$ Γ_{112}/Γ

NODE=S042Q30
NODE=S042Q30

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
<0.36	90	[1] KROKOVNY	03B	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q30;LINKAGE=EP

$\Gamma(D^*(2010)^- D_{sJ}(2457)^+)/\Gamma_{total}$ Γ_{113}/Γ

NODE=S042Q09
NODE=S042Q09

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
9.3±2.2 OUR AVERAGE				
8.8±2.0±1.4	[1] AUBERT	06N	BABR	$e^+e^- \to \Upsilon(4S)$
$11\ ^{+5}_{-4}\ \pm3$	[2,3] AUBERT,B	04S	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses a missing-mass method in the events that one of the B mesons is fully reconstructed. NODE=S042Q09;LINKAGE=AN

[2] AUBERT,B 04S reports $[\Gamma(B^0 \to D^*(2010)^- D_{sJ}(2457)^+)/\Gamma_{total}] \times [B(D_{s1}(2460)^+ \to D_s^{*+}\pi^0)] = (5.5 \pm 1.2^{+2.2}_{-1.6}) \times 10^{-3}$ which we divide by our best value $B(D_{s1}(2460)^+ \to D_s^{*+}\pi^0) = (48 \pm 11) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042Q09;LINKAGE=AB

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q09;LINKAGE=AU

$\Gamma(D_{sJ}(2457)^+ D^*(2010),\ D_{sJ}^+ \to D_s^+ \gamma)/\Gamma_{total}$ Γ_{114}/Γ

NODE=S042Q11
NODE=S042Q11

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
$2.3\pm0.3^{+0.9}_{-0.6}$	[1] AUBERT,B	04S	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q11;LINKAGE=EP

$[\Gamma(D^- D_{s1}(2536)^+,\ D_{s1}^+ \to D^{*0} K^+) + \Gamma(D^{*+} K^0)]/\Gamma_{total}$ $\Gamma_{115}/\Gamma = (\Gamma_{116}+\Gamma_{117})/\Gamma$

NODE=S042DB1
NODE=S042DB1

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
2.75±0.62±0.36	[1,2] AUSHEV	11	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Uses $\Gamma(D^*(2007)^0 \to D^0\pi^0)$ / $\Gamma(D^*(2007)^0 \to D^0\gamma) = 1.74 \pm 0.13$ and $\Gamma(D_{s1}(2536)^+ \to D^*(2007)^0 K^+)$ / $\Gamma(D_{s1}(2536)^+ \to D^*(2010)^+ K^0) = 1.36 \pm 0.2$. NODE=S042DB1;LINKAGE=AU

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042DB1;LINKAGE=EP

$\Gamma(D^- D_{s1}(2536)^+,\ D_{s1}^+ \to D^{*0} K^+)/\Gamma_{\text{total}}$ Γ_{116}/Γ

NODE=S042B71
NODE=S042B71

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
1.71±0.48±0.32		[1] AUBERT	08B	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<5	90	AUBERT	03X	BABR	Repl. by AUBERT 08B

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B71;LINKAGE=EP

$\Gamma(D^- D_{s1}(2536)^+,\ D_{s1}^+ \to D^{*+} K^0)/\Gamma_{\text{total}}$ Γ_{117}/Γ

NODE=S042B79
NODE=S042B79

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
2.61±1.03±0.31	[1] AUBERT	08B	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B79;LINKAGE=EP

$\left[\Gamma(D^*(2010)^- D_{s1}(2536)^+,\ D_{s1}^+ \to D^{*0} K^+) + \Gamma(D^{*+} K^0)\right]/\Gamma_{\text{total}}$ $\Gamma_{118}/\Gamma = (\Gamma_{119}+\Gamma_{120})/\Gamma$

NODE=S042DB2
NODE=S042DB2

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
5.01±1.21±0.70	[1,2] AUSHEV	11	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Uses $\Gamma(D^*(2007)^0 \to D^0 \pi^0)$ / $\Gamma(D^*(2007)^0 \to D^0 \gamma) = 1.74 \pm 0.13$ and $\Gamma(D_{s1}(2536)^+ \to D^*(2007)^0 K^+)$ / $\Gamma(D_{s1}(2536)^+ \to D^*(2010)^+ K^0) = 1.36 \pm 0.2$.

NODE=S042DB2;LINKAGE=AU

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042DB2;LINKAGE=EP

$\Gamma(D^*(2010)^- D_{s1}(2536)^+,\ D_{s1}^+ \to D^{*0} K^+)/\Gamma_{\text{total}}$ Γ_{119}/Γ

NODE=S042B72
NODE=S042B72

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
3.32±0.88±0.66		[1] AUBERT	08B	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<7	90	AUBERT	03X	BABR	Repl. by AUBERT 08B

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B72;LINKAGE=EP

$\Gamma(D^{*-} D_{s1}(2536)^+,\ D_{s1}^+ \to D^{*+} K^0)/\Gamma_{\text{total}}$ Γ_{120}/Γ

NODE=S042B80
NODE=S042B80

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
5.00±1.51±0.67	[1] AUBERT	08B	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B80;LINKAGE=EP

$\Gamma(D^- D_{sJ}(2573)^+,\ D_{sJ}^+ \to D^0 K^+)/\Gamma_{\text{total}}$ Γ_{121}/Γ

NODE=S042B73
NODE=S042B73

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
3.4±1.7±0.5		[1] LEES	15C	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<10	90	AUBERT	03X	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B73;LINKAGE=EP

$\Gamma(D^*(2010)^- D_{sJ}(2573)^+,\ D_{sJ}^+ \to D^0 K^+)/\Gamma_{\text{total}}$ Γ_{122}/Γ

NODE=S042B74
NODE=S042B74

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<2	90	AUBERT	03X	BABR	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(D^- D_{sJ}(2700)^+,\ D_{sJ}^+ \to D^0 K^+)/\Gamma_{\text{total}}$ Γ_{123}/Γ

NODE=S042C33
NODE=S042C33

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
7.14±0.96±0.69	[1] LEES	15C	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042C33;LINKAGE=EP

$\Gamma(D^+ \pi^-)/\Gamma_{\text{total}}$ Γ_{124}/Γ

NODE=S042C05
NODE=S042C05

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
7.3±1.2±0.2	[1,2] DAS	10	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] DAS 10 reports $[\Gamma(B^0 \to D^+ \pi^-)/\Gamma_{\text{total}}]$ / $[B(B^0 \to D^- \pi^+)] = (2.92 \pm 0.38 \pm 0.31) \times 10^{-4}$ which we multiply by our best value $B(B^0 \to D^- \pi^+) = (2.51 \pm 0.08) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042C05;LINKAGE=DA

[2] Derived using $\tan(\theta_C)\ f_D/f_{D_s}\ \sqrt{B(B^0 \to D_s^+ \pi^-)/B(B^0 \to D^- \pi^+)}$ by assuming the flavor SU(3) symmetry, where θ_C is the Cabibbo angle, f_D (f_{D_s}) is the D (D_s) meson decay constant.

NODE=S042C05;LINKAGE=DS

$\Gamma(D_s^+\pi^-)/\Gamma_{total}$ Γ_{125}/Γ

NODE=S042R49

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
20.3±1.8 OUR FIT					
21.6±2.6 OUR AVERAGE					
19.9±2.6±1.8		[1] DAS	10	BELL	$e^+e^- \to \Upsilon(4S)$
25 ±4 ±2		[1] AUBERT	08AJ	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
14.0±3.5±1.3		[2] AUBERT	07K	BABR	Repl. by AUBERT 08AJ
25 ±9 ±2		[3] AUBERT	03D	BABR	Repl. by AUBERT 07K
19 $^{+9}_{-7}$ ±2		[4] KROKOVNY	02	BELL	Repl. by DAS 10
< 220	90	[5] ALEXANDER	93B	CLE2	$e^+e^- \to \Upsilon(4S)$
<1300	90	[6] BORTOLETTO	90	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R49;LINKAGE=EP

[2] AUBERT 07K reports $[\Gamma(B^0 \to D_s^+\pi^-)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)] = (0.63 \pm 0.15 \pm 0.05) \times 10^{-6}$ which we divide by our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R49;LINKAGE=UB

[3] AUBERT 03D reports $[\Gamma(B^0 \to D_s^+\pi^-)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)] = (1.13 \pm 0.33 \pm 0.21) \times 10^{-6}$ which we divide by our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R49;LINKAGE=TX

[4] KROKOVNY 02 reports $[\Gamma(B^0 \to D_s^+\pi^-)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)] = (0.86^{+0.37}_{-0.30} \pm 0.11) \times 10^{-6}$ which we divide by our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R49;LINKAGE=K1

[5] ALEXANDER 93B reports $< 270 \times 10^{-6}$ from a measurement of $[\Gamma(B^0 \to D_s^+\pi^-)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$. NODE=S042R49;LINKAGE=XB

[6] BORTOLETTO 90 assume $B(D_s \to \phi\pi^+) = 2\%$. NODE=S042R49;LINKAGE=A

$[\Gamma(D_s^+\pi^-) + \Gamma(D_s^- K^+)]/\Gamma_{total}$ $(\Gamma_{125}+\Gamma_{135})/\Gamma$

NODE=S042S4

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.0 × 10^{-3}	90	[1] ALBRECHT	93E	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALBRECHT 93E reports $< 1.7 \times 10^{-3}$ from a measurement of $[\left[\Gamma(B^0 \to D_s^+\pi^-) + \Gamma(B^0 \to D_s^- K^+)\right]/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$. NODE=S042S4;LINKAGE=CA

$\Gamma(D_s^+\pi^-)/\Gamma(D^-\pi^+)$ Γ_{125}/Γ_{38}

NODE=S042P67

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
8.1±0.7 OUR FIT				
7.7±0.7±0.6	AAIJ	21W	LHCB	pp at 7, 8, 13 TeV

$\Gamma(D_s^{*+}\pi^-)/\Gamma_{total}$ Γ_{126}/Γ

NODE=S042S17

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
2.1 ±0.4 OUR AVERAGE		Error includes scale factor of 1.4.			
1.75±0.34±0.20		[1] JOSHI	10	BELL	$e^+e^- \to \Upsilon(4S)$
2.6 $^{+0.5}_{-0.4}$ ±0.2		[1] AUBERT	08AJ	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2.9 ±0.7 ±0.3		[2] AUBERT	07K	BABR	Repl. by AUBERT 08AJ
< 4.1	90	AUBERT	03D	BABR	Repl. by AUBERT 07K
<40	90	[3] ALEXANDER	93B	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S17;LINKAGE=EP

[2] AUBERT 07K reports $[\Gamma(B^0 \to D_s^{*+}\pi^-)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)] = (1.32 \pm 0.27 \pm 0.15) \times 10^{-6}$ which we divide by our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042S17;LINKAGE=UB

[3] ALEXANDER 93B reports $< 44 \times 10^{-5}$ from a measurement of $[\Gamma(B^0 \to D_s^{*+}\pi^-)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$. NODE=S042S17;LINKAGE=XB

$\left[\Gamma(D_s^{*+}\pi^-)+\Gamma(D_s^{*-}K^+)\right]/\Gamma_{total}$ $(\Gamma_{126}+\Gamma_{136})/\Gamma$

NODE=S042S6
NODE=S042S6

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<7 × 10⁻⁴	90	[1] ALBRECHT 93E	ARG	$e^+e^-\to\Upsilon(4S)$

[1] ALBRECHT 93E reports $<1.2\times10^{-3}$ from a measurement of $[\left[\Gamma(B^0\to D_s^{*+}\pi^-)+\Gamma(B^0\to D_s^{*-}K^+)\right]/\Gamma_{total}]\times[B(D_s^+\to\phi\pi^+)]$ assuming $B(D_s^+\to\phi\pi^+)=0.027$, which we rescale to our best value $B(D_s^+\to\phi\pi^+)=4.5\times10^{-2}$.

NODE=S042S6;LINKAGE=CA

$\Gamma(D_s^+\rho^-)/\Gamma_{total}$ Γ_{127}/Γ

NODE=S042S7
NODE=S042S7

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
< 2.4	90	[1] AUBERT 08AJ	BABR	$e^+e^-\to\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<130	90	[2] ALBRECHT 93E	ARG	$e^+e^-\to\Upsilon(4S)$
< 50	90	[3] ALEXANDER 93B	CLE2	$e^+e^-\to\Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S7;LINKAGE=EP

[2] ALBRECHT 93E reports $<2.2\times10^{-3}$ from a measurement of $[\Gamma(B^0\to D_s^+\rho^-)/\Gamma_{total}]\times[B(D_s^+\to\phi\pi^+)]$ assuming $B(D_s^+\to\phi\pi^+)=0.027$, which we rescale to our best value $B(D_s^+\to\phi\pi^+)=4.5\times10^{-2}$.

NODE=S042S7;LINKAGE=CA

[3] ALEXANDER 93B reports $<6.6\times10^{-4}$ from a measurement of $[\Gamma(B^0\to D_s^+\rho^-)/\Gamma_{total}]\times[B(D_s^+\to\phi\pi^+)]$ assuming $B(D_s^+\to\phi\pi^+)=0.037$, which we rescale to our best value $B(D_s^+\to\phi\pi^+)=4.5\times10^{-2}$.

NODE=S042S7;LINKAGE=XB

$\Gamma(D_s^{*+}\rho^-)/\Gamma_{total}$ Γ_{128}/Γ

NODE=S042S8
NODE=S042S8

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
$\mathbf{4.1^{+1.3}_{-1.2}\pm0.4}$		[1] AUBERT 08AJ	BABR	$e^+e^-\to\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<150	90	[2] ALBRECHT 93E	ARG	$e^+e^-\to\Upsilon(4S)$
< 60	90	[3] ALEXANDER 93B	CLE2	$e^+e^-\to\Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S8;LINKAGE=EP

[2] ALBRECHT 93E reports $<2.5\times10^{-3}$ from a measurement of $[\Gamma(B^0\to D_s^{*+}\rho^-)/\Gamma_{total}]\times[B(D_s^+\to\phi\pi^+)]$ assuming $B(D_s^+\to\phi\pi^+)=0.027$, which we rescale to our best value $B(D_s^+\to\phi\pi^+)=4.5\times10^{-2}$.

NODE=S042S8;LINKAGE=CA

[3] ALEXANDER 93B reports $<7.4\times10^{-4}$ from a measurement of $[\Gamma(B^0\to D_s^{*+}\rho^-)/\Gamma_{total}]\times[B(D_s^+\to\phi\pi^+)]$ assuming $B(D_s^+\to\phi\pi^+)=0.037$, which we rescale to our best value $B(D_s^+\to\phi\pi^+)=4.5\times10^{-2}$.

NODE=S042S8;LINKAGE=XB

$\Gamma(D_s^+a_0^-)/\Gamma_{total}$ Γ_{129}/Γ

NODE=S042R05
NODE=S042R05

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
<1.9	90	[1] AUBERT 06X	BABR	$e^+e^-\to\Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042R05;LINKAGE=EP

$\Gamma(D_s^{*+}a_0^-)/\Gamma_{total}$ Γ_{130}/Γ

NODE=S042R06
NODE=S042R06

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
<3.6	90	[1] AUBERT 06X	BABR	$e^+e^-\to\Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042R06;LINKAGE=EP

$\Gamma(D_s^+a_1(1260)^-)/\Gamma_{total}$ Γ_{131}/Γ

NODE=S042S9
NODE=S042S9

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<2.1 × 10⁻³	90	[1] ALBRECHT 93E	ARG	$e^+e^-\to\Upsilon(4S)$

[1] ALBRECHT 93E reports $<3.5\times10^{-3}$ from a measurement of $[\Gamma(B^0\to D_s^+a_1(1260)^-)/\Gamma_{total}]\times[B(D_s^+\to\phi\pi^+)]$ assuming $B(D_s^+\to\phi\pi^+)=0.027$, which we rescale to our best value $B(D_s^+\to\phi\pi^+)=4.5\times10^{-2}$.

NODE=S042S9;LINKAGE=CA

$\Gamma(D_s^{*+}a_1(1260)^-)/\Gamma_{total}$ Γ_{132}/Γ

NODE=S042S10
NODE=S042S10

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<1.7 × 10⁻³	90	[1] ALBRECHT 93E	ARG	$e^+e^-\to\Upsilon(4S)$

[1] ALBRECHT 93E reports $<2.9\times10^{-3}$ from a measurement of $[\Gamma(B^0\to D_s^{*+}a_1(1260)^-)/\Gamma_{total}]\times[B(D_s^+\to\phi\pi^+)]$ assuming $B(D_s^+\to\phi\pi^+)=0.027$, which we rescale to our best value $B(D_s^+\to\phi\pi^+)=4.5\times10^{-2}$.

NODE=S042S10;LINKAGE=CA

$\Gamma(D_s^+ a_2^-)/\Gamma_{total}$ Γ_{133}/Γ

NODE=S042R07

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
<19	90	[1] AUBERT	06X	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042R07;LINKAGE=EP

$\Gamma(D_s^{*+} a_2^-)/\Gamma_{total}$ Γ_{134}/Γ

NODE=S042R08

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
<20	90	[1] AUBERT	06X	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042R08;LINKAGE=EP

$\Gamma(D_s^- K^+)/\Gamma_{total}$ Γ_{135}/Γ

NODE=S042R50

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
27 ± 5 OUR FIT Error includes scale factor of 2.7.					
22 ± 5 OUR AVERAGE Error includes scale factor of 1.8.					
19.1 ± 2.4 ± 1.7		[1] DAS	10	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
29 ± 4 ± 2		[1] AUBERT	08AJ	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
27 ± 5 ± 2		[2] AUBERT	07K	BABR	Repl. by AUBERT 08AJ
26 ± 10 ± 2		[3] AUBERT	03D	BABR	Repl. by AUBERT 07K
36 $^{+11}_{-10}$ ± 3		[4] KROKOVNY	02	BELL	Repl. by DAS 10
< 190	90	[5] ALEXANDER	93B	CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$
<1300	90	[6] BORTOLETTO	90	CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042R50;LINKAGE=EP

[2] AUBERT 07K reports $[\Gamma(B^0 \rightarrow D_s^- K^+)/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)] = (1.21 \pm 0.17 \pm 0.11) \times 10^{-6}$ which we divide by our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042R50;LINKAGE=UB

[3] AUBERT 03D reports $[\Gamma(B^0 \rightarrow D_s^- K^+)/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)] = (1.16 \pm 0.36 \pm 0.24) \times 10^{-6}$ which we divide by our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042R50;LINKAGE=TX

[4] KROKOVNY 02 reports $[\Gamma(B^0 \rightarrow D_s^- K^+)/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)] = (1.61^{+0.45}_{-0.38} \pm 0.21) \times 10^{-6}$ which we divide by our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042R50;LINKAGE=K1

[5] ALEXANDER 93B reports $< 230 \times 10^{-6}$ from a measurement of $[\Gamma(B^0 \rightarrow D_s^- K^+)/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)]$ assuming $B(D_s^+ \rightarrow \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 4.5 \times 10^{-2}$.

NODE=S042R50;LINKAGE=XB

[6] BORTOLETTO 90 assume $B(D_s \rightarrow \phi\pi^+) = 2\%$.

NODE=S042R50;LINKAGE=A

$\Gamma(D_s^- K^+)/\Gamma(D^- \pi^+)$ Γ_{135}/Γ_{38}

NODE=S042C44

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
1.09±0.19 OUR FIT Error includes scale factor of 2.7.				
1.29±0.05±0.08	AAIJ	15AC	LHCB	pp at 7, 8 TeV

$\Gamma(D_s^{*-} K^+)/\Gamma_{total}$ Γ_{136}/Γ

NODE=S042S18

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
2.19±0.30 OUR AVERAGE					
2.02±0.33±0.22		[1] JOSHI	10	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
2.4 ±0.4 ±0.2		[1] AUBERT	08AJ	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2.2 ±0.6 ±0.2		[2] AUBERT	07K	BABR	Repl. by AUBERT 08AJ
< 2.5	90	AUBERT	03D	BABR	Repl. by AUBERT 07K
<14	90	[3] ALEXANDER	93B	CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S18;LINKAGE=EP

[2] AUBERT 07K reports $[\Gamma(B^0 \rightarrow D_s^{*-} K^+)/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)] = (0.97 \pm 0.24 \pm 0.12) \times 10^{-6}$ which we divide by our best value $B(D_s^+ \rightarrow \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042S18;LINKAGE=UB

[3] ALEXANDER 93B reports $< 17 \times 10^{-5}$ from a measurement of $[\Gamma(B^0 \rightarrow D_s^{*-} K^+)/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)]$ assuming $B(D_s^+ \rightarrow \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 4.5 \times 10^{-2}$.

NODE=S042S18;LINKAGE=XB

$\Gamma(D_{s1}(2536)^{\mp}K^{\pm},\ D_{s1}^{-} \to \overline{D}^{*}(2007)^{0}K^{-})/\Gamma(\overline{D}^{0}K^{+}K^{-})$ — Γ_{137}/Γ_{49}

NODE=S042P98
NODE=S042P98

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
8.4±0.3±0.6	AAIJ 23AY	LHCB	pp at 7, 8, 13 TeV

$\Gamma(D_s^- K^*(892)^+)/\Gamma_{total}$ — Γ_{138}/Γ

NODE=S042S11
NODE=S042S11

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
$\mathbf{3.5^{+1.0}_{-0.9}\pm0.4}$		[1] AUBERT 08AJ	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<280	90	[2] ALBRECHT 93E	ARG	$e^+e^- \to \Upsilon(4S)$
< 80	90	[3] ALEXANDER 93B	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S11;LINKAGE=EP

[2] ALBRECHT 93E reports $< 4.6 \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to D_s^- K^*(892)^+)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

NODE=S042S11;LINKAGE=CA

[3] ALEXANDER 93B reports $< 9.7 \times 10^{-4}$ from a measurement of $[\Gamma(B^0 \to D_s^- K^*(892)^+)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

NODE=S042S11;LINKAGE=XB

$\Gamma(D_s^{*-} K^*(892)^+)/\Gamma_{total}$ — Γ_{139}/Γ

NODE=S042S12
NODE=S042S12

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
$\mathbf{3.2^{+1.4}_{-1.2}\pm0.4}$		[1] AUBERT 08AJ	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<350	90	[2] ALBRECHT 93E	ARG	$e^+e^- \to \Upsilon(4S)$
< 90	90	[3] ALEXANDER 93B	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S12;LINKAGE=EP

[2] ALBRECHT 93E reports $< 5.8 \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to D_s^{*-} K^*(892)^+)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

NODE=S042S12;LINKAGE=CA

[3] ALEXANDER 93B reports $< 11.0 \times 10^{-4}$ from a measurement of $[\Gamma(B^0 \to D_s^{*-} K^*(892)^+)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

NODE=S042S12;LINKAGE=XB

$\Gamma(D_s^- \pi^+ K^0)/\Gamma_{total}$ — Γ_{140}/Γ

NODE=S042S13
NODE=S042S13

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
0.97±0.14 OUR AVERAGE				
0.94±0.12±0.10		[1] WIECHCZYN...15	BELL	$e^+e^- \to \Upsilon(4S)$
1.10±0.26±0.20		[1] AUBERT 08G	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<40	90	[2] ALBRECHT 93E	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S13;LINKAGE=EP

[2] ALBRECHT 93E reports $< 7.3 \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to D_s^- \pi^+ K^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

NODE=S042S13;LINKAGE=CA

$\Gamma(D_s^{*-} \pi^+ K^0)/\Gamma_{total}$ — Γ_{141}/Γ

NODE=S042S14
NODE=S042S14

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
< 1.10	90	[1] AUBERT 08G	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<25	90	[2] ALBRECHT 93E	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S14;LINKAGE=EP

[2] ALBRECHT 93E reports $< 4.2 \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to D_s^{*-} \pi^+ K^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

NODE=S042S14;LINKAGE=CA

$\Gamma(D_s^- K^+ \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{142}/Γ

NODE=S042C10

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
1.71±0.31±0.34	[1] AAIJ 12AX	LHCB	pp at 7 TeV

[1] AAIJ 12AX reports $[\Gamma(B^0 \to D_s^- K^+ \pi^+ \pi^-)/\Gamma_{total}] / [B(B_s^0 \to D_s^- K^+ \pi^+ \pi^-)] = 0.54 \pm 0.07 \pm 0.07$ which we multiply by our best value $B(B_s^0 \to D_s^- K^+ \pi^+ \pi^-) = (3.2 \pm 0.6) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042C10;LINKAGE=AI

$\Gamma(D_s^- \pi^+ K^*(892)^0)/\Gamma_{total}$ — Γ_{143}/Γ

NODE=S042S15

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<3.0 × 10^{-3}	90	[1] ALBRECHT 93E	ARG	$e^+ e^- \to \Upsilon(4S)$

[1] ALBRECHT 93E reports $< 5.0 \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to D_s^- \pi^+ K^*(892)^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$. NODE=S042S15;LINKAGE=CA

$\Gamma(D_s^{*-} \pi^+ K^*(892)^0)/\Gamma_{total}$ — Γ_{144}/Γ

NODE=S042S16

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<1.6 × 10^{-3}	90	[1] ALBRECHT 93E	ARG	$e^+ e^- \to \Upsilon(4S)$

[1] ALBRECHT 93E reports $< 2.7 \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to D_s^{*-} \pi^+ K^*(892)^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$. NODE=S042S16;LINKAGE=CA

$\Gamma(\overline{D}^0 K^0)/\Gamma_{total}$ — Γ_{145}/Γ

NODE=S042B46

VALUE (units 10^{-5})	DOCUMENT ID	TECN	COMMENT
5.5±0.4 OUR AVERAGE			
5.6±0.5±0.2	KUMAR 23	BELL	$e^+ e^- \to \Upsilon(4S)$
5.3±0.7±0.3	[1] AUBERT,B 06L	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$5.0^{+1.3}_{-1.2}\pm0.6$	[1] KROKOVNY 03	BELL	Repl. by KUMAR 23

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B46;LINKAGE=EP

$\Gamma(\overline{D}^0 K^+ \pi^-)/\Gamma_{total}$ — Γ_{146}/Γ

NODE=S042Q51

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
88±15±9	[1] AUBERT 06A	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q51;LINKAGE=EP

$\Gamma(\overline{D}^0 K^+ \pi^-)/\Gamma(\overline{D}^0 \pi^+ \pi^-)$ — Γ_{146}/Γ_{47}

NODE=S042RB1

VALUE	DOCUMENT ID	TECN	COMMENT
0.106±0.007±0.008	AAIJ 13AQ	LHCB	pp at 7 TeV

$\Gamma(\overline{D}^0 K^*(892)^0)/\Gamma_{total}$ — Γ_{147}/Γ

NODE=S042B47

VALUE (units 10^{-5})	DOCUMENT ID	TECN	COMMENT
4.5±0.6 OUR AVERAGE			
5.4±0.3±1.1	[1,2] AAIJ 15X	LHCB	pp at 7, 8 TeV
4.0±0.7±0.3	[3] AUBERT,B 06L	BABR	$e^+ e^- \to \Upsilon(4S)$
$4.8^{+1.1}_{-1.0}\pm0.5$	[3] KROKOVNY 03	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
5.7±0.9±0.6	[3] AUBERT 06A	BABR	Repl. by AUBERT,B 06L

[1] AAIJ 15X reports $(5.13 \pm 0.20 \pm 0.15 \pm 0.24 \pm 0.60) \times 10^{-5}$ from a measurement of $[\Gamma(B^0 \to \overline{D}^0 K^*(892)^0)/\Gamma_{total}] \times [B(B^0 \to \overline{D}^0 K^+ \pi^-)]$ assuming $B(B^0 \to \overline{D}^0 K^+ \pi^-) = (9.2 \pm 0.6 \pm 0.7 \pm 0.6) \times 10^{-5}$, which we rescale to our best value $B(B^0 \to \overline{D}^0 K^+ \pi^-) = (8.8 \pm 1.7) \times 10^{-5}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042B47;LINKAGE=A

[2] Measured via amplitude analysis of $B^0 \to \overline{D}^0 K^+ \pi^-$, which excludes contribution from decay via $D^*(2010)^-$ resonance. NODE=S042B47;LINKAGE=B

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B47;LINKAGE=EP

$\Gamma(\overline{D}^0 K^*(1410)^0)/\Gamma_{total}$ — Γ_{148}/Γ

NODE=S042C37
NODE=S042C37

VALUE	CL%		DOCUMENT ID		TECN	COMMENT
$<6.7 \times 10^{-5}$	90	[1]	AAIJ	15X	LHCB	pp at 7, 8 TeV

[1] Measured via amplitude analysis of $B^0 \to \overline{D}^0 K^+ \pi^-$, which excludes contribution from decay via $D^*(2010)^-$ resonance.

NODE=S042C37;LINKAGE=A

$\Gamma(\overline{D}^0 K_0^*(1430)^0)/\Gamma_{total}$ — Γ_{149}/Γ

NODE=S042C38
NODE=S042C38

VALUE (units 10^{-5})		DOCUMENT ID		TECN	COMMENT
$0.7 \pm 0.7 \pm 0.1$	[1,2]	AAIJ	15X	LHCB	pp at 7, 8 TeV

[1] AAIJ 15X reports $(0.71 \pm 0.27 \pm 0.33 \pm 0.47 \pm 0.08) \times 10^{-5}$ from a measurement of $[\Gamma(B^0 \to \overline{D}^0 K_0^*(1430)^0)/\Gamma_{total}] \times [B(B^0 \to \overline{D}^0 K^+ \pi^-)]$ assuming $B(B^0 \to \overline{D}^0 K^+ \pi^-) = (9.2 \pm 0.6 \pm 0.7 \pm 0.6) \times 10^{-5}$, which we rescale to our best value $B(B^0 \to \overline{D}^0 K^+ \pi^-) = (8.8 \pm 1.7) \times 10^{-5}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042C38;LINKAGE=A

[2] Measured via amplitude analysis of $B^0 \to \overline{D}^0 K^+ \pi^-$, which excludes contribution from decay via $D^*(2010)^-$ resonance.

NODE=S042C38;LINKAGE=B

$\Gamma(\overline{D}^0 K_2^*(1430)^0)/\Gamma_{total}$ — Γ_{150}/Γ

NODE=S042C39
NODE=S042C39

VALUE (units 10^{-5})		DOCUMENT ID		TECN	COMMENT
$2.1 \pm 0.8 \pm 0.4$	[1,2]	AAIJ	15X	LHCB	pp at 7, 8 TeV

[1] AAIJ 15X reports $(2.04 \pm 0.45 \pm 0.30 \pm 0.54 \pm 0.25) \times 10^{-5}$ from a measurement of $[\Gamma(B^0 \to \overline{D}^0 K_2^*(1430)^0)/\Gamma_{total}] \times [B(B^0 \to \overline{D}^0 K^+ \pi^-)]$ assuming $B(B^0 \to \overline{D}^0 K^+ \pi^-) = (9.2 \pm 0.6 \pm 0.7 \pm 0.6) \times 10^{-5}$, which we rescale to our best value $B(B^0 \to \overline{D}^0 K^+ \pi^-) = (8.8 \pm 1.7) \times 10^{-5}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042C39;LINKAGE=A

[2] Measured via amplitude analysis of $B^0 \to \overline{D}^0 K^+ \pi^-$, which excludes contribution from decay via $D^*(2010)^-$ resonance.

NODE=S042C39;LINKAGE=B

$\Gamma(D_0^*(2300)^- K^+,\ D_0^{*-} \to \overline{D}^0 \pi^-)/\Gamma_{total}$ — Γ_{151}/Γ

NODE=S042C40
NODE=S042C40

VALUE (units 10^{-5})		DOCUMENT ID		TECN	COMMENT
$1.9 \pm 0.8 \pm 0.4$	[1,2]	AAIJ	15X	LHCB	pp at 7, 8 TeV

[1] AAIJ 15X reports $(1.77 \pm 0.26 \pm 0.19 \pm 0.67 \pm 0.20) \times 10^{-5}$ from a measurement of $[\Gamma(B^0 \to D_0^*(2300)^- K^+,\ D_0^{*-} \to \overline{D}^0 \pi^-)/\Gamma_{total}] \times [B(B^0 \to \overline{D}^0 K^+ \pi^-)]$ assuming $B(B^0 \to \overline{D}^0 K^+ \pi^-) = (9.2 \pm 0.6 \pm 0.7 \pm 0.6) \times 10^{-5}$, which we rescale to our best value $B(B^0 \to \overline{D}^0 K^+ \pi^-) = (8.8 \pm 1.7) \times 10^{-5}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042C40;LINKAGE=A

[2] Measured via amplitude analysis of $B^0 \to \overline{D}^0 K^+ \pi^-$, which excludes contribution from decay via $D^*(2010)^-$ resonance.

NODE=S042C40;LINKAGE=B

$\Gamma(D_2^*(2460)^- K^+,\ D_2^{*-} \to \overline{D}^0 \pi^-)/\Gamma_{total}$ — Γ_{152}/Γ

NODE=S042Q52
NODE=S042Q52

VALUE (units 10^{-6})		DOCUMENT ID		TECN	COMMENT
20.3 ± 3.5 OUR AVERAGE					
$22 \pm 2 \pm 4$	[1,2]	AAIJ	15X	LHCB	pp at 7, 8 TeV
$18.3 \pm 4.0 \pm 3.1$	[3]	AUBERT	06A	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] AAIJ 15X reports $(2.12 \pm 0.10 \pm 0.11 \pm 0.11 \pm 0.25) \times 10^{-5}$ from a measurement of $[\Gamma(B^0 \to D_2^*(2460)^- K^+,\ D_2^{*-} \to \overline{D}^0 \pi^-)/\Gamma_{total}] \times [B(B^0 \to \overline{D}^0 K^+ \pi^-)]$ assuming $B(B^0 \to \overline{D}^0 K^+ \pi^-) = (9.2 \pm 0.6 \pm 0.7 \pm 0.6) \times 10^{-5}$, which we rescale to our best value $B(B^0 \to \overline{D}^0 K^+ \pi^-) = (8.8 \pm 1.7) \times 10^{-5}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042Q52;LINKAGE=A

[2] Measured via amplitude analysis of $B^0 \to \overline{D}^0 K^+ \pi^-$, which excludes contribution from decay via $D^*(2010)^-$ resonance.

NODE=S042Q52;LINKAGE=B

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q52;LINKAGE=EP

$\Gamma(D_3^*(2760)^- K^+,\ D_3^{*-} \to \overline{D}^0 \pi^-)/\Gamma_{total}$ — Γ_{153}/Γ

NODE=S042C41
NODE=S042C41

VALUE	CL%		DOCUMENT ID		TECN	COMMENT
$<0.10 \times 10^{-5}$	90	[1]	AAIJ	15X	LHCB	pp at 7, 8 TeV

[1] Measured via amplitude analysis of $B^0 \to \overline{D}^0 K^+ \pi^-$, which excludes contribution from decay via $D^*(2010)^-$ resonance.

NODE=S042C41;LINKAGE=A

$\Gamma(\overline{D}^0 K^+ \pi^-$ nonresonant$)/\Gamma_{total}$ — Γ_{154}/Γ

NODE=S042Q53
NODE=S042Q53

VALUE (units 10^{-6})	CL%		DOCUMENT ID		TECN	COMMENT
<37	90	[1]	AUBERT	06A	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q53;LINKAGE=EP

$\Gamma([K^+K^-]_D K^*(892)^0)/\Gamma(\overline{D}^0 K^*(892)^0)$ $\Gamma_{155}/\Gamma_{147}$

NODE=S042C15

VALUE	DOCUMENT ID		TECN	COMMENT
0.811±0.057±0.017	AAIJ	24M	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.92 ±0.10 ±0.02	AAIJ	19N	LHCB	Repl. by AAIJ 24M
$1.05\ ^{+0.17}_{-0.15}\ \pm0.04$	AAIJ	14BN	LHCB	Repl. by AAIJ 16S
$1.36\ ^{+0.37}_{-0.32}\ \pm0.07$	AAIJ	13L	LHCB	Repl. by AAIJ 14BN

$\Gamma([\pi^+\pi^-]_D K^*(892)^0)/\Gamma(\overline{D}^0 K^*(892)^0)$ $\Gamma_{156}/\Gamma_{147}$

NODE=S042C24

VALUE	DOCUMENT ID		TECN	COMMENT
1.104±0.111±0.026	AAIJ	24M	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.32 ±0.19 ±0.03	AAIJ	19N	LHCB	Repl. by AAIJ 24M
$1.21\ ^{+0.28}_{-0.25}\ \pm0.05$	AAIJ	14BN	LHCB	Repl. by AAIJ 16S

$\Gamma([\pi^+K^-]_D K^*(892)^0)/\Gamma([K^+\pi^-]_D K^*(892)^0)$ $\Gamma_{157}/\Gamma_{158}$

NODE=S042P52

VALUE	DOCUMENT ID		TECN	COMMENT
0.080±0.015±0.002	AAIJ	19N	LHCB	pp at 7, 8, 13 TeV

$\Gamma([\pi^+\pi^-\pi^+\pi^-]_D K^{*0})/\Gamma(\overline{D}^0 K^*(892)^0)$ $\Gamma_{159}/\Gamma_{147}$

NODE=S042P51

VALUE	DOCUMENT ID		TECN	COMMENT
0.882±0.086±0.033	AAIJ	24M	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.01 ±0.16 ±0.04	AAIJ	19N	LHCB	Repl. by AAIJ 24M

$\Gamma([\pi^+K^-\pi^+\pi^-]_D K^{*0})/\Gamma([K^+\pi^-\pi^+\pi^-]_D K^{*0})$ $\Gamma_{160}/\Gamma_{161}$

NODE=S042P53

VALUE	DOCUMENT ID		TECN	COMMENT
0.073±0.018±0.002	AAIJ	19N	LHCB	pp at 7, 8, 13 TeV

$\Gamma(\overline{D}^0\pi^0)/\Gamma_{total}$ Γ_{162}/Γ

NODE=S042S26

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
2.67±0.09 OUR AVERAGE					
2.70±0.06±0.10		BLOOMFIELD	22	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
2.69±0.09±0.13		[1] LEES	11M	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
2.25±0.14±0.35		[1] BLYTH	06	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$2.74^{+0.36}_{-0.32}\pm0.55$		[1] COAN	02	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2.9 ±0.2 ±0.3		[1] AUBERT	04B	BABR	Repl. by LEES 11M
3.1 ±0.4 ±0.5		[1] ABE	02J	BELL	Repl. by BLYTH 06
<1.2	90	[2] NEMATI	98	CLE2	Repl. by COAN 02
<4.8	90	[3] ALAM	94	CLE2	Repl. by NEMATI 98

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S26;LINKAGE=EP

[2] NEMATI 98 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the PDG 96 values for D^0, D^{*0}, η, η', and ω branching fractions. NODE=S042S26;LINKAGE=NM

[3] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II absolute B($D^0 \rightarrow K^-\pi^+$) and the PDG 1992 B($D^0 \rightarrow K^-\pi^+\pi^0$)/B($D^0 \rightarrow K^-\pi^+$) and B($D^0 \rightarrow K^-2\pi^+\pi^-$)/B($D^0 \rightarrow K^-\pi^+$). NODE=S042S26;LINKAGE=E

$\Gamma(\overline{D}^0\rho^0)/\Gamma_{total}$ Γ_{163}/Γ

NODE=S042R34

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
3.21±0.21 OUR AVERAGE					
3.21±0.10±0.21		[1] AAIJ	15Y	LHCB	pp at 7, 8 TeV
3.19±0.20±0.45		[2,3] KUZMIN	07	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2.9 ±1.0 ±0.4		[2] SATPATHY	03	BELL	Repl. by KUZMIN 07
< 3.9	90	[4] NEMATI	98	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
< 5.5	90	[5] ALAM	94	CLE2	Repl. by NEMATI 98
< 6.0	90	[6] BORTOLETTO	92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
<27.0	90	[7] ALBRECHT	88K	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Measured using isobar formalism in the decay chain $B^0 \to \overline{D}^0 \rho(770)$, $\rho \to \pi^+\pi^-$ assuming B$(\rho(770) \to \pi^+\pi^-) = 1$. The second uncertainty combines in quadrature all systematic uncertainties quoted in the paper. NODE=S042R34;LINKAGE=B
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R34;LINKAGE=EP
[3] Our second uncertainty combines systematics and model errors quoted in the paper. NODE=S042R34;LINKAGE=KU
[4] NEMATI 98 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the PDG 96 values for D^0, D^{*0}, η, η', and ω branching fractions. NODE=S042R34;LINKAGE=NM
[5] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II absolute B$(D^0 \to K^-\pi^+)$ and the PDG 1992 B$(D^0 \to K^-\pi^+\pi^0)$/B$(D^0 \to K^-\pi^+)$ and B$(D^0 \to K^-2\pi^+\pi^-)$/B$(D^0 \to K^-\pi^+)$. NODE=S042R34;LINKAGE=E
[6] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. NODE=S042R34;LINKAGE=B9
[7] ALBRECHT 88K reports < 0.003 assuming $B^0\overline{B}^0$:B^+B^- production ratio is 45:55. We rescale to 50%. NODE=S042R34;LINKAGE=A

$\Gamma(\overline{D}^0 f_2)/\Gamma_{total}$ Γ_{164}/Γ

NODE=S042Q73
NODE=S042Q73

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
1.56±0.21 OUR AVERAGE				
1.68±0.11±0.21	[1] AAIJ	15Y	LHCB	pp at 7, 8 TeV
1.20±0.18±0.38	[2,3] KUZMIN	07	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Result obtained using the isobar formalism. The second uncertainty combines in quadrature all systematic uncertainties quoted in the paper. Measured in the decay chain $B^0 \to \overline{D}^0 f_2(1270)$, $f_2 \to \pi^+\pi^-$. NODE=S042Q73;LINKAGE=A
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q73;LINKAGE=EP
[3] Our second uncertainty combines systematics and model errors quoted in the paper. NODE=S042Q73;LINKAGE=KU

$\Gamma(\overline{D}^0 \eta)/\Gamma_{total}$ Γ_{165}/Γ

NODE=S042S27
NODE=S042S27

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
2.56±0.12 OUR AVERAGE					
2.66±0.12±0.21		KUMAR	23	BELL	$e^+e^- \to \Upsilon(4S)$
2.53±0.09±0.11		[1] LEES	11M	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.77±0.16±0.21		[1] BLYTH	06	BELL	Repl. by KUMAR 23
2.5 ±0.2 ±0.3		[1] AUBERT	04B	BABR	Repl. by LEES 11M
1.4 $^{+0.5}_{-0.4}$ ±0.3		[1] ABE	02J	BELL	Repl. by BLYTH 06
<1.3	90	[2] NEMATI	98	CLE2	$e^+e^- \to \Upsilon(4S)$
<6.8	90	[3] ALAM	94	CLE2	Repl. by NEMATI 98

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S27;LINKAGE=EP
[2] NEMATI 98 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the PDG 96 values for D^0, D^{*0}, η, η', and ω branching fractions. NODE=S042S27;LINKAGE=NM
[3] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II absolute B$(D^0 \to K^-\pi^+)$ and the PDG 1992 B$(D^0 \to K^-\pi^+\pi^0)$/B$(D^0 \to K^-\pi^+)$ and B$(D^0 \to K^-2\pi^+\pi^-)$/B$(D^0 \to K^-\pi^+)$. NODE=S042S27;LINKAGE=E

$\Gamma(\overline{D}^0 \eta')/\Gamma_{total}$ Γ_{166}/Γ

NODE=S042S28
NODE=S042S28

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
1.38±0.16 OUR AVERAGE	Error includes scale factor of 1.3.				
1.48±0.13±0.07		[1] LEES	11M	BABR	$e^+e^- \to \Upsilon(4S)$
1.14±0.20 $^{+0.10}_{-0.13}$		[1] SCHUMANN	05	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.7 ±0.4 ±0.2		[1] AUBERT	04B	BABR	Repl. by LEES 11M
<9.4	90	[2] NEMATI	98	CLE2	$e^+e^- \to \Upsilon(4S)$
<8.6	90	[3] ALAM	94	CLE2	Repl. by NEMATI 98

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S28;LINKAGE=EP
[2] NEMATI 98 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the PDG 96 values for D^0, D^{*0}, η, η', and ω branching fractions. NODE=S042S28;LINKAGE=NM
[3] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II absolute B$(D^0 \to K^-\pi^+)$ and the PDG 1992 B$(D^0 \to K^-\pi^+\pi^0)$/B$(D^0 \to K^-\pi^+)$ and B$(D^0 \to K^-2\pi^+\pi^-)$/B$(D^0 \to K^-\pi^+)$. NODE=S042S28;LINKAGE=E

$\Gamma(\overline{D}^0 \eta')/\Gamma(\overline{D}^0 \eta)$ $\Gamma_{166}/\Gamma_{165}$

NODE=S042SA5
NODE=S042SA5

VALUE	DOCUMENT ID		TECN	COMMENT
0.54±0.07±0.01	LEES	11M	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.7 ±0.2 ±0.1	AUBERT	04B	BABR	Repl. by LEES 11M

$\Gamma(\overline{D}^0\omega)/\Gamma_{total}$ — Γ_{167}/Γ

NODE=S042S29
NODE=S042S29

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
2.54±0.16 OUR AVERAGE					
2.75±0.72±0.35		[1] AAIJ	15Y	LHCB	pp at 7, 8 TeV
2.57±0.11±0.14		[2] LEES	11M	BABR	$e^+e^- \to \Upsilon(4S)$
2.37±0.23±0.28		[2] BLYTH	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
3.0 ±0.3 ±0.4		[2] AUBERT	04B	BABR	Repl. by LEES 11M
1.8 ±0.5 $^{+0.4}_{-0.3}$		[2] ABE	02J	BELL	Repl. by BLYTH 06
<5.1	90	[3] NEMATI	98	CLE2	$e^+e^- \to \Upsilon(4S)$
<6.3	90	[4] ALAM	94	CLE2	Repl. by NEMATI 98

[1] Result obtained using the isobar model. The second uncertainty combines in quadrature all systematic uncertainties quoted in the paper. NODE=S042S29;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S29;LINKAGE=EP

[3] NEMATI 98 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the PDG 96 values for D^0, D^{*0}, η, η', and ω branching fractions. NODE=S042S29;LINKAGE=NM

[4] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II absolute B($D^0 \to K^-\pi^+$) and the PDG 1992 B($D^0 \to K^-\pi^+\pi^0$)/B($D^0 \to K^-\pi^+$) and B($D^0 \to K^-2\pi^+\pi^-$)/B($D^0 \to K^-\pi^+$). NODE=S042S29;LINKAGE=E

$\Gamma(\overline{D}^0\phi)/\Gamma_{total}$ — Γ_{168}/Γ

NODE=S042P99
NODE=S042P99

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
7.7±2.1±1.0		[1] AAIJ	23AZ	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 23	95	AAIJ	18AY	LHCB	Repl. by AAIJ 23AZ
<116	90	[2] AUBERT	07AO	BABR	$e^+e^- \to \Upsilon(4S)$

[1] The last uncertainty includes the uncertainties of the branching fractions B($B^0 \to \overline{D}^0K^+K^-$) and B($\phi \to K^+K^-$). NODE=S042P99;LINKAGE=B

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042P99;LINKAGE=EP

$\Gamma(D^0K^+\pi^-)/\Gamma_{total}$ — Γ_{169}/Γ

NODE=S042Q54
NODE=S042Q54

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<19	90	[1] AUBERT	06A	BABR	Repl. by AUBERT 09AE

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q54;LINKAGE=EP

$\Gamma(D^0K^+\pi^-)/\Gamma(\overline{D}^0K^+\pi^-)$ — $\Gamma_{169}/\Gamma_{146}$

NODE=S042B97
NODE=S042B97

VALUE	DOCUMENT ID		TECN	COMMENT
0.060±0.034 OUR AVERAGE				
$0.045^{+0.056}_{-0.050}{}^{+0.028}_{-0.018}$	[1,2] NEGISHI	12	BELL	$e^+e^- \to \Upsilon(4S)$
0.068±0.042	[3] AUBERT	09AE	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$. NODE=S042B97;LINKAGE=EP

[2] Uses $D^0 \to K^-\pi^+$mode. Restricts $K^+\pi^-$ mass within ±50 MeV of the nominal K^{*0} mass. Corresponds to the upper limit, < 0.16 at 95% CL. NODE=S042B97;LINKAGE=NE

[3] Reports a signal at the level of 2.5 standard deviations after combining results from $D^0 \to K^+\pi^-$, $K^+\pi^-\pi^0$, and $K^+\pi^-\pi^+\pi^-$. NODE=S042B97;LINKAGE=AU

$\Gamma(D^0K^*(892)^0)/\Gamma_{total}$ — Γ_{170}/Γ

NODE=S042B50
NODE=S042B50

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1.1	90	[1] AUBERT,B	06L	BABR	$e^+e^- \to \Upsilon(4S)$
<1.8	90	[1] KROKOVNY	03	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B50;LINKAGE=EP

$\Gamma(D^0K^*(892)^0)/\Gamma(\overline{D}^0K^*(892)^0)$ — $\Gamma_{170}/\Gamma_{147}$

NODE=S042P44

"OUR EVALUATION" is derived from $r_{B^0}(B^0 \to DK^{*0})$ data block listed in "*CP* violation parameters" section. NODE=S042P44

NODE=S042P44

VALUE (units 10^{-2})	DOCUMENT ID
$\mathbf{6.6^{+1.1}_{-1.2}}$ **OUR EVALUATION**	(Produced by HFLAV)

→ UNCHECKED ←

$\Gamma(\overline{D}^{*0}\gamma)/\Gamma_{total}$ Γ_{171}/Γ

NODE=S042S86

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<2.5 × 10^{-5}	90	[1] AUBERT,B	05Q	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<5.0 \times 10^{-5}$	90	[1] ARTUSO	00	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S86;LINKAGE=EP

$\Gamma(\overline{D}^*(2007)^0\pi^0)/\Gamma_{total}$ Γ_{172}/Γ

NODE=S042S30

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
2.2 ±0.6 OUR AVERAGE	Error includes scale factor of 2.6. See the ideogram below.				
$3.05\pm0.14\pm0.28$		[1] LEES	11M	BABR	$e^+e^- \to \Upsilon(4S)$
$1.39\pm0.18\pm0.26$		[1] BLYTH	06	BELL	$e^+e^- \to \Upsilon(4S)$
$2.20^{+0.59}_{-0.52}\pm0.79$		[1] COAN	02	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$2.9\ \pm0.4\ \pm0.5$		[1] AUBERT	04B	BABR	Repl. by LEES 11M
$2.7\ ^{+0.8}_{-0.7}\ ^{+0.5}_{-0.6}$		[1] ABE	02J	BELL	Repl. by BLYTH 06
<4.4	90	[2] NEMATI	98	CLE2	Repl. by COAN 02
<9.7	90	[3] ALAM	94	CLE2	Repl. by NEMATI 98

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

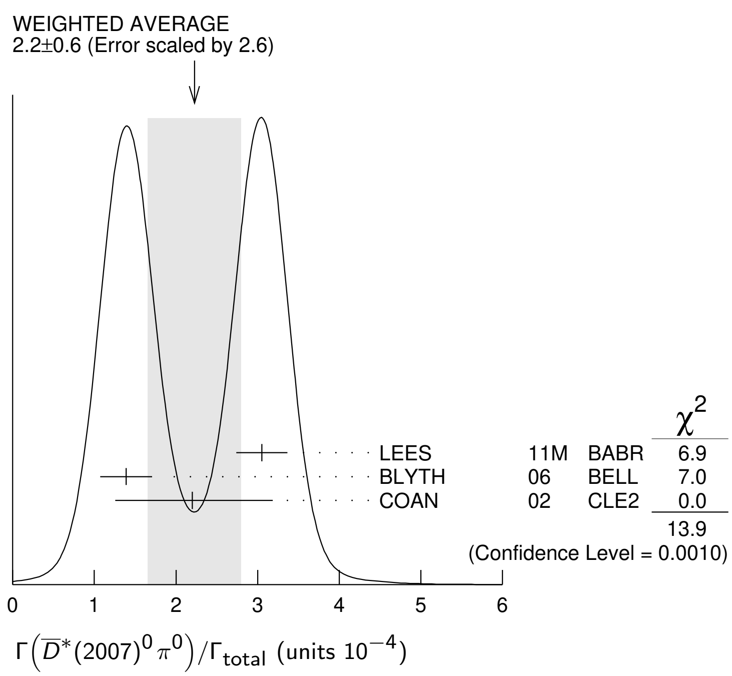
NODE=S042S30;LINKAGE=EP

[2] NEMATI 98 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the PDG 96 values for D^0, D^{*0}, η, η', and ω branching fractions.

NODE=S042S30;LINKAGE=NM

[3] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II $B(D^*(2007)^0 \to D^0\pi^0)$ and absolute $B(D^0 \to K^-\pi^+)$ and the PDG 1992 $B(D^0 \to K^-\pi^+\pi^0)/B(D^0 \to K^-\pi^+)$ and $B(D^0 \to K^-2\pi^+\pi^-)/B(D^0 \to K^-\pi^+)$.

NODE=S042S30;LINKAGE=EB



$\Gamma(\overline{D}^0\pi^0)/\Gamma(\overline{D}^*(2007)^0\pi^0)$ $\Gamma_{162}/\Gamma_{172}$

NODE=S042SA1

VALUE	DOCUMENT ID		TECN	COMMENT
0.90±0.08 OUR AVERAGE				
$0.88\pm0.05\pm0.06$	LEES	11M	BABR	$e^+e^- \to \Upsilon(4S)$
$1.62\pm0.23\pm0.35$	BLYTH	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.0\ \pm0.1\ \pm0.2$	AUBERT	04B	BABR	Repl. by LEES 11M

$\Gamma(\overline{D}^*(2007)^0\rho^0)/\Gamma_{total}$ Γ_{173}/Γ

NODE=S042S31

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<5.1 × 10^{-4}	90	[1] SATPATHY	03	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.00056	90	[2] NEMATI	98	CLE2	$e^+e^- \to \Upsilon(4S)$
<0.00117	90	[3] ALAM	94	CLE2	Repl. by NEMATI 98

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S31;LINKAGE=EP

[2] NEMATI 98 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the PDG 96 values for D^0, D^{*0}, η, η', and ω branching fractions. NODE=S042S31;LINKAGE=NM

[3] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II B($D^*(2007)^0 \to D^0\pi^0$) and absolute B($D^0 \to K^-\pi^+$) and the PDG 1992 B($D^0 \to K^-\pi^+\pi^0$)/B($D^0 \to K^-\pi^+$) and B($D^0 \to K^-2\pi^+\pi^-$)/B($D^0 \to K^-\pi^+$). NODE=S042S31;LINKAGE=EB

$\Gamma(\overline{D}^*(2007)^0\eta)/\Gamma_{total}$ Γ_{174}/Γ

NODE=S042S32
NODE=S042S32

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
2.3 ±0.6 OUR AVERAGE	Error includes scale factor of 2.8.			
2.69±0.14±0.23		[1] LEES 11M	BABR	$e^+e^- \to \Upsilon(4S)$
1.40±0.28±0.26		[1] BLYTH 06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2.6 ±0.4 ±0.4		[1] AUBERT 04B	BABR	Repl. by LEES 11M
<4.6	90	[1] ABE 02J	BELL	$e^+e^- \to \Upsilon(4S)$
<2.6	90	[2] NEMATI 98	CLE2	$e^+e^- \to \Upsilon(4S)$
<6.9	90	[3] ALAM 94	CLE2	Repl. by NEMATI 98

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S32;LINKAGE=EP

[2] NEMATI 98 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the PDG 96 values for D^0, D^{*0}, η, η', and ω branching fractions. NODE=S042S32;LINKAGE=NM

[3] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II B($D^*(2007)^0 \to D^0\pi^0$) and absolute B($D^0 \to K^-\pi^+$) and the PDG 1992 B($D^0 \to K^-\pi^+\pi^0$)/B($D^0 \to K^-\pi^+$) and B($D^0 \to K^-2\pi^+\pi^-$)/B($D^0 \to K^-\pi^+$). NODE=S042S32;LINKAGE=EB

$\Gamma(\overline{D}^0\eta)/\Gamma(\overline{D}^*(2007)^0\eta)$ $\Gamma_{165}/\Gamma_{174}$

NODE=S042SA2
NODE=S042SA2

VALUE	DOCUMENT ID	TECN	COMMENT
0.99±0.10 OUR AVERAGE			
0.97±0.07±0.07	LEES 11M	BABR	$e^+e^- \to \Upsilon(4S)$
1.27±0.29±0.25	BLYTH 06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.9 ±0.2 ±0.1	AUBERT 04B	BABR	Repl. by LEES 11M

$\Gamma(\overline{D}^*(2007)^0\eta')/\Gamma(\overline{D}^*(2007)^0\eta)$ $\Gamma_{175}/\Gamma_{174}$

NODE=S042SA6
NODE=S042SA6

VALUE	DOCUMENT ID	TECN	COMMENT
0.61±0.14±0.02	LEES 11M	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.5 ±0.3 ±0.1	AUBERT 04B	BABR	Repl. by LEES 11M

$\Gamma(\overline{D}^*(2007)^0\eta')/\Gamma_{total}$ Γ_{175}/Γ

NODE=S042S33
NODE=S042S33

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
1.40±0.22 OUR AVERAGE				
1.48±0.22±0.13		[1] LEES 11M	BABR	$e^+e^- \to \Upsilon(4S)$
1.21±0.34±0.22		[1] SCHUMANN 05	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.3 ±0.7 ±0.2		[1,2] AUBERT 04B	BABR	Repl. by LEES 11M
<14	90	BRANDENB... 98	CLE2	$e^+e^- \to \Upsilon(4S)$
<19	90	[3] NEMATI 98	CLE2	$e^+e^- \to \Upsilon(4S)$
<27	90	[4] ALAM 94	CLE2	Repl. by NEMATI 98

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S33;LINKAGE=EP

[2] Reports an upper limit $< 2.6 \times 10^{-4}$ at 90% CL. NODE=S042S33;LINKAGE=EU

[3] NEMATI 98 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the PDG 96 values for D^0, D^{*0}, η, η', and ω branching fractions. NODE=S042S33;LINKAGE=NM

[4] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II B($D^*(2007)^0 \to D^0\pi^0$) and absolute B($D^0 \to K^-\pi^+$) and the PDG 1992 B($D^0 \to K^-\pi^+\pi^0$)/B($D^0 \to K^-\pi^+$) and B($D^0 \to K^-2\pi^+\pi^-$)/B($D^0 \to K^-\pi^+$). NODE=S042S33;LINKAGE=EB

$\Gamma(\overline{D}^0\eta')/\Gamma(\overline{D}^*(2007)^0\eta')$ $\Gamma_{166}/\Gamma_{175}$

NODE=S042SA4
NODE=S042SA4

VALUE	DOCUMENT ID	TECN	COMMENT
0.96±0.18±0.06	LEES 11M	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
1.3 ±0.8 ±0.2	AUBERT 04B	BABR	Repl. by LEES 11M

$\Gamma(\overline{D}^*(2007)^0 \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{176}/Γ

NODE=S042B42

VALUE	DOCUMENT ID		TECN	COMMENT
$(6.2\pm1.2\pm1.8) \times 10^{-4}$	[1,2] SATPATHY	03	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] No assumption about the intermediate mechanism is made in the analysis.

NODE=S042B42;LINKAGE=EP
NODE=S042B42;LINKAGE=SP

$\Gamma(\overline{D}^*(2007)^0 K^+ \pi^-)/\Gamma(\overline{D}^*(2007)^0 \pi^+ \pi^-)$ — $\Gamma_{177}/\Gamma_{176}$

NODE=S042P69

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
8.36±0.43±0.61	AAIJ	22N	LHCB	pp at 13 TeV

$\Gamma(\overline{D}^*(2007)^0 K^0)/\Gamma_{total}$ — Γ_{178}/Γ

NODE=S042B48

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
3.6±1.2±0.3		[1] AUBERT,B	06L	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<6.6	90	[1] KROKOVNY	03	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B48;LINKAGE=EP

$\Gamma(\overline{D}^*(2007)^0 K^*(892)^0)/\Gamma_{total}$ — Γ_{179}/Γ

NODE=S042B49

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.9 \times 10^{-5}$	90	[1] KROKOVNY	03	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B49;LINKAGE=EP

$\Gamma(\overline{D}^*(2007)^0 \phi)/\Gamma_{total}$ — Γ_{180}/Γ

NODE=S042S70

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
2.2±0.5±0.3	[1] AAIJ	23AZ	LHCB	pp at 7, 8, 13 TeV

[1] The last uncertainty includes the uncertainties of the branching fraction B($B^0 \to \overline{D}^0 K^+ K^-$) and B($\phi \to K^+ K^-$).

NODE=S042S70;LINKAGE=A

$\Gamma(D^*(2007)^0 K^*(892)^0)/\Gamma_{total}$ — Γ_{181}/Γ

NODE=S042B51

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<4.0 \times 10^{-5}$	90	[1] KROKOVNY	03	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B51;LINKAGE=EP

$\Gamma(D^*(2007)^0 \pi^+ \pi^+ \pi^- \pi^-)/\Gamma_{total}$ — Γ_{182}/Γ

NODE=S042S96

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
2.7 ±0.5 OUR AVERAGE				
2.60±0.47±0.37	[1] MAJUMDER	04	BELL	$e^+ e^- \to \Upsilon(4S)$
3.0 ±0.7 ±0.6	[1] EDWARDS	02	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S96;LINKAGE=EP

$\Gamma(D^*(2007)^0 \pi^+ \pi^+ \pi^- \pi^-)/\Gamma(D^*(2010)^- \pi^+ \pi^+ \pi^- \pi^0)$ — Γ_{182}/Γ_{67}

NODE=S042S97

VALUE	DOCUMENT ID		TECN	COMMENT
0.17±0.04±0.02	[1] EDWARDS	02	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S97;LINKAGE=EP

$\Gamma(D^*(2010)^+ D^*(2010)^-)/\Gamma_{total}$ — Γ_{183}/Γ

NODE=S042S52

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
8.0 ±0.6 OUR AVERAGE					
7.82±0.38±0.63		[1] KRONENBIT...	12	BELL	$e^+ e^- \to \Upsilon(4S)$
8.1 ±0.6 ±1.0		[1] AUBERT,B	06A	BABR	$e^+ e^- \to \Upsilon(4S)$
9.9 $^{+4.2}_{-3.3}$ ±1.2		[1] LIPELES	00	CLE2	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
8.1 ±0.8 ±1.1		[1] MIYAKE	05	BELL	Repl. by KRONENBIT-TER 12
8.3 ±1.6 ±1.2		[1,2] AUBERT	02M	BABR	Repl. by AUBERT,B 06B
6.2 $^{+4.0}_{-2.9}$ ±1.0		[3] ARTUSO	99	CLE2	Repl. by LIPELES 00
<61	90	[4] BARATE	98Q	ALEP	$e^+ e^- \to Z$
<22	90	[5] ASNER	97	CLE2	Repl. by ARTUSO 99

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S52;LINKAGE=EP

[2] AUBERT 02M also assumes the measured *CP*-odd fraction of the final states is $0.22 \pm 0.18 \pm 0.03$. NODE=S042S52;LINKAGE=SM

[3] ARTUSO 99 uses B($\Upsilon(4S) \to B^0 \overline{B}^0$)=($48 \pm 4$)%. NODE=S042S52;LINKAGE=L9

[4] BARATE 98Q (ALEPH) observes 2 events with an expected background of 0.10 ± 0.03 which corresponds to a branching ratio of $(2.3^{+1.9}_{-1.2} \pm 0.4) \times 10^{-3}$. NODE=S042S52;LINKAGE=AB

[5] ASNER 97 at CLEO observes 1 event with an expected background of 0.022 ± 0.011. This corresponds to a branching ratio of $(5.3^{+7.1}_{-3.7} \pm 1.0) \times 10^{-4}$. NODE=S042S52;LINKAGE=A

$\Gamma(\overline{D}^*(2007)^0 \omega)/\Gamma_{total}$ Γ_{184}/Γ

NODE=S042S34
NODE=S042S34

VALUE (units 10^{-4})	*CL%*	*DOCUMENT ID*		*TECN*	*COMMENT*
3.6 ±1.1 OUR AVERAGE		Error includes scale factor of 3.1.			
$4.55 \pm 0.24 \pm 0.39$		[1] LEES	11M	BABR	$e^+e^- \to \Upsilon(4S)$
$2.29 \pm 0.39 \pm 0.40$		[1] BLYTH	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$4.2 \pm 0.7 \pm 0.9$	90	[1] AUBERT	04B	BABR	Repl. by LEES 11M
< 7.9	90	[1] ABE	02J	BELL	$e^+e^- \to \Upsilon(4S)$
< 7.4	90	[2] NEMATI	98	CLE2	$e^+e^- \to \Upsilon(4S)$
<21	90	[3] ALAM	94	CLE2	Repl. by NEMATI 98

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S34;LINKAGE=EP

[2] NEMATI 98 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the PDG 96 values for D^0, D^{*0}, η, η', and ω branching fractions. NODE=S042S34;LINKAGE=NM

[3] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II B($D^*(2007)^0 \to D^0 \pi^0$) and absolute B($D^0 \to K^- \pi^+$) and the PDG 1992 B($D^0 \to K^- \pi^+ \pi^0$)/B($D^0 \to K^- \pi^+$) and B($D^0 \to K^- 2\pi^+ \pi^-$)/B($D^0 \to K^- \pi^+$). NODE=S042S34;LINKAGE=EB

$\Gamma(\overline{D}^0 \omega)/\Gamma(\overline{D}^*(2007)^0 \omega)$ $\Gamma_{167}/\Gamma_{184}$

NODE=S042SA3
NODE=S042SA3

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
0.58±0.06 OUR AVERAGE				
$0.56 \pm 0.04 \pm 0.04$	LEES	11M	BABR	$e^+e^- \to \Upsilon(4S)$
$1.04 \pm 0.20 \pm 0.17$	BLYTH	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.7 \pm 0.1 \pm 0.1$	AUBERT	04B	BABR	Repl. by LEES 11M

$\Gamma(D^*(2010)^+ D^-)/\Gamma_{total}$ Γ_{185}/Γ

NODE=S042S82
NODE=S042S82

VALUE (units 10^{-4})	*CL%*	*DOCUMENT ID*		*TECN*	*COMMENT*
6.1±1.5 OUR AVERAGE		Error includes scale factor of 1.6.			
$5.7 \pm 0.7 \pm 0.7$		[1] AUBERT,B	06A	BABR	$e^+e^- \to \Upsilon(4S)$
$11.7 \pm 2.6 ^{+2.2}_{-2.5}$		[1,2] ABE	02Q	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$8.8 \pm 1.0 \pm 1.3$		[1] AUBERT	03J	BABR	Repl. by AUBERT,B 06B
$14.8 \pm 3.8 ^{+2.8}_{-3.1}$		[1,3] ABE	02Q	BELL	$e^+e^- \to \Upsilon(4S)$ OCCUR=2
< 6.3	90	[1] LIPELES	00	CLE2	$e^+e^- \to \Upsilon(4S)$
<56	90	BARATE	98Q	ALEP	$e^+e^- \to Z$
<18	90	ASNER	97	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S82;LINKAGE=EP

[2] The measurement is performed using fully reconstructed D^* and D^+ decays. NODE=S042S82;LINKAGE=H1

[3] The measurement is performed using a partial reconstruction technique for the D^* and fully reconstructed D^+ decays as a cross check. NODE=S042S82;LINKAGE=H2

$\Gamma(D^*(2007)^0 \overline{D}^*(2007)^0)/\Gamma_{total}$ Γ_{186}/Γ

NODE=S042S84
NODE=S042S84

VALUE (units 10^{-4})	*CL%*	*DOCUMENT ID*		*TECN*	*COMMENT*
< 0.9	90	[1] AUBERT,B	06A	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<270	90	BARATE	98Q	ALEP	$e^+e^- \to Z$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S84;LINKAGE=EP

$\Gamma(D^- D^0 K^+)/\Gamma_{total}$ Γ_{187}/Γ

NODE=S042B60
NODE=S042B60

VALUE (units 10^{-3})	*DOCUMENT ID*		*TECN*	*COMMENT*
1.07±0.07±0.09	[1] DEL-AMO-SA..	11B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.7 \pm 0.3 \pm 0.3$	[1] AUBERT	03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B60;LINKAGE=EP

$\Gamma(D^- D^*(2007)^0 K^+)/\Gamma_{total}$ — Γ_{188}/Γ

NODE=S042B61

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
3.46±0.18±0.37	[1] DEL-AMO-SA..11B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
4.6 ±0.7 ±0.7	[1] AUBERT 03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B61;LINKAGE=EP

$\Gamma(D^*(2010)^- D^0 K^+)/\Gamma_{total}$ — Γ_{189}/Γ

NODE=S042B62

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
2.47±0.10±0.18	[1] DEL-AMO-SA..11B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$3.1\ ^{+0.4}_{-0.3}\ \pm0.4$	[1] AUBERT 03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B62;LINKAGE=EP

$\Gamma(D^*(2010)^- D^0 K^+)/\Gamma(D^- D^0 K^+)$ — $\Gamma_{189}/\Gamma_{187}$

NODE=S042P65

VALUE	DOCUMENT ID	TECN	COMMENT
1.754±0.028±0.038	[1] AAIJ 20AN	LHCB	pp at 7, 8, 13 TeV

[1] Uses $D^+ \to K^-\pi^+\pi^+$, $D^0 \to K^-\pi^+$ and $D^0 \to K^-\pi^+\pi^+\pi^-$ decays.

NODE=S042P65;LINKAGE=A

$\Gamma(D^*(2010)^- D^*(2007)^0 K^+)/\Gamma_{total}$ — Γ_{190}/Γ

NODE=S042B63

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
10.6±0.33±0.86	[1] DEL-AMO-SA..11B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
11.8±1.0 ±1.7	[1] AUBERT 03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B63;LINKAGE=EP

$\Gamma(D^- D^+ K^0)/\Gamma_{total}$ — Γ_{191}/Γ

NODE=S042B64

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
0.75±0.12±0.12		[1] DEL-AMO-SA..11B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<1.7	90	[1] AUBERT 03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B64;LINKAGE=EP

$[\Gamma(D^*(2010)^- D^+ K^0) + \Gamma(D^- D^*(2010)^+ K^0)]/\Gamma_{total}$ — Γ_{192}/Γ

NODE=S042B65

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
6.41±0.36±0.39	[1] DEL-AMO-SA..11B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
6.5 ±1.2 ±1.0	[1] AUBERT 03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B65;LINKAGE=EP

$\Gamma(D^*(2010)^- D^*(2010)^+ K^0)/\Gamma_{total}$ — Γ_{193}/Γ

NODE=S042B66

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
8.1 ±0.7 OUR AVERAGE			
8.26±0.43±0.67	[1] DEL-AMO-SA..11B	BABR	$e^+e^- \to \Upsilon(4S)$
6.8 ±0.8 ±1.4	[1,2] DALSENO 07	BELL	$e^+e^- \to \Upsilon(4S)$
8.8 ±0.8 ±1.4	[1,2] AUBERT,B 06Q	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$8.8\ ^{+1.5}_{-1.4}\ \pm1.3$	[1] AUBERT 03X	BABR	Repl. by AUBERT,B 06Q

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] The result is rescaled by a factor of 2 to convert from K^0_S to K^0.

NODE=S042B66;LINKAGE=EP
NODE=S042B66;LINKAGE=RE

$\Gamma(D^{*-} D_{s1}(2536)^+,\ D^+_{s1} \to D^{*+} K^0)/\Gamma_{total}$ — Γ_{194}/Γ

NODE=S042B78

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
8.0±2.4 OUR AVERAGE			
$7.6^{+4.8+1.6}_{-4.2-1.4}$	[1,2] DALSENO 07	BELL	$e^+e^- \to \Upsilon(4S)$
8.2±2.6±1.2	[1,2] AUBERT,B 06Q	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] The result is rescaled by a factor of 2 to convert from K^0_S to K^0.

NODE=S042B78;LINKAGE=EP
NODE=S042B78;LINKAGE=RE

$\Gamma(\overline{D}^0 D^0 K^0)/\Gamma_{total}$ — Γ_{195}/Γ

NODE=S042B67
NODE=S042B67

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
0.27±0.10±0.05		[1] DEL-AMO-SA...	11B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1.4	90	[1] AUBERT	03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B67;LINKAGE=EP

$\Gamma(D^0 \overline{D}^0 K^+ \pi^-)/\Gamma(D^*(2010)^- D^0 K^+)$ — $\Gamma_{196}/\Gamma_{189}$

NODE=S042P63
NODE=S042P63

VALUE (%)	DOCUMENT ID		TECN	COMMENT
14.2±1.1±1.0	[1] AAIJ	20AG	LHCB	pp at 7, 8, and 13 TeV

[1] AAIJ 20AG excluded contributions from $B^0 \to D^{*-} D^0 K^+$ transitions with $D^{*-} \to \overline{D}^0 \pi^-$.

NODE=S042P63;LINKAGE=A

$[\Gamma(\overline{D}^0 D^*(2007)^0 K^0) + \Gamma(\overline{D}^*(2007)^0 D^0 K^0)]/\Gamma_{total}$ — Γ_{197}/Γ

NODE=S042B68
NODE=S042B68

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
1.08±0.32±0.36		[1] DEL-AMO-SA...	11B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<3.7	90	[1] AUBERT	03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B68;LINKAGE=EP

$\Gamma(\overline{D}^*(2007)^0 D^*(2007)^0 K^0)/\Gamma_{total}$ — Γ_{198}/Γ

NODE=S042B69
NODE=S042B69

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
2.40±0.55±0.67		[1] DEL-AMO-SA...	11B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<6.6	90	[1] AUBERT	03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B69;LINKAGE=EP

$\Gamma((\overline{D}+\overline{D}^*)(D+D^*)K)/\Gamma_{total}$ — Γ_{199}/Γ

NODE=S042B70
NODE=S042B70

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
3.68±0.10±0.24	[1] DEL-AMO-SA...	11B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
4.3 ±0.3 ±0.6	[1] AUBERT	03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B70;LINKAGE=EP

$\Gamma(\eta_c K^0)/\Gamma_{total}$ — Γ_{200}/Γ

NODE=S042S88
NODE=S042S88

NEW

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
1.04±0.13 OUR AVERAGE				
[$(0.90 \pm 0.11) \times 10^{-3}$ OUR 2025 AVERAGE]				
$1.13^{+0.19}_{-0.16}{}^{+0.15}_{-0.16}$	[1] CHILIKIN	19	BELL	$e^+e^- \to \Upsilon(4S)$
$0.75^{+0.26}_{-0.24}\pm0.08$	[2,3] AUBERT	07AV	BABR	$e^+e^- \to \Upsilon(4S)$
1.10±0.19±0.09	[2,4] AUBERT,B	04B	BABR	$e^+e^- \to \Upsilon(4S)$
$1.23\pm0.23^{+0.40}_{-0.41}$	[2] FANG	03	BELL	$e^+e^- \to \Upsilon(4S)$
$1.09^{+0.55}_{-0.42}\pm0.33$	[5] EDWARDS	01	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] CHILIKIN 19 reports $[\Gamma(B^0 \to \eta_c K^0)/\Gamma_{total}] \times [B(\eta_c(1S) \to p\overline{p}\pi^+\pi^-)] = (38.0^{+6.4}_{-2.9}{}^{+1.3}_{-4.7}) \times 10^{-7}$ which we divide by our best value $B(\eta_c(1S) \to p\overline{p}\pi^+\pi^-) = (3.4 \pm 0.5) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042S88;LINKAGE=B

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S88;LINKAGE=EP

[3] AUBERT 07AV reports $[\Gamma(B^0 \to \eta_c K^0)/\Gamma_{total}] \times [B(\eta_c(1S) \to p\overline{p})] = (0.83^{+0.28}_{-0.26} \pm 0.05) \times 10^{-6}$ which we divide by our best value $B(\eta_c(1S) \to p\overline{p}) = (1.11 \pm 0.12) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042S88;LINKAGE=UB

[4] AUBERT,B 04B reports $[\Gamma(B^0 \to \eta_c K^0)/\Gamma_{total}] \times [B(\eta_c(1S) \to K\overline{K}\pi)] = (0.0648 \pm 0.0085 \pm 0.0071) \times 10^{-3}$ which we divide by our best value $B(\eta_c(1S) \to K\overline{K}\pi) = (5.9 \pm 0.5) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042S88;LINKAGE=AU

[5] EDWARDS 01 assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$. The correlated uncertainties (28.3)% from $B(J/\psi(1S) \to \gamma\eta_c)$ in those modes have been accounted for.

NODE=S042S88;LINKAGE=A

$\Gamma(\eta_c K^0)/\Gamma(J/\psi(1S) K^0)$ $\Gamma_{200}/\Gamma_{214}$

NODE=S042Q01

VALUE	DOCUMENT ID	TECN	COMMENT
1.39±0.20±0.45	[1] AUBERT,B 04B	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses BABAR measurement of $B(B^0 \to J/\psi K^0) = (8.5 \pm 0.5 \pm 0.6) \times 10^{-4}$.

NODE=S042Q01;LINKAGE=AU

$\Gamma(\eta_c(1S) K^+\pi^-)/\Gamma(J/\psi(1S) K^+\pi^-)$ $\Gamma_{201}/\Gamma_{215}$

NODE=S042P28

VALUE	DOCUMENT ID	TECN	COMMENT
0.68±0.08 OUR AVERAGE [0.57 ± 0.06 OUR 2025 AVERAGE]			
0.68±0.03±0.07	[1] AAIJ 18AN	LHCB	pp at 7, 8, 13 TeV

NEW

[1] AAIJ 18AN reports $[\Gamma(B^0 \to \eta_c(1S) K^+\pi^-)/\Gamma(B^0 \to J/\psi(1S) K^+\pi^-)] \times [B(\eta_c(1S) \to p\overline{p})] / [B(J/\psi(1S) \to p\overline{p})] = 0.357 \pm 0.015 \pm 0.008$ which we multiply or divide by our best values $B(\eta_c(1S) \to p\overline{p}) = (1.11 \pm 0.12) \times 10^{-3}$, $B(J/\psi(1S) \to p\overline{p}) = (2.121 \pm 0.029) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

NODE=S042P28;LINKAGE=B

$\Gamma(\eta_c(1S) K^*(1410)^0)/\Gamma(\eta_c(1S) K^+\pi^-)$ $\Gamma_{204}/\Gamma_{201}$

NODE=S042P32

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
32±24±6	[1] AAIJ 18AN	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 18AN reports $[\Gamma(B^0 \to \eta_c(1S) K^*(1410)^0)/\Gamma(B^0 \to \eta_c(1S) K^+\pi^-)] \times [B(K^*(1410) \to K\pi)] = 0.021 \pm 0.011 \pm 0.011$ which we divide by our best value $B(K^*(1410) \to K\pi) = (6.6 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042P32;LINKAGE=A

$\Gamma(\eta_c(1S) K^+\pi^- (\mathrm{NR}))/\Gamma(\eta_c(1S) K^+\pi^-)$ $\Gamma_{202}/\Gamma_{201}$

NODE=S042P33

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
$10.3 \pm 1.4 ^{+1.0}_{-1.2}$	AAIJ 18AN	LHCB	pp at 7, 8, 13 TeV

$\Gamma(\eta_c(1S) K_0^*(1430)^0)/\Gamma(\eta_c(1S) K^+\pi^-)$ $\Gamma_{205}/\Gamma_{201}$

NODE=S042P34

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
27±5±3	[1] AAIJ 18AN	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 18AN reports $[\Gamma(B^0 \to \eta_c(1S) K_0^*(1430)^0)/\Gamma(B^0 \to \eta_c(1S) K^+\pi^-)] \times [B(K_0^*(1430) \to K\pi)] = 0.253 \pm 0.035 ^{+0.035}_{-0.028}$ which we divide by our best value $B(K_0^*(1430) \to K\pi) = (93 \pm 10) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042P34;LINKAGE=A

$\Gamma(\eta_c(1S) K_2^*(1430)^0)/\Gamma(\eta_c(1S) K^+\pi^-)$ $\Gamma_{206}/\Gamma_{201}$

NODE=S042P35

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
$8.2 ^{+3.6}_{-4.4} \pm 0.2$	[1] AAIJ 18AN	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 18AN reports $[\Gamma(B^0 \to \eta_c(1S) K_2^*(1430)^0)/\Gamma(B^0 \to \eta_c(1S) K^+\pi^-)] \times [B(K_2^*(1430) \to K\pi)] = 0.041 \pm 0.015 ^{+0.010}_{-0.016}$ which we divide by our best value $B(K_2^*(1430) \to K\pi) = (49.9 \pm 1.2) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042P35;LINKAGE=A

$\Gamma(\eta_c(1S) K^*(1680)^0)/\Gamma(\eta_c(1S) K^+\pi^-)$ $\Gamma_{207}/\Gamma_{201}$

NODE=S042P36

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
$5.7 ^{+6.5}_{-6.8} \pm 0.4$	[1] AAIJ 18AN	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 18AN reports $[\Gamma(B^0 \to \eta_c(1S) K^*(1680)^0)/\Gamma(B^0 \to \eta_c(1S) K^+\pi^-)] \times [B(K^*(1680) \to K\pi)] = 0.022 \pm 0.020 ^{+0.015}_{-0.017}$ which we divide by our best value $B(K^*(1680) \to K\pi) = (38.7 \pm 2.5) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042P36;LINKAGE=A

$\Gamma(\eta_c(1S) K_0^*(1950)^0)/\Gamma(\eta_c(1S) K^+\pi^-)$ $\Gamma_{208}/\Gamma_{201}$

NODE=S042P37

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
$7 ^{+4}_{-6} \pm 2$	[1] AAIJ 18AN	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 18AN reports $[\Gamma(B^0 \to \eta_c(1S) K_0^*(1950)^0)/\Gamma(B^0 \to \eta_c(1S) K^+\pi^-)] \times [B(K_0^*(1950) \to K^-\pi^+)] = 0.038 \pm 0.018 ^{+0.014}_{-0.025}$ which we divide by our best value $B(K_0^*(1950) \to K^-\pi^+) = (52 \pm 14) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042P37;LINKAGE=A

$\Gamma\big(T_{c\overline{c}}(4100)^- K^+,\ T^-_{c\overline{c}} \to \eta_c \pi^-\big)/\Gamma\big(\eta_c(1S) K^+ \pi^-\big)$ $\Gamma_{203}/\Gamma_{201}$

NODE=S042P38

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
$3.3 \pm 1.1 ^{+1.2}_{-1.1}$	AAIJ 18AN	LHCB	pp at 7, 8, 13 TeV

$\Gamma\big(\eta_c K^*(892)^0\big)/\Gamma_{\text{total}}$ Γ_{209}/Γ

NODE=S042B43

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
$5.3 ^{+1.0}_{-1.2}$ OUR AVERAGE Error includes scale factor of 2.0. See the ideogram below.			
[$(5.3^{+0.8}_{-0.9}) \times 10^{-4}$ OUR 2025 AVERAGE Scale factor = 1.7]			
$4.42 \pm 0.24 ^{+0.54}_{-0.66}$	[1] AAIJ 18AN	LHCB	pp at 7, 8, 13 TeV
$7.4 \pm 0.9 \pm 0.5$	[2,3] AUBERT 08AB	BABR	$e^+ e^- \to \Upsilon(4S)$
$9.3 ^{+2.9}_{-2.6} \pm 1.0$	[4,5] AUBERT 07AV	BABR	$e^+ e^- \to \Upsilon(4S)$
$16.2 \pm 3.2 ^{+5.5}_{-6.0}$	[5] FANG 03	BELL	$e^+ e^- \to \Upsilon(4S)$

NEW

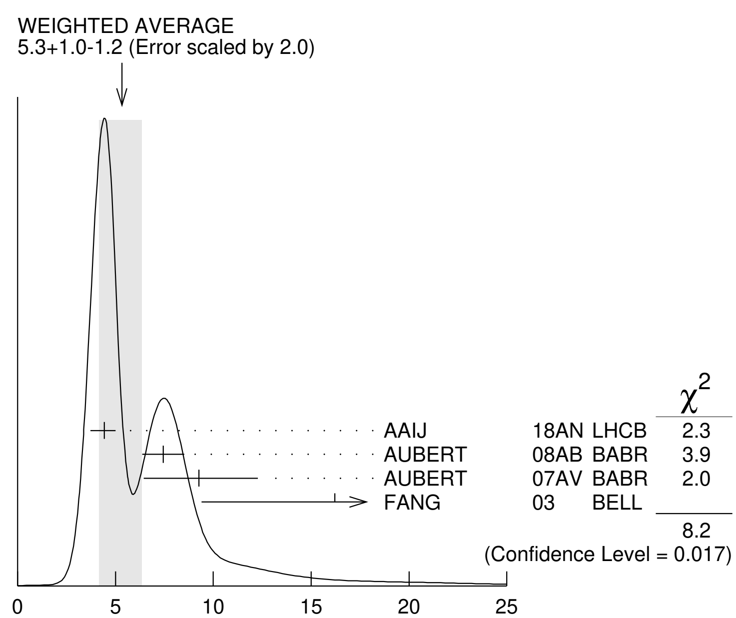
[1] AAIJ 18AN reports B($B^0 \to \eta_c K^*(892)^0$, $K^*(892)^0 \to K^+ \pi^-$) = $(2.95 \pm 0.16^{+0.36}_{-0.44}) \times 10^{-4}$ using the fitted fraction of $0.514 \pm 0.019^{+0.017}_{-0.048}$ from Dalitz decay of B($B^0 \to \eta_c K^+ \pi^-$)=$(5.73 \pm 0.24 \pm 0.67) \times 10^{-4}$ and corrected for B($K^*(892)^0 \to K^+ \pi^-$) = 2/3. NODE=S042B43;LINKAGE=A

[2] AUBERT 08AB reports [$\Gamma(B^0 \to \eta_c K^*(892)^0)/\Gamma_{\text{total}}$] / [B($B^+ \to \eta_c K^+$)] = $0.62 \pm 0.06 \pm 0.05$ which we multiply by our best value B($B^+ \to \eta_c K^+$) = $(1.20 \pm 0.08) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042B43;LINKAGE=AB

[3] Uses the production ratio of $(B^+ B^-)/(B^0 \overline{B}^0) = 1.026 \pm 0.032$ at $\Upsilon(4S)$. NODE=S042B43;LINKAGE=PR

[4] AUBERT 07AV reports [$\Gamma(B^0 \to \eta_c K^*(892)^0)/\Gamma_{\text{total}}$] × [B($\eta_c(1S) \to p\overline{p}$)] = $(1.03^{+0.27}_{-0.24} \pm 0.17) \times 10^{-6}$ which we divide by our best value B($\eta_c(1S) \to p\overline{p}$) = $(1.11 \pm 0.12) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042B43;LINKAGE=AU

[5] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B43;LINKAGE=EP



$\Gamma\big(\eta_c K^*(892)^0\big)/\Gamma_{\text{total}}$ (units 10^{-4})

$\Gamma\big(\eta_c(2S) K^0_S,\ \eta_c \to p\overline{p}\pi^+\pi^-\big)/\Gamma_{\text{total}}$ Γ_{210}/Γ

NODE=S042P48

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
$4.2 ^{+1.4}_{-1.2} {}^{+0.3}_{-0.3}$	CHILIKIN 19	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma\big(\eta_c(2S) K^{*0}\big)/\Gamma_{\text{total}}$ Γ_{211}/Γ

NODE=S042B35

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<3.9	90	[1] AUBERT 08AB	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Uses the production ratio of $(B^+ B^-)/(B^0 \overline{B}^0) = 1.026 \pm 0.032$ at $\Upsilon(4S)$. NODE=S042B35;LINKAGE=PR

$\Gamma(h_c(1P) K^0_S)/\Gamma_{total}$ Γ_{212}/Γ

NODE=S042P47

VALUE	DOCUMENT ID		TECN	COMMENT
<1.4 × 10^{-5}	CHILIKIN	19	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(B^0 \to h_c(1P) K^{*0})/\Gamma_{total} \times \Gamma(h_c(1P) \to \gamma\eta_c(1S))/\Gamma_{total}$ $\Gamma_{213}/\Gamma \times \Gamma^{h_c(1P)}_{30}/\Gamma^{h_c(1P)}$

NODE=S042B87

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<2.2	90	[1] AUBERT	08AB	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Uses the production ratio of $(B^+ B^-)/(B^0 \overline{B}^0) = 1.026 \pm 0.032$ at $\Upsilon(4S)$. NODE=S042B87;LINKAGE=PR

$\Gamma(\eta_c K^*(892)^0)/\Gamma(\eta_c K^0)$ $\Gamma_{209}/\Gamma_{200}$

NODE=S042B44

VALUE	DOCUMENT ID		TECN	COMMENT
$1.33 \pm 0.36^{+0.24}_{-0.33}$	FANG	03	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(J/\psi(1S) K^0)/\Gamma_{total}$ Γ_{214}/Γ

NODE=S042R23

VALUE (units 10^{-4})	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
8.91±0.21 OUR FIT						
8.91±0.21 OUR AVERAGE						
9.02±0.10±0.26			[1] CHOUDHURY	21	BELL	$e^+ e^- \to \Upsilon(4S)$
8.1 ±0.9 ±0.6			[2] CHILIKIN	19	BELL	$e^+ e^- \to \Upsilon(4S)$
$8.8\ ^{+1.4}_{-1.3}\ \pm 0.1$			[3,4] AUBERT	07AV	BABR	$e^+ e^- \to \Upsilon(4S)$
8.69±0.22±0.30			[4] AUBERT	05J	BABR	$e^+ e^- \to \Upsilon(4S)$
9.5 ±0.8 ±0.6			[4] AVERY	00	CLE2	$e^+ e^- \to \Upsilon(4S)$
11.5 ±2.3 ±1.7			[5] ABE	96H	CDF	$p\overline{p}$ at 1.8 TeV
6.93±4.07±0.04			[6] BORTOLETTO	92	CLEO	$e^+ e^- \to \Upsilon(4S)$
9.24±7.21±0.05		2	[7] ALBRECHT	90J	ARG	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
7.9 ±0.4 ±0.9			[4] ABE	03B	BELL	Repl. by CHOUDHURY 21
8.3 ±0.4 ±0.5			[4] AUBERT	02	BABR	Repl. by AUBERT 05J
$8.5\ ^{+1.4}_{-1.2}\ \pm 0.6$			[4] JESSOP	97	CLE2	Repl. by AVERY 00
7.5 ±2.4 ±0.8		10	[6] ALAM	94	CLE2	Sup. by JESSOP 97
<50	90		ALAM	86	CLEO	$e^+ e^- \to \Upsilon(4S)$

[1] CHOUDHURY 21 uses the relative production fraction of charged (f^{+-}) to neutral (f^{00}) B mesons at $\Upsilon(4S)$ value of $f^{+-}/f^{00} = 1.058 \pm 0.024$. NODE=S042R23;LINKAGE=B

[2] CHILIKIN 19 reports $[\Gamma(B^0 \to J/\psi(1S) K^0)/\Gamma_{total}] \times [B(J/\psi(1S) \to p\overline{p}\pi^+\pi^-)] = (48.6^{+4.6}_{-4.4}{}^{+2.4}_{-2.6}) \times 10^{-7}$ which we divide by our best value $B(J/\psi(1S) \to p\overline{p}\pi^+\pi^-) = (6.0 \pm 0.5) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R23;LINKAGE=A

[3] AUBERT 07AV reports $[\Gamma(B^0 \to J/\psi(1S) K^0)/\Gamma_{total}] \times [B(J/\psi(1S) \to p\overline{p})] = (1.87^{+0.28}_{-0.26} \pm 0.07) \times 10^{-6}$ which we divide by our best value $B(J/\psi(1S) \to p\overline{p}) = (2.121 \pm 0.029) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R23;LINKAGE=AU

[4] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R23;LINKAGE=EP

[5] ABE 96H assumes that $B(B^+ \to J/\psi K^+) = (1.02 \pm 0.14) \times 10^{-3}$. NODE=S042R23;LINKAGE=AH

[6] BORTOLETTO 92 reports $(6 \pm 3 \pm 2) \times 10^{-4}$ from a measurement of $[\Gamma(B^0 \to J/\psi(1S) K^0)/\Gamma_{total}] \times [B(J/\psi(1S) \to e^+ e^-)]$ assuming $B(J/\psi(1S) \to e^+ e^-) = 0.069 \pm 0.009$, which we rescale to our best value $B(J/\psi(1S) \to e^+ e^-) = (5.971 \pm 0.032) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R23;LINKAGE=B9

[7] ALBRECHT 90J reports $(8 \pm 6 \pm 2) \times 10^{-4}$ from a measurement of $[\Gamma(B^0 \to J/\psi(1S) K^0)/\Gamma_{total}] \times [B(J/\psi(1S) \to e^+ e^-)]$ assuming $B(J/\psi(1S) \to e^+ e^-) = 0.069 \pm 0.009$, which we rescale to our best value $B(J/\psi(1S) \to e^+ e^-) = (5.971 \pm 0.032) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R23;LINKAGE=9B

$\Gamma(J/\psi(1S) K^+ \pi^-)/\Gamma_{total}$ Γ_{215}/Γ

NODE=S042R4

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
1.15 ±0.05 OUR AVERAGE					
1.15 ±0.01 ±0.05		CHILIKIN	14	BELL	$\overline{B}^0 \to J/\psi K^- \pi^+$
1.16 ±0.56 ±0.01		[1] BORTOLETTO	92	CLEO	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.079±0.011		[2] AUBERT	09AA	BABR	$e^+ e^- \to \Upsilon(4S)$
<1.3	90	[3] ALBRECHT	87D	ARG	$e^+ e^- \to \Upsilon(4S)$
<6.3	90	GILES	84	CLEO	$e^+ e^- \to \Upsilon(4S)$

[1] BORTOLETTO 92 reports $(1.0 \pm 0.4 \pm 0.3) \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to J/\psi(1S) K^+ \pi^-)/\Gamma_{total}] \times [B(J/\psi(1S) \to e^+ e^-)]$ assuming $B(J/\psi(1S) \to e^+ e^-) = 0.069 \pm 0.009$, which we rescale to our best value $B(J/\psi(1S) \to e^+ e^-) = (5.971 \pm 0.032) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R4;LINKAGE=B9

[2] Does not report systematic uncertainties. NODE=S042R4;LINKAGE=AU

[3] ALBRECHT 87D assume $B^+ B^- / B^0 \overline{B}^0$ ratio is 55/45. $K\pi$ system is specifically selected as nonresonant. NODE=S042R4;LINKAGE=C

$\Gamma(J/\psi(1S) K^*(892)^0)/\Gamma_{total}$ Γ_{216}/Γ

NODE=S042R22

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
1.27 ±0.05 OUR FIT					
1.28 ±0.05 OUR AVERAGE					
1.19 ±0.01 ±0.08		CHILIKIN	14	BELL	$\overline{B}^0 \to J/\psi K^- \pi^+$
1.33 $^{+0.22}_{-0.21}$ ±0.02		[1,2] AUBERT	07AV	BABR	$e^+ e^- \to \Upsilon(4S)$
1.309±0.026±0.077		[2] AUBERT	05J	BABR	$e^+ e^- \to \Upsilon(4S)$
1.29 ±0.05 ±0.13		[2] ABE	02N	BELL	$e^+ e^- \to \Upsilon(4S)$
1.74 ±0.20 ±0.18		[3] ABE	98O	CDF	$p\overline{p}$ 1.8 TeV
1.32 ±0.17 ±0.17		[4] JESSOP	97	CLE2	$e^+ e^- \to \Upsilon(4S)$
1.27 ±0.65 ±0.01		[5] BORTOLETTO	92	CLEO	$e^+ e^- \to \Upsilon(4S)$
1.27 ±0.60 ±0.01	6	[6] ALBRECHT	90J	ARG	$e^+ e^- \to \Upsilon(4S)$
4.04 ±1.81 ±0.02	5	[7] BEBEK	87	CLEO	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.24 ±0.05 ±0.09		[2] AUBERT	02	BABR	Repl. by AUBERT 05J
1.36 ±0.27 ±0.22		[8] ABE	96H	CDF	Sup. by ABE 98O
1.69 ±0.31 ±0.18	29	[9] ALAM	94	CLE2	Sup. by JESSOP 97
		[10] ALBRECHT	94G	ARG	$e^+ e^- \to \Upsilon(4S)$
4.0 ±0.30		[11] ALBAJAR	91E	UA1	$E^{p\overline{p}}_{cm}$= 630 GeV
3.3 ±0.18	5	[12] ALBRECHT	87D	ARG	$e^+ e^- \to \Upsilon(4S)$
4.1 ±0.18	5	[13] ALAM	86	CLEO	Repl. by BEBEK 87

[1] AUBERT 07AV reports $[\Gamma(B^0 \to J/\psi(1S) K^*(892)^0)/\Gamma_{total}] \times [B(J/\psi(1S) \to p\overline{p})] = (2.82 {}^{+0.30}_{-0.28} {}^{+0.36}_{-0.35}) \times 10^{-6}$ which we divide by our best value $B(J/\psi(1S) \to p\overline{p}) = (2.121 \pm 0.029) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R22;LINKAGE=AU

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R22;LINKAGE=EP

[3] ABE 98O reports $[B(B^0 \to J/\psi(1S) K^*(892)^0)]/[B(B^+ \to J/\psi(1S) K^+)] = 1.76 \pm 0.14 \pm 0.15$. We multiply by our best value $B(B^+ \to J/\psi(1S) K^+) = (9.9 \pm 1.0) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R22;LINKAGE=ME

[4] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R22;LINKAGE=JJ

[5] BORTOLETTO 92 reports $(1.1 \pm 0.5 \pm 0.3) \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to J/\psi(1S) K^*(892)^0)/\Gamma_{total}] \times [B(J/\psi(1S) \to e^+ e^-)]$ assuming $B(J/\psi(1S) \to e^+ e^-) = 0.069 \pm 0.009$, which we rescale to our best value $B(J/\psi(1S) \to e^+ e^-) = (5.971 \pm 0.032) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R22;LINKAGE=B9

[6] ALBRECHT 90J reports $(1.1 \pm 0.5 \pm 0.2) \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to J/\psi(1S) K^*(892)^0)/\Gamma_{total}] \times [B(J/\psi(1S) \to e^+ e^-)]$ assuming $B(J/\psi(1S) \to e^+ e^-) = 0.069 \pm 0.009$, which we rescale to our best value $B(J/\psi(1S) \to e^+ e^-) = (5.971 \pm 0.032) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R22;LINKAGE=9B

[7] BEBEK 87 reports $(3.5 \pm 1.6 \pm 0.3) \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to J/\psi(1S) K^*(892)^0)/\Gamma_{total}] \times [B(J/\psi(1S) \to e^+ e^-)]$ assuming $B(J/\psi(1S) \to$ NODE=S042R22;LINKAGE=B

e^+e^-) = 0.069 ± 0.009, which we rescale to our best value B($J/\psi(1S) \to e^+e^-$) = (5.971 ± 0.032) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. Updated in BORTOLETTO 92 to use the same assumptions.

[8] ABE 96H assumes that B($B^+ \to J/\psi K^+$) = (1.02 ± 0.14) × 10^{-3}. NODE=S042R22;LINKAGE=AH

[9] The neutral and charged B events together are predominantly longitudinally polarized, Γ_L/Γ =0.080 ± 0.08 ± 0.05. This can be compared with a prediction using HQET, 0.73 (KRAMER 92). This polarization indicates that the $B \to \psi K^*$ decay is dominated by the $CP = -1$ CP eigenstate. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R22;LINKAGE=I

[10] ALBRECHT 94G measures the polarization in the vector-vector decay to be predominantly longitudinal, $\Gamma_T/\Gamma = 0.03 \pm 0.16 \pm 0.15$ making the neutral decay a CP eigenstate when the K^{*0} decays through $K^0_S \pi^0$. NODE=S042R22;LINKAGE=AA

[11] ALBAJAR 91E assumes B^0_d production fraction of 36%. NODE=S042R22;LINKAGE=D

[12] ALBRECHT 87D assume $B^+B^-/B^0\overline{B}^0$ ratio is 55/45. Superseded by ALBRECHT 90J. NODE=S042R22;LINKAGE=C

[13] ALAM 86 assumes $B^\pm/B^0$ ratio is 60/40. The observation of the decay $B^+ \to J/\psi K^*(892)^+$ (HAAS 85) has been retracted in this paper. NODE=S042R22;LINKAGE=A

$\Gamma(J/\psi(1S)K^*(892)^0)/\Gamma(J/\psi(1S)K^0)$ — $\Gamma_{216}/\Gamma_{214}$

NODE=S042S45
NODE=S042S45

VALUE		DOCUMENT ID		TECN	COMMENT
1.50±0.09 OUR AVERAGE					
1.51±0.05±0.08		AUBERT	05J	BABR	$e^+e^- \to \Upsilon(4S)$
1.39±0.36±0.10		ABE	96Q	CDF	$p\overline{p}$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.49±0.10±0.08	[1]	AUBERT	02	BABR	Repl. by AUBERT 05J

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S45;LINKAGE=EP

$\Gamma(J/\psi(1S)\eta K^0_S)/\Gamma_{total}$ — Γ_{217}/Γ

NODE=S042Q03
NODE=S042Q03

VALUE (units 10^{-5})		DOCUMENT ID		TECN	COMMENT
5.4 ±0.9 OUR AVERAGE					
5.22±0.78±0.49	[1]	IWASHITA	14	BELL	$e^+e^- \to \Upsilon(4S)$
8.4 ±2.6 ±2.7	[1]	AUBERT	04Y	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q03;LINKAGE=EP

$\Gamma(J/\psi(1S)\eta' K^0_S)/\Gamma_{total}$ — Γ_{218}/Γ

NODE=S042Q71
NODE=S042Q71

VALUE (units 10^{-5})	CL%		DOCUMENT ID		TECN	COMMENT
<2.5	90	[1]	XIE	07	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q71;LINKAGE=EP

$\Gamma(J/\psi(1S)\omega K^0)/\Gamma_{total}$ — Γ_{220}/Γ

NODE=S042B90
NODE=S042B90

VALUE (units 10^{-4})		DOCUMENT ID		TECN	COMMENT
2.3±0.3±0.3	[1]	DEL-AMO-SA..	10B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
3.1±0.6±0.3	[1]	AUBERT	08W	BABR	Repl. by DEL-AMO-SANCHEZ 10B

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B90;LINKAGE=EP

$\Gamma(\chi_{c0}(3915),\ \chi_{c0} \to J/\psi\omega)/\Gamma_{total}$ — Γ_{221}/Γ

NODE=S042C03
NODE=S042C03

VALUE (units 10^{-5})		DOCUMENT ID		TECN	COMMENT
2.1±0.9±0.3	[1]	DEL-AMO-SA..	10B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$1.3^{+1.3}_{-1.1}\pm0.2$	[1,2]	AUBERT	08W	BABR	Repl. by DEL-AMO-SANCHEZ 10B

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042C03;LINKAGE=EP

[2] Corresponds to upper limit of 3.9 × 10^{-5} at 90% CL. NODE=S042C03;LINKAGE=AU

$\Gamma(J/\psi(1S)\phi K^0)/\Gamma_{total}$ — Γ_{219}/Γ

NODE=S042S93
NODE=S042S93

VALUE (units 10^{-5})		DOCUMENT ID		TECN	COMMENT
4.9 ±1.0 OUR AVERAGE Error includes scale factor of 1.3.					
4.43±0.76±0.19		LEES	15	BABR	$e^+e^- \to \Upsilon(4S)$
10.2 ±3.8 ±1.0	[1]	AUBERT	03O	BABR	$e^+e^- \to \Upsilon(4S)$
8.8 $^{+3.5}_{-3.0}$ ±1.3	[2]	ANASTASSOV	00	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S93;LINKAGE=EP

[2] ANASTASSOV 00 finds 10 events on a background of 0.5 ± 0.2. Assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$, a uniform Dalitz plot distribution, isotropic $J/\psi(1S)$ and ϕ decays, and B($B^+ \to J/\psi(1S)\phi K^+$)= B($B^0 \to J/\psi(1S)\phi K^0$). NODE=S042S93;LINKAGE=AV

$\Gamma(J/\psi(1S)K(1270)^0)/\Gamma_{total}$ — Γ_{222}/Γ

NODE=S042B6
NODE=S042B6

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
1.30±0.34±0.32	[1] ABE	01L	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses the PDG value of $B(B^+ \to J/\psi(1S)K^+) = (1.00 \pm 0.10) \times 10^{-3}$. NODE=S042B6;LINKAGE=A1

$\Gamma(J/\psi(1S)\pi^0)/\Gamma_{total}$ — Γ_{223}/Γ

NODE=S042S35
NODE=S042S35

1.73±0.09 OUR AVERAGE Error includes scale factor of 1.2. [$(1.65\pm0.08)\times10^{-5}$ OUR 2025 AVERAGE] NEW

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
2.00±0.12±0.09		[1] ADACHI	25C	BELL	$e^+e^- \to \Upsilon(4S)$
1.65±0.10±0.09		[2] AAIJ	24N	LHCB	pp at 7, 8, 13 TeV
1.62±0.11±0.06		[3] PAL	18	BELL	$e^+e^- \to \Upsilon(4S)$
1.69±0.14±0.07		[3] AUBERT	08AU	BABR	$e^+e^- \to \Upsilon(4S)$
$2.5\ ^{+1.1}_{-0.9}\ \pm0.2$		[3] AVERY	00	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.94±0.22±0.17		[3] AUBERT,B	06B	BABR	Repl. by AUBERT 08AU
2.3 ±0.5 ±0.2		[3] ABE	03B	BELL	Repl. by PAL 18
2.0 ±0.6 ±0.2		[3] AUBERT	02	BABR	Repl. by AUBERT,B 06B
< 32	90	[4] ACCIARRI	97C	L3	
< 5.8	90	BISHAI	96	CLE2	Sup. by AVERY 00
<690	90	[3] ALEXANDER	95	CLE2	Sup. by BISHAI 96

OCCUR=2

[1] ADACHI 25C uses $B(\Upsilon(4S) \to B^+B^-)/B(\Upsilon(4S) \to B^0\overline{B}^0) = 1.052 \pm 0.031$. NODE=S042S35;LINKAGE=B

[2] AAIJ 24N reports $[\Gamma(B^0 \to J/\psi(1S)\pi^0)/\Gamma_{total}] / [B(B^+ \to J/\psi(1S)K^*(892)^+)] = (1.153 \pm 0.053 \pm 0.048) \times 10^{-2}$ which we multiply by our best value $B(B^+ \to J/\psi(1S)K^*(892)^+) = (1.43 \pm 0.08) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042S35;LINKAGE=A

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S35;LINKAGE=EP

[4] ACCIARRI 97C assumes B^0 production fraction (39.5 ± 4.0)% and B_s (12.0 ± 3.0)%. NODE=S042S35;LINKAGE=CQ

$\Gamma(J/\psi(1S)\eta)/\Gamma_{total}$ — Γ_{224}/Γ

NODE=S042S51
NODE=S042S51

10.8±2.3 OUR AVERAGE Error includes scale factor of 1.5.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
7.3±2.5±1.3		[1] AAIJ	15D	LHCB	pp at 7, 8 TeV
$12.3^{+1.8}_{-1.7}\pm0.7$		[2,3] CHANG	12	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
9.5±1.7±0.8		[3] CHANG	07A	BELL	Repl. by CHANG 12
< 27	90	[3] AUBERT	03O	BABR	$e^+e^- \to \Upsilon(4S)$
<1200	90	[4] ACCIARRI	97C	L3	

[1] AAIJ 15D reports $[\Gamma(B^0 \to J/\psi(1S)\eta)/\Gamma_{total}] / [B(B^0_s \to J/\psi(1S)\eta)] = (1.85 \pm 0.61 \pm 0.14) \times 10^{-2}$ which we multiply by our best value $B(B^0_s \to J/\psi(1S)\eta) = (4.0 \pm 0.7) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042S51;LINKAGE=AA

[2] Reconstructs η in $\gamma\gamma$ and $\pi^+\pi^-\pi^0$ decays. NODE=S042S51;LINKAGE=CH

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S51;LINKAGE=EP

[4] ACCIARRI 97C assumes B^0 production fraction (39.5 ± 4.0%) and B_s (12.0 ± 3.0%). NODE=S042S51;LINKAGE=CQ

$\Gamma(J/\psi(1S)\pi^+\pi^-)/\Gamma_{total}$ — Γ_{225}/Γ

NODE=S042B45
NODE=S042B45

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
3.99±0.15 OUR AVERAGE				
3.97±0.14±0.07	[1,2] AAIJ	13M	LHCB	pp at 7 TeV
4.6 ±0.7 ±0.6	[3] AUBERT	03B	BABR	$e^+e^- \to \Upsilon(4S)$

[1] AAIJ 13M reports $(3.97 \pm 0.09 \pm 0.11 \pm 0.16) \times 10^{-5}$ from a measurement of $[\Gamma(B^0 \to J/\psi(1S)\pi^+\pi^-)/\Gamma_{total}] / [B(B^+ \to J/\psi(1S)K^+)]$ assuming $B(B^+ \to J/\psi(1S)K^+) = (1.018 \pm 0.042) \times 10^{-3}$, which we rescale to our best value $B(B^+ \to J/\psi(1S)K^+) = (1.019 \pm 0.019) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042B45;LINKAGE=AI

[2] AAIJ 13M does not report correlations between various measurements of the $J/\psi\pi\pi$ final state. NODE=S042B45;LINKAGE=NC

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B45;LINKAGE=EP

$\Gamma(J/\psi(1S)\pi^+\pi^-$ nonresonant$)/\Gamma_{total}$ — Γ_{226}/Γ

NODE=S042Q74
NODE=S042Q74

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
<1.2	90	[1] AUBERT 07AC	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q74;LINKAGE=EP

$\Gamma(J/\psi(1S)f_0(500),\ f_0 \to \pi\pi)/\Gamma_{total}$ — Γ_{227}/Γ

NODE=S042C11
NODE=S042C11

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$\mathbf{8.8 \pm 0.5^{+1.1}_{-1.5}}$	[1] AAIJ 14X	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$6.4^{+2.5}_{-1.1} \pm 0.2$	[2,3] AAIJ 13M	LHCB	Repl. by AAIJ 14X

[1] AAIJ 14X uses Dalitz plot analysis of $B^0 \to J/\psi\pi^+\pi^-$.

NODE=S042C11;LINKAGE=AA

[2] AAIJ 13M reports $(6.4 \pm 0.8^{+2.4}_{-0.8}) \times 10^{-6}$ from a measurement of $[\Gamma(B^0 \to J/\psi(1S)f_0(500),\ f_0 \to \pi\pi)/\Gamma_{total}]$ / $[B(B^0 \to J/\psi(1S)\pi^+\pi^-)]$ assuming $B(B^0 \to J/\psi(1S)\pi^+\pi^-) = (3.97 \pm 0.09 \pm 0.11 \pm 0.16) \times 10^{-5}$, which we rescale to our best value $B(B^0 \to J/\psi(1S)\pi^+\pi^-) = (3.99 \pm 0.15) \times 10^{-5}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042C11;LINKAGE=AI

[3] AAIJ 13M does not report correlations between various measurements of the $J/\psi\pi\pi$ final state. Measured in Dalitz plot like analysis of $B^0 \to J/\psi\pi^+\pi^-$.

NODE=S042C11;LINKAGE=NC

$\Gamma(J/\psi(1S)f_2)/\Gamma_{total}$ — Γ_{228}/Γ

NODE=S042Q75
NODE=S042Q75

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
$\mathbf{0.33^{+0.05}_{-0.06}}$ **OUR AVERAGE** Error includes scale factor of 1.5.				
$0.30 \pm 0.03^{+0.02}_{-0.03}$		[1] AAIJ 14X	LHCB	pp at 7, 8 TeV
$0.42 \pm 0.06 \pm 0.02$		[2,3] AAIJ 13M	LHCB	pp at 7 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<0.5	90	[4,5] AUBERT 07AC	BABR	$e^+e^- \to \Upsilon(4S)$

[1] AAIJ 14X uses Dalitz plot analysis of $B^0 \to J/\psi\pi^+\pi^-$.

NODE=S042Q75;LINKAGE=AA

[2] AAIJ 13M reports $[\Gamma(B^0 \to J/\psi(1S)f_2)/\Gamma_{total}] \times [B(f_2(1270) \to \pi\pi)] = (3.5 \pm 0.4 \pm 0.4) \times 10^{-6}$ from a measurement of $[\Gamma(B^0 \to J/\psi(1S)f_2)/\Gamma_{total}] \times [B(f_2(1270) \to \pi\pi)]$ / $[B(B^0 \to J/\psi(1S)\pi^+\pi^-)]$ assuming $B(B^0 \to J/\psi(1S)\pi^+\pi^-) = (3.97 \pm 0.09 \pm 0.11 \pm 0.16) \times 10^{-5}$, which we rescale to our best values $B(f_2(1270) \to \pi\pi) = (84.3^{+2.8}_{-1.0}) \times 10^{-2}$, $B(B^0 \to J/\psi(1S)\pi^+\pi^-) = (3.99 \pm 0.15) \times 10^{-5}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

NODE=S042Q75;LINKAGE=AI

[3] AAIJ 13M does not report correlations between various measurements of the $J/\psi\pi\pi$ final state. Measured in Dalitz plot like analysis of $B^0 \to J/\psi\pi^+\pi^-$.

NODE=S042Q75;LINKAGE=NC

[4] AUBERT 07AC reports $[\Gamma(B^0 \to J/\psi(1S)f_2)/\Gamma_{total}] \times [B(f_2(1270) \to \pi\pi)] < 0.46 \times 10^{-5}$ which we divide by our best value $B(f_2(1270) \to \pi\pi) = 84.3 \times 10^{-2}$.

NODE=S042Q75;LINKAGE=AU

[5] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q75;LINKAGE=EP

$\Gamma(J/\psi(1S)\rho^0)/\Gamma_{total}$ — Γ_{229}/Γ

NODE=S042S46
NODE=S042S46

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
$\mathbf{2.55^{+0.18}_{-0.16}}$ **OUR AVERAGE**				
$2.50 \pm 0.10^{+0.18}_{-0.15}$		[1] AAIJ 14X	LHCB	pp at 7, 8 TeV
$2.7 \pm 0.3 \pm 0.2$		[2] AUBERT 07AC	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$2.50^{+0.22}_{-0.23} \pm 0.10$		[3,4] AAIJ 13M	LHCB	Repl. by AAIJ 14X
$1.6 \pm 0.6 \pm 0.4$		[2] AUBERT 03B	BABR	Repl. by AUBERT 07AC
<25	90	BISHAI 96	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] AAIJ 14X uses Dalitz plot analysis of $B^0 \to J/\psi\pi^+\pi^-$. We assume $B(\rho(770)^0 \to \pi^+\pi^-) = 100\%$.

NODE=S042S46;LINKAGE=AA

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S46;LINKAGE=EP

[3] AAIJ 13M reports $(2.49^{+0.20}_{-0.13}{}^{+0.16}_{-0.23}) \times 10^{-5}$ from a measurement of $[\Gamma(B^0 \to J/\psi(1S)\rho^0)/\Gamma_{total}]$ / $[B(B^0 \to J/\psi(1S)\pi^+\pi^-)]$ assuming $B(B^0 \to J/\psi(1S)\pi^+\pi^-) = (3.97 \pm 0.09 \pm 0.11 \pm 0.16) \times 10^{-5}$, which we rescale to our best value $B(B^0 \to J/\psi(1S)\pi^+\pi^-) = (3.99 \pm 0.15) \times 10^{-5}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042S46;LINKAGE=AI

[4] AAIJ 13M does not report correlations between various measurements of the $J/\psi\pi\pi$ final state. Measured in Dalitz plot like analysis of $B^0 \to J/\psi\pi^+\pi^-$. Assumes $B(\rho(770)^0 \to \pi\pi) = 100\%$.

NODE=S042S46;LINKAGE=NC

$\Gamma(J/\psi(1S) f_0(980),\ f_0 \to \pi^+\pi^-)/\Gamma_{total}$ — Γ_{230}/Γ

NODE=S042C12
NODE=S042C12

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.1 × 10^{-6}	90	[1] AAIJ	13M	LHCB	pp at 7 TeV

[1] AAIJ 13M does not provide correlations between various measurements of the $J/\psi\pi^+\pi^-$ final state. The measurements were obtained from a Dalitz plot like analysis of $B^0 \to J/\psi\pi^+\pi^-$. Also reports $\Gamma(J/\psi(1S) f_0(980),\ f_0 \to \pi^+\pi^-)/\Gamma_{total} = (6.1^{+3.1}_{-2.0}{}^{+1.7}_{-1.4}) \times 10^{-6}$.

NODE=S042C12;LINKAGE=NC

$\Gamma(J/\psi(1S)\rho(1450)^0,\ \rho^0 \to \pi\pi)/\Gamma_{total}$ — Γ_{231}/Γ

NODE=S042C13
NODE=S042C13

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$2.9^{+1.6}_{-0.7}$ OUR AVERAGE				
$4.6\pm1.1\pm1.9$	[1] AAIJ	14X	LHCB	pp at 7, 8 TeV
$2.1^{+2.4}_{-0.7}\pm0.1$	[2,3] AAIJ	13M	LHCB	pp at 7 TeV

[1] AAIJ 14X uses Dalitz plot analysis of $B^0 \to J/\psi\pi^+\pi^-$.

NODE=S042C13;LINKAGE=AA

[2] AAIJ 13M reports $(2.1^{+1.0}_{-0.6}{}^{+2.2}_{-0.4}) \times 10^{-6}$ from a measurement of $[\Gamma(B^0 \to J/\psi(1S)\rho(1450)^0,\ \rho^0 \to \pi\pi)/\Gamma_{total}]\ /\ [B(B^0 \to J/\psi(1S)\pi^+\pi^-)]$ assuming $B(B^0 \to J/\psi(1S)\pi^+\pi^-) = (3.97 \pm 0.09 \pm 0.11 \pm 0.16) \times 10^{-5}$, which we rescale to our best value $B(B^0 \to J/\psi(1S)\pi^+\pi^-) = (3.99 \pm 0.15) \times 10^{-5}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042C13;LINKAGE=AI

[3] AAIJ 13M does not report correlations between various measurements of the $J/\psi\pi\pi$ final state. Measured in Dalitz plot like analysis of $B^0 \to J/\psi\pi^+\pi^-$.

NODE=S042C13;LINKAGE=NC

$\Gamma(J/\psi\rho(1700)^0,\ \rho^0 \to \pi^+\pi^-)/\Gamma_{total}$ — Γ_{232}/Γ

NODE=S042C28
NODE=S042C28

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$2.0\pm0.5\pm1.2$	[1] AAIJ	14X	LHCB	pp at 7, 8 TeV

[1] AAIJ 14X uses Dalitz plot analysis of $B^0 \to J/\psi\pi^+\pi^-$.

NODE=S042C28;LINKAGE=AA

$\Gamma(J/\psi(1S)\omega)/\Gamma_{total}$ — Γ_{233}/Γ

NODE=S042S47
NODE=S042S47

NEW

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
2.08 ± 0.29 OUR AVERAGE					
$[(1.8^{+0.7}_{-0.5}) \times 10^{-5}$ OUR 2025 AVERAGE]					
$2.16\pm0.30\pm0.14$		[1] ADACHI	25E	BELL	$e^+e^- \to \Upsilon(4S)$
$1.8\ ^{+0.7}_{-0.5}\ \pm0.1$		[2] AAIJ	14X	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<27	90	BISHAI	96	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] ADACHI 25E uses $B(\Upsilon(4S) \to B^+B^-)/B(\Upsilon(4S) \to B^0\overline{B}^0) = 1.052 \pm 0.031$.

NODE=S042S47;LINKAGE=A

[2] AAIJ 14X reports $[\Gamma(B^0 \to J/\psi(1S)\omega)/\Gamma_{total}] \times [B(\omega(782) \to \pi^+\pi^-)] = (2.7^{+0.8}_{-0.6}{}^{+0.7}_{-0.5}) \times 10^{-7}$ which we divide by our best value $B(\omega(782) \to \pi^+\pi^-) = (1.53 \pm 0.12) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042S47;LINKAGE=AA

$\Gamma(J/\psi(1S)\omega)/\Gamma(J/\psi(1S)\rho^0)$ — $\Gamma_{233}/\Gamma_{229}$

NODE=S042C14
NODE=S042C14

VALUE	DOCUMENT ID		TECN	COMMENT
$0.61^{+0.39}_{-0.21}\pm0.05$	[1,2] AAIJ	13M	LHCB	pp at 7 TeV

[1] AAIJ 13M reports $0.61^{+0.24}_{-0.14}{}^{+0.31}_{-0.16}$ from a measurement of $[\Gamma(B^0 \to J/\psi(1S)\omega)/\Gamma(B^0 \to J/\psi(1S)\rho^0)] \times [B(\omega(782) \to \pi^+\pi^-)]$ assuming $B(\omega(782) \to \pi^+\pi^-) = (1.53^{+0.11}_{-0.13}) \times 10^{-2}$, which we rescale to our best value $B(\omega(782) \to \pi^+\pi^-) = (1.53 \pm 0.12) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042C14;LINKAGE=AI

[2] AAIJ 13M does not report correlations between various measurements of the $J/\psi\pi\pi$ final state. Measured in Dalitz plot like analysis of $B^0 \to J/\psi\pi^+\pi^-$. Assumes $B(\rho(770)^0 \to \pi\pi) = 100\%$.

NODE=S042C14;LINKAGE=NC

$\Gamma(J/\psi(1S)\omega)/\Gamma(J/\psi(1S)\rho^0)$ — $\Gamma_{233}/\Gamma_{229}$

NODE=S042C06
NODE=S042C06

VALUE	DOCUMENT ID		TECN	COMMENT
$0.89\pm0.19^{+0.07}_{-0.13}$	AAIJ	13A	LHCB	pp at 7 TeV

$\Gamma(J/\psi(1S) K^+ K^-)/\Gamma_{total}$ — Γ_{234}/Γ

NODE=S042BA1

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
2.53±0.35±0.05	[1] AAIJ 13BT	LHCB	pp at 7 TeV

[1] AAIJ 13BT reports $(2.53 \pm 0.31 \pm 0.19) \times 10^{-6}$ from a measurement of $[\Gamma(B^0 \to J/\psi(1S) K^+ K^-)/\Gamma_{total}]$ / $[B(B^+ \to J/\psi(1S) K^+)]$ assuming $B(B^+ \to J/\psi(1S) K^+) = (1.018 \pm 0.042) \times 10^{-3}$, which we rescale to our best value $B(B^+ \to J/\psi(1S) K^+) = (1.019 \pm 0.019) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042BA1;LINKAGE=AA

$\Gamma(J/\psi(1S) a_0(980),\ a_0 \to K^+ K^-)/\Gamma_{total}$ — Γ_{235}/Γ

NODE=S042BA2

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
0.470±0.331±0.072	[1] AAIJ 13BT	LHCB	pp at 7 TeV

[1] AAIJ 13BT uses $B(\overline{B}^0 \to J/\psi K^+ K^-) = (2.53 \pm 0.31 \pm 0.19) \times 10^{-6}$ to derive this result. It also reports the equivalent upper limit of $< 9.0 \times 10^{-7}$ at 90% CL. NODE=S042BA2;LINKAGE=AA

$\Gamma(J/\psi(1S) \phi)/\Gamma_{total}$ — Γ_{236}/Γ

NODE=S042B53

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$< 1.1 \times 10^{-7}$	90	AAIJ 21K	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$<10.1 \times 10^{-7}$	90	LEES 15	BABR	$e^+ e^- \to \Upsilon(4S)$
$< 1.9 \times 10^{-7}$	90	[1] AAIJ 13BT	LHCB	pp at 7 TeV
$< 9.4 \times 10^{-7}$	90	[2] LIU 08I	BELL	$e^+ e^- \to \Upsilon(4S)$
$< 9.2 \times 10^{-6}$	90	[2] AUBERT 03O	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] AAIJ 13BT uses $B(B^0 \to J/\psi(1S) K^+ K^-) = (2.53 \pm 0.31 \pm 0.19) \times 10^{-6}$ and $B(\phi \to K^+ K^-) = (48.9 \pm 0.5)\%$ to obtain this result. NODE=S042B53;LINKAGE=AA

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B53;LINKAGE=EP

$\Gamma(J/\psi(1S) \eta'(958))/\Gamma_{total}$ — Γ_{237}/Γ

NODE=S042B54

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
7.6±2.2±1.0		[1] AAIJ 15D	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
< 7.4	90	[2,3] CHANG 12	BELL	$e^+ e^- \to \Upsilon(4S)$
<63	90	[3] AUBERT 03O	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] AAIJ 15D reports $[\Gamma(B^0 \to J/\psi(1S) \eta'(958))/\Gamma_{total}]$ / $[B(B^0_s \to J/\psi(1S) \eta')] = (2.28 \pm 0.65 \pm 0.16) \times 10^{-2}$ which we multiply by our best value $B(B^0_s \to J/\psi(1S) \eta') = (3.3 \pm 0.4) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042B54;LINKAGE=AA

[2] Reconstructs $\eta'(985)$ in $(etapi + pi)^-$ and $\rho(770)$ decays. NODE=S042B54;LINKAGE=CH

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B54;LINKAGE=EP

$\Gamma(J/\psi(1S) \eta)/\Gamma(J/\psi(1S) \eta'(958))$ — $\Gamma_{224}/\Gamma_{237}$

NODE=S042RB4

VALUE	DOCUMENT ID	TECN	COMMENT
1.111±0.475±0.062	[1] AAIJ 15D	LHCB	pp at 7, 8 TeV

[1] Uses $J/\psi \to \mu^+ \mu^-$, $\eta' \to \rho^0 \gamma$, and $\eta' \to \eta \pi^+ \pi^-$ decays. NODE=S042RB4;LINKAGE=AA

$\Gamma(J/\psi(1S) K^0 \pi^+ \pi^-)/\Gamma(J/\psi(1S) K^0)$ — $\Gamma_{238}/\Gamma_{214}$

NODE=S042B14

VALUE	DOCUMENT ID	TECN	COMMENT
0.50 ±0.04 OUR AVERAGE			
0.493±0.034±0.027	AAIJ 14L	LHCB	pp at 7 TeV
1.24 ±0.40 ±0.15	AFFOLDER 02B	CDF	$p\overline{p}$ 1.8 TeV

$\Gamma(J/\psi(1S) K^0 K^+ K^-)/\Gamma_{total}$ — Γ_{240}/Γ

NODE=S042C23

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
25 ±7 OUR AVERAGE Error includes scale factor of 1.8.			
34.9±6.7±1.5	LEES 15	BABR	$e^+ e^- \to \Upsilon(4S)$
20.2±4.3±1.9	[1] AAIJ 14L	LHCB	pp at 7 TeV

[1] Measured with $B(B^0 \to J/\psi K^0_S K^+ K^-)$ / $B(B^0 \to J/\psi K^0_S)$ using PDG 12 for the involved branching fractions. NODE=S042C23;LINKAGE=A

$\Gamma(J/\psi(1S) K^0 K^- \pi^+ + \text{c.c.})/\Gamma_{total}$ — Γ_{239}/Γ

NODE=S042RB3

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<21 \times 10^{-6}$	90	[1] AAIJ 14L	LHCB	pp at 7 TeV

[1] Measured with $B(B^0 \to J/\psi K^0_S K^\pm \pi^\mp)$ / $B(B^0 \to J/\psi K^0_S \pi^+ \pi^-)$ using PDG 12 values for the involved branching fractions. NODE=S042RB3;LINKAGE=A

$\Gamma(J/\psi(1S) K^0 \rho^0)/\Gamma_{total}$ — Γ_{242}/Γ

NODE=S042B15

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
5.4±2.9±0.9	[1] AFFOLDER	02B	CDF	$p\overline{p}$ 1.8 TeV

[1] Uses $B^0 \to J/\psi(1S) K^0_S$ decay as a reference and B($B^0 \to J/\psi(1S) K^0$)= 8.3×10^{-4}. NODE=S042B15;LINKAGE=A

$\Gamma(J/\psi(1S) K^*(892)^+ \pi^-)/\Gamma_{total}$ — Γ_{243}/Γ

NODE=S042B16

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
7.7±4.1±1.3	[1] AFFOLDER	02B	CDF	$p\overline{p}$ 1.8 TeV

[1] Uses $B^0 \to J/\psi(1S) K^0_S$ decay as a reference and B($B^0 \to J/\psi(1S) K^0$)= 8.3×10^{-4}. NODE=S042B16;LINKAGE=A

$\Gamma(J/\psi(1S)\pi^+\pi^-\pi^+\pi^-)/\Gamma(J/\psi(1S)\pi^+\pi^-)$ — $\Gamma_{244}/\Gamma_{225}$

NODE=S042C21

VALUE	DOCUMENT ID		TECN	COMMENT
0.361±0.017±0.021	[1] AAIJ	14Y	LHCB	pp at 7, 8 TeV

[1] Excludes contributions from $\psi(2S)$ and $\chi_{c1}(3872)$ decaying to $J/\psi(1S)\pi^+\pi^-$. NODE=S042C21;LINKAGE=A

$\Gamma(J/\psi(1S) f_1(1285))/\Gamma_{total}$ — Γ_{245}/Γ

NODE=S042C22

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$8.4^{+2.1}_{-2.0}\pm0.5$	[1] AAIJ	14Y	LHCB	pp at 7, 8 TeV

[1] AAIJ 14Y reports $(8.37 \pm 1.95^{+0.71}_{-0.66} \pm 0.35) \times 10^{-6}$ from a measurement of [$\Gamma(B^0 \to J/\psi(1S) f_1(1285))/\Gamma_{total}$] × [B($f_1(1285) \to 2\pi^+ 2\pi^-$)] assuming B($f_1(1285) \to 2\pi^+ 2\pi^-$) $= 0.11^{+0.007}_{-0.006}$, which we rescale to our best value B($f_1(1285) \to 2\pi^+ 2\pi^-$) $= (10.9 \pm 0.6) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042C22;LINKAGE=A

$\Gamma(J/\psi(1S) K^*(892)^0 \pi^+\pi^-)/\Gamma_{total}$ — Γ_{246}/Γ

NODE=S042B17

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
6.6±1.9±1.1	[1] AFFOLDER	02B	CDF	$p\overline{p}$ 1.8 TeV

[1] Uses $B^0 \to J/\psi(1S) K^*(892)^0$ decay as a reference and B($B^0 \to J/\psi(1S) K^0$)= 12.4×10^{-4}. NODE=S042B17;LINKAGE=A

$\Gamma(\eta_{c2}(1D) K^0_S,\ \eta_{c2} \to h_c \gamma)/\Gamma_{total}$ — Γ_{247}/Γ

NODE=S042P56

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<3.5 × 10^{-5}	90	CHILIKIN	20	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\eta_{c2}(1D)\pi^- K^+,\ \eta_{c2} \to h_c \gamma)/\Gamma_{total}$ — Γ_{248}/Γ

NODE=S042P57

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.0 × 10^{-4}	90	CHILIKIN	20	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\chi_{c1}(3872) K^0)/\Gamma_{total}$ — Γ_{251}/Γ

NODE=S042P59

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
1.1 ±0.4 OUR AVERAGE					
$2.5\ ^{+0.9}_{-0.8}\ \pm0.8$		[1] HIRATA	23	BELL	$e^+e^- \to \Upsilon(4S)$
0.93±0.27±0.29		[2] CHOI	11	BELL	$e^+e^- \to \Upsilon(4S)$
$1.2\ \pm0.6\ ^{+0.4}_{-0.5}$		[3] DEL-AMO-SA...	10B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2.5	90	[4,5] BHARDWAJ	11	BELL	$e^+e^- \to \Upsilon(4S)$
2.1 ±1.0 ±0.7		[5,6] AUSHEV	10	BELL	$e^+e^- \to \Upsilon(4S)$
<5	90	[7,8] AUBERT	09B	BABR	$e^+e^- \to \Upsilon(4S)$
4.8 ±2.4 ±1.7		[5,7,9] AUBERT	08B	BABR	$e^+e^- \to \Upsilon(4S)$
<1.4	90	[10] AUBERT	08Y	BABR	$e^+e^- \to \Upsilon(4S)$
<2.4	90	[11] AUBERT	06	BABR	Repl. by AUBERT 08Y
$3.0\ \pm1.4\ ^{+1.6}_{-1.5}$		[12,13] GOKHROO	06	BELL	$e^+e^- \to \Upsilon(4S)$

[1] HIRATA 23 reports [$\Gamma(B^0 \to \chi_{c1}(3872) K^0)/\Gamma_{total}$] / [B($B^+ \to \chi_{c1}(3872) K^+$)] $= 1.34^{+0.47}_{-0.40}{}^{+0.10}_{-0.12}$ which we multiply by our best value B($B^+ \to \chi_{c1}(3872) K^+$) $= (1.9 \pm 0.6) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042P59;LINKAGE=J

[2] CHOI 11 reports [$\Gamma(B^0 \to \chi_{c1}(3872) K^0)/\Gamma_{total}$] / [B($B^+ \to \chi_{c1}(3872) K^+$)] $= 0.50 \pm 0.14 \pm 0.04$ which we multiply by our best value B($B^+ \to \chi_{c1}(3872) K^+$) $= (1.9 \pm 0.6) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042P59;LINKAGE=B

[3] DEL-AMO-SANCHEZ 10B reports $[\Gamma(B^0 \to \chi_{c1}(3872) K^0)/\Gamma_{total}] \times [B(\chi_{c1}(3872) \to \omega J/\psi(1S))] = (6 \pm 3 \pm 1) \times 10^{-6}$ which we divide by our best value $B(\chi_{c1}(3872) \to \omega J/\psi(1S)) = (5.0 \pm 1.9) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042P59;LINKAGE=A

[4] BHARDWAJ 11 reports $[\Gamma(B^0 \to \chi_{c1}(3872) K^0)/\Gamma_{total}] \times [B(\chi_{c1}(3872) \to \gamma J/\psi)] < 2.4 \times 10^{-6}$ which we divide by our best value $B(\chi_{c1}(3872) \to \gamma J/\psi) = 10 \times 10^{-3}$. NODE=S042P59;LINKAGE=E

[5] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042P59;LINKAGE=EP

[6] AUSHEV 10 reports $[\Gamma(B^0 \to \chi_{c1}(3872) K^0)/\Gamma_{total}] \times [B(\chi_{c1}(3872) \to \overline{D}^{*0} D^0)] = (0.97 \pm 0.46 \pm 0.13) \times 10^{-4}$ which we divide by our best value $B(\chi_{c1}(3872) \to \overline{D}^{*0} D^0) = (46 \pm 16) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042P59;LINKAGE=H

[7] Uses $B(\Upsilon(4S) \to B^+ B^-) = (51.6 \pm 0.6)\%$ and $B(\Upsilon(4S) \to B^0 \overline{B}^0) = (48.4 \pm 0.6)\%$. NODE=S042P59;LINKAGE=AU

[8] AUBERT 09B reports $[\Gamma(B^0 \to \chi_{c1}(3872) K^0)/\Gamma_{total}] \times [B(\chi_{c1}(3872) \to \gamma J/\psi)] < 4.9 \times 10^{-6}$ which we divide by our best value $B(\chi_{c1}(3872) \to \gamma J/\psi) = 10 \times 10^{-3}$. NODE=S042P59;LINKAGE=F

[9] AUBERT 08B reports $[\Gamma(B^0 \to \chi_{c1}(3872) K^0)/\Gamma_{total}] \times [B(\chi_{c1}(3872) \to \overline{D}^{*0} D^0)] = (2.22 \pm 1.05 \pm 0.42) \times 10^{-4}$ which we divide by our best value $B(\chi_{c1}(3872) \to \overline{D}^{*0} D^0) = (46 \pm 16) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042P59;LINKAGE=I

[10] AUBERT 08Y reports $[\Gamma(B^0 \to \chi_{c1}(3872) K^0)/\Gamma_{total}] \times [B(\chi_{c1}(3872) \to \pi^+ \pi^- J/\psi(1S))] < 6.0 \times 10^{-6}$ which we divide by our best value $B(\chi_{c1}(3872) \to \pi^+ \pi^- J/\psi(1S)) = 4.3 \times 10^{-2}$. NODE=S042P59;LINKAGE=C

[11] AUBERT 06 reports $[\Gamma(B^0 \to \chi_{c1}(3872) K^0)/\Gamma_{total}] \times [B(\chi_{c1}(3872) \to \pi^+ \pi^- J/\psi(1S))] < 10.3 \times 10^{-6}$ which we divide by our best value $B(\chi_{c1}(3872) \to \pi^+ \pi^- J/\psi(1S)) = 4.3 \times 10^{-2}$. NODE=S042P59;LINKAGE=D

[12] GOKHROO 06 reports $[\Gamma(B^0 \to \chi_{c1}(3872) K^0)/\Gamma_{total}] \times [B(\chi_{c1}(3872) \to D^0 \overline{D}^0 \pi^0)] = (1.66 \pm 0.70^{+0.32}_{-0.37}) \times 10^{-4}$ which we divide by our best value $B(\chi_{c1}(3872) \to D^0 \overline{D}^0 \pi^0) = (55 \pm 28) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042P59;LINKAGE=G

[13] Measure the near-threshold enhancements in the $(D^0 \overline{D}^0 \pi^0)$ system at a mass $3875.2 \pm 0.7^{+0.3}_{-1.6} \pm 0.8$ MeV/c^2. NODE=S042P59;LINKAGE=GO

$\Gamma(\chi_{c1}(3872)^- K^+)/\Gamma_{total}$ — Γ_{249}/Γ

NODE=S042Q63
NODE=S042Q63

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<5 \times 10^{-4}$	90	[1] AUBERT	06E	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Perform measurements of absolute branching fractions using a missing mass technique. NODE=S042Q63;LINKAGE=AT

$\Gamma(\chi_{c1}(3872)^- K^+,\ \chi_{c1}(3872)^- \to J/\psi(1S) \pi^- \pi^0)/\Gamma_{total}$ — Γ_{250}/Γ

NODE=S042Q35
NODE=S042Q35

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<4.2	90	[1,2] CHOI	11	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<5.4	90	[2,3] AUBERT	05B	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes $\pi^+ \pi^0$ originates from ρ^+. NODE=S042Q35;LINKAGE=CH

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q35;LINKAGE=EP

[3] The isovector-X hypothesis is excluded with a likelihood test at 1×10^{-4} level. NODE=S042Q35;LINKAGE=AU

$\Gamma(\chi_{c1}(3872) K^*(892)^0)/\Gamma_{total}$ — Γ_{252}/Γ

NODE=S042P60
NODE=S042P60

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
0.92±0.35±0.29		[1] BALA	15	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2.9	90	[2,3] AUBERT	09B	BABR	$e^+ e^- \to \Upsilon(4S)$
		[3,4] AUBERT	09B	BABR	$e^+ e^- \to \Upsilon(4S)$

OCCUR=2

[1] BALA 15 reports $[\Gamma(B^0 \to \chi_{c1}(3872) K^*(892)^0)/\Gamma_{total}] \times [B(\chi_{c1}(3872) \to \pi^+ \pi^- J/\psi(1S))] = (4.0 \pm 1.5 \pm 0.3) \times 10^{-6}$ which we divide by our best value $B(\chi_{c1}(3872) \to \pi^+ \pi^- J/\psi(1S)) = (4.3 \pm 1.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042P60;LINKAGE=C

[2] AUBERT 09B reports $[\Gamma(B^0 \to \chi_{c1}(3872) K^*(892)^0)/\Gamma_{total}] \times [B(\chi_{c1}(3872) \to \gamma J/\psi)] < 2.8 \times 10^{-6}$ which we divide by our best value $B(\chi_{c1}(3872) \to \gamma J/\psi) = 10 \times 10^{-3}$. NODE=S042P60;LINKAGE=A

[3] Uses $B(\Upsilon(4S) \to B^+ B^-) = (51.6 \pm 0.6)\%$ and $B(\Upsilon(4S) \to B^0 \overline{B}^0) = (48.4 \pm 0.6)\%$. NODE=S042P60;LINKAGE=AU

[4] AUBERT 09B reports $[\Gamma(B^0 \to \chi_{c1}(3872) K^*(892)^0)/\Gamma_{total}] \times [B(\chi_{c1}(3872) \to \gamma \psi(2S))] < 4.4 \times 10^{-6}$ at 90% CL. NODE=S042P60;LINKAGE=D

$\Gamma(\chi_{c1}(3872) K^+ \pi^-)/\Gamma_{total}$ — Γ_{253}/Γ

NODE=S042P61

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
1.8±0.3±0.6	[1,2] BALA	15	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] BALA 15 reports $[\Gamma(B^0 \to \chi_{c1}(3872) K^+ \pi^-)/\Gamma_{total}] \times [B(\chi_{c1}(3872) \to \pi^+ \pi^- J/\psi(1S))] = (7.9 \pm 1.3 \pm 0.4) \times 10^{-6}$ which we divide by our best value $B(\chi_{c1}(3872) \to \pi^+ \pi^- J/\psi(1S)) = (4.3 \pm 1.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042P61;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042P61;LINKAGE=EP

$\Gamma(\chi_{c1}(3872)\gamma)/\Gamma_{total}$ — Γ_{254}/Γ

NODE=S042P62

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.2 × 10⁻⁵	90	[1,2] CHOU	19	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at $\Upsilon(4S)$. NODE=S042P62;LINKAGE=A

[2] CHOU 19 reports $[\Gamma(B^0 \to \chi_{c1}(3872)\gamma)/\Gamma_{total}] \times [B(\chi_{c1}(3872) \to \pi^+ \pi^- J/\psi(1S))] < 5.1 \times 10^{-7}$ which we divide by our best value $B(\chi_{c1}(3872) \to \pi^+ \pi^- J/\psi(1S)) = 4.3 \times 10^{-2}$. NODE=S042P62;LINKAGE=B

$\Gamma(T_{c\bar{c}1}(4430)^\pm K^\mp,\ T^\pm_{c\bar{c}1} \to \psi(2S)\pi^\pm)/\Gamma_{total}$ — Γ_{255}/Γ

NODE=S042B88

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
$6.0^{+1.7+2.5}_{-2.0-1.4}$		CHILIKIN	13	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<3.1	95	[1] AUBERT	09AA	BABR	$e^+ e^- \to \Upsilon(4S)$
$3.2^{+1.8+5.3}_{-0.9-1.6}$		[1] MIZUK	09	BELL	$e^+ e^- \to \Upsilon(4S)$
4.1±1.0±1.4		[1,2] CHOI	08	BELL	Repl. by MIZUK 09

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B88;LINKAGE=EP

[2] Establishes the $(Z_c4430)^+$ with a significance of 6.5 sigma. Needs confirmation. NODE=S042B88;LINKAGE=CH

$\Gamma(T_{c\bar{c}1}(4430)^\pm K^\mp,\ T^\pm_{c\bar{c}1} \to J/\psi\pi^\pm)/\Gamma_{total}$ — Γ_{256}/Γ

NODE=S042B96

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$5.4^{+4.0+1.1}_{-1.0-0.6}$		CHILIKIN	14	BELL	$\overline{B}^0 \to J/\psi K^- \pi^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<4	95	[1] AUBERT	09AA	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B96;LINKAGE=EP

$\Gamma(T_{c\bar{c}1}(3900)^\pm K^\mp,\ T^\pm_{c\bar{c}1} \to J/\psi\pi^\pm)/\Gamma_{total}$ — Γ_{257}/Γ

NODE=S042C50

VALUE	DOCUMENT ID		TECN	COMMENT
<9 × 10⁻⁷	CHILIKIN	14	BELL	$\overline{B}^0 \to J/\psi K^- \pi^+$

$\Gamma(T_{c\bar{c}1}(4200)^\pm K^\mp,\ T^\pm_{c\bar{c}1} \to J/\psi\pi^\pm)/\Gamma_{total}$ — Γ_{258}/Γ

NODE=S042C51

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
$2.2^{+0.7+1.1}_{-0.5-0.6}$	CHILIKIN	14	BELL	$\overline{B}^0 \to J/\psi K^- \pi^+$

$\Gamma(T_{c\bar{c}1}(3900)^\pm K^\mp,\ T^\pm_{c\bar{c}1} \to J/\psi\pi^\pm)/\Gamma(J/\psi(1S) K^*(892)^0)$ — $\Gamma_{257}/\Gamma_{216}$

NODE=S042P29

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.5 × 10⁻²	90	ABAZOV	18B	D0	$p\overline{p}$ at 1.96 TeV

$\Gamma(J/\psi(1S) p\overline{p})/\Gamma_{total}$ — Γ_{259}/Γ

NODE=S042B52

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
4.51±0.40±0.44		[1] AAIJ	19U	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 5.2	90	[2] AAIJ	13Z	LHCB	Repl. by AAIJ 19U
< 8.3	90	[3] XIE	05	BELL	$e^+ e^- \to \Upsilon(4S)$
<19	90	[3] AUBERT	03K	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Measured relative to $B^0_s \to J/\psi\phi$ assuming $B(B^0_s \to J/\psi\phi) = (10.5 \pm 0.13 \pm 0.64) \times 10^{-4}$ and taking into account small $K^+ K^-$ S-wave contribution. Measurement assumes $f_s/f_d = 0.259 \pm 0.015$ for 7, 8 TeV data and f_s/f_d multiplied by 1.068 ± 0.046 for 13 TeV data. NODE=S042B52;LINKAGE=C

[2] Uses $B(B^0_s \to J/\psi(1S)\pi^+\pi^-) = (1.98 \pm 0.20) \times 10^{-4}$. NODE=S042B52;LINKAGE=A

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B52;LINKAGE=EP

$\Gamma(J/\psi(1S)\gamma)/\Gamma_{total}$ Γ_{260}/Γ

NODE=S042Q04

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<1.5	90	[1] AAIJ	15BB	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1.6	90	[2] AUBERT,B	04T	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Branching fractions of normalization modes $B^0 \rightarrow J/\psi\gamma X$ taken from PDG 14. Uses $f_s/f_d = 0.259 \pm 0.015$. NODE=S042Q04;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q04;LINKAGE=AU

$\Gamma(J/\psi\mu^+\mu^-,\ J/\psi\rightarrow\mu^+\mu^-)/\Gamma_{total}$ Γ_{261}/Γ

NODE=S042P78

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.0\times10^{-9}$	95	AAIJ	22Q	LHCB	pp at 7, 8, 13 TeV

$\Gamma(J/\psi(1S)\overline{D}^0)/\Gamma_{total}$ Γ_{262}/Γ

NODE=S042Q33

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<9.6\times10^{-7}$	90	AAIJ	24F	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.3\times10^{-5}$	90	[1] AUBERT	05U	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<2.0\times10^{-5}$	90	[1] ZHANG	05B	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q33;LINKAGE=EP

$\Gamma(\psi(2S)\pi^0)/\Gamma_{total}$ Γ_{263}/Γ

NODE=S042P00

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
1.17±0.17±0.08	[1] CHOBANOVA	16	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042P00;LINKAGE=B

$\Gamma(\psi(2S)K^0)/\Gamma_{total}$ Γ_{264}/Γ

NODE=S042R66

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
5.8 ±0.5 OUR FIT					
5.8 ±0.5 OUR AVERAGE					
4.7 ±0.7 ±0.7		[1] AAIJ	14L	LHCB	pp at 7 TeV
6.46±0.65±0.51		[2] AUBERT	05J	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
6.7 ±1.1		[2] ABE	03B	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
5.0 ±1.1 ±0.6		[2] RICHICHI	01	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
6.9 ±1.1 ±1.1		[2] AUBERT	02	BABR	Repl. by AUBERT 05J
< 8	90	[2] ALAM	94	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
<15	90	[2] BORTOLETTO	92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
<28	90	[2] ALBRECHT	90J	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Measured with $B(B^0 \rightarrow \psi(2S)K^0_S) \times B(\psi(2S) \rightarrow J/\psi\pi^+\pi^-)$ / $B(B^0 \rightarrow J/\psi K^0_S)$ using PDG 12 values for the involved branching fractions. NODE=S042R66;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R66;LINKAGE=EP

$\Gamma(\psi(2S)K^0\pi^+\pi^-)/\Gamma(\psi(2S)K^0)$ $\Gamma_{265}/\Gamma_{264}$

NODE=S042P73

VALUE	DOCUMENT ID		TECN	COMMENT
0.480±0.013±0.032	TUMASYAN	22AI	CMS	pp at 13 TeV

$\Gamma(\psi(2S)K^0)/\Gamma(J/\psi(1S)K^0)$ $\Gamma_{264}/\Gamma_{214}$

NODE=S042B2

VALUE	DOCUMENT ID		TECN	COMMENT
0.82±0.13±0.12	[1] AUBERT	02	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B2;LINKAGE=EP

$\Gamma(\psi(3770)K^0,\ \psi\rightarrow\overline{D}^0D^0)/\Gamma_{total}$ Γ_{266}/Γ

NODE=S042B81

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<1.23	90	[1] AUBERT	08B	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B81;LINKAGE=EP

$\Gamma(\psi(3770)K^0,\ \psi\rightarrow D^-D^+)/\Gamma_{total}$ Γ_{267}/Γ

NODE=S042B82

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<1.88	90	[1] AUBERT	08B	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B82;LINKAGE=EP

$\Gamma(\psi(2S)\pi^+\pi^-)/\Gamma(J/\psi(1S)\pi^+\pi^-)$ — $\Gamma_{268}/\Gamma_{225}$

NODE=S042QA1

VALUE	DOCUMENT ID		TECN	COMMENT
0.56±0.07±0.05	[1] AAIJ	13AA	LHCB	pp at 7 TeV

[1] Assuming lepton universality for dimuon decay modes of J/ψ and $\psi(2S)$ mesons, the ratio $B(J/\psi \to \mu^+\mu^-)/B(\psi(2S) \to \mu^+\mu^-) = B(J/\psi \to e^+e^-)/B(\psi(2S) \to e^+e^-) = 7.69 \pm 0.19$ was used.

NODE=S042QA1;LINKAGE=AA

$\Gamma(\psi(2S)K^+\pi^-)/\Gamma_{total}$ — Γ_{269}/Γ

NODE=S042R68

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
5.80±0.39		[1,2] CHILIKIN	13	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
5.57±0.16		[3] AUBERT	09AA	BABR	$e^+e^- \to \Upsilon(4S)$
5.68±0.13±0.42		[2] MIZUK	09	BELL	$e^+e^- \to \Upsilon(4S)$
<10	90	[2] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Combines measurements with $\psi(2S) \to \ell^+\ell^-$ with measurement from MIZUK 09 which uses $\psi(2S) \to J/\psi\pi^+\pi^-$.

NODE=S042R68;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042R68;LINKAGE=EP

[3] Does not report systematic uncertainties.

NODE=S042R68;LINKAGE=AU

$\Gamma(\psi(2S)K^*(892)^0)/\Gamma_{total}$ — Γ_{270}/Γ

NODE=S042R67

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
5.9 ±0.4 OUR FIT					
6.0 $^{+0.5}_{-0.7}$ OUR AVERAGE		Error includes scale factor of 1.1.			
$5.55^{+0.22+0.41}_{-0.23-0.84}$		[1] CHILIKIN	13	BELL	$e^+e^- \to \Upsilon(4S)$
6.49±0.59±0.97		[1] AUBERT	05J	BABR	$e^+e^- \to \Upsilon(4S)$
7.6 ±1.1 ±1.0		[1] RICHICHI	01	CLE2	$e^+e^- \to \Upsilon(4S)$
9.0 ±2.2 ±0.9		[2] ABE	98O	CDF	$p\bar{p}$ 1.8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$5.52^{+0.35+0.53}_{-0.32-0.58}$		[1] MIZUK	09	BELL	$e^+e^- \to \Upsilon(4S)$
<19	90	[1] ALAM	94	CLE2	Repl. by RICHICHI 01
14 ±8 ±4		[1] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
<23	90	[1] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042R67;LINKAGE=EP

[2] ABE 98O reports $[B(B^0 \to \psi(2S)K^*(892)^0)]/[B(B^+ \to J/\psi(1S)K^+)] = 0.908 \pm 0.194 \pm 0.10$. We multiply by our best value $B(B^+ \to J/\psi(1S)K^+) = (9.9 \pm 1.0) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042R67;LINKAGE=ME

$\Gamma(\psi(2S)K^*(892)^0)/\Gamma(J/\psi(1S)K^*(892)^0)$ — $\Gamma_{270}/\Gamma_{216}$

NODE=S042T97

VALUE	DOCUMENT ID		TECN	COMMENT
0.487±0.018±0.014	[1,2] AAIJ	12L	LHCB	pp at 7 TeV

[1] AAIJ 12L reports $0.476 \pm 0.014 \pm 0.010 \pm 0.012$ from a measurement of $[\Gamma(B^0 \to \psi(2S)K^*(892)^0)/\Gamma(B^0 \to J/\psi(1S)K^*(892)^0)] \times [B(J/\psi(1S) \to e^+e^-)] / [B(\psi(2S) \to e^+e^-)]$ assuming $B(J/\psi(1S) \to e^+e^-) = (5.94 \pm 0.06) \times 10^{-2}$, $B(\psi(2S) \to e^+e^-) = (7.72 \pm 0.17) \times 10^{-3}$, which we rescale to our best values $B(J/\psi(1S) \to e^+e^-) = (5.971 \pm 0.032) \times 10^{-2}$, $B(\psi(2S) \to e^+e^-) = (7.93 \pm 0.22) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

NODE=S042T97;LINKAGE=AA

[2] Assumes $B(J/\psi \to \mu^+\mu^-) / B(\psi(2S) \to \mu^+\mu^-) = B(J/\psi \to e^+e^-) / B(\psi(2S) \to e^+e^-) = 7.69 \pm 0.19$.

NODE=S042T97;LINKAGE=AI

$\Gamma(\psi(2S)K^*(892)^0)/\Gamma(\psi(2S)K^0)$ — $\Gamma_{270}/\Gamma_{264}$

NODE=S042Q62

VALUE	DOCUMENT ID		TECN	COMMENT
1.02±0.10 OUR FIT				
1.00±0.14±0.09	AUBERT	05J	BABR	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\chi_{c0}K^0)/\Gamma_{total}$ — Γ_{271}/Γ

NODE=S042S89

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$195^{+42}_{-36}\pm11$		[1] AAIJ	18F	LHCB	pp at 7, 8 TeV

• • • We do not use the following data for averages, fits, limits, etc. • • •

$147^{+105}_{-87}\pm 9$		[2,3] LEES	12I	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$148\pm 30\pm 13$		[2,4] LEES	12O	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$142^{+55}_{-44}\pm 22$		[2,5] AUBERT	09AU	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
< 113	90	[5] GARMASH	07	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
<1240	90	[2] AUBERT	05K	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
< 500	90	[6] EDWARDS	01	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

[1] AAIJ 18F uses Dalitz plot analysis of the $B^0 \rightarrow K^0_S\pi^+\pi^-$ final state decays. For the branching fraction of the reference mode, the PDG 18 average B($B^0 \rightarrow K^0_S\pi^+\pi^-$) = $(4.96 \pm 0.20) \times 10^{-5}$ is used. We compute B($B^0 \rightarrow \chi_{c0}K^0$) using the PDG value B($\chi_{c0} \rightarrow \pi\pi$) = $(8.51 \pm 0.33) \times 10^{-3}$ and 2/3 for the $\pi^+\pi^-$ fraction. Our first error is their experiment's error and the second error is systematic error from using our best value. NODE=S042S89;LINKAGE=B

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S89;LINKAGE=EP

[3] LEES 12I reports $[\Gamma(B^0 \rightarrow \chi_{c0}K^0)/\Gamma_{\rm total}] \times [B(\chi_{c0}(1P) \rightarrow K^0_S K^0_S)] = (0.46^{+0.25}_{-0.17} \pm 0.21) \times 10^{-6}$ which we divide by our best value B($\chi_{c0}(1P) \rightarrow K^0_S K^0_S$) = $(3.12 \pm 0.19) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042S89;LINKAGE=LE

[4] Measured in the $B^0 \rightarrow K^0_S K^+ K^-$ decay. NODE=S042S89;LINKAGE=LA

[5] Uses Dalitz plot analysis of the $B^0 \rightarrow K^0\pi^+\pi^-$ final state decays. NODE=S042S89;LINKAGE=GM

[6] EDWARDS 01 assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$. The correlated uncertainties (28.3)% from B($J/\psi(1S) \rightarrow \gamma\eta_c$) in those modes have been accounted for. NODE=S042S89;LINKAGE=A

$\Gamma(\chi_{c0}K^*(892)^0)/\Gamma_{\rm total}$ — Γ_{272}/Γ

NODE=S042Q59
NODE=S042Q59

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
1.7±0.3±0.2		[1] AUBERT	08BD	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<7.7	90	[1] AUBERT	05K	BABR	Repl. by AUBERT 08BD

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q59;LINKAGE=EP

$\Gamma(\chi_{c1}\pi^0)/\Gamma_{\rm total}$ — Γ_{273}/Γ

NODE=S042Q83
NODE=S042Q83

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
1.12±0.25±0.12	[1] KUMAR	08	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q83;LINKAGE=EP

$\Gamma(\chi_{c1}K^0)/\Gamma_{\rm total}$ — Γ_{274}/Γ

NODE=S042S24
NODE=S042S24

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
3.95±0.27 OUR AVERAGE					
$15\ ^{+5}_{-4}\ \pm 6$		[1] CHILIKIN	19	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$3.78^{+0.17}_{-0.16}\pm 0.33$		[2] BHARDWAJ	11	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$4.2\ \pm 0.3\ \pm 0.3$		[3] AUBERT	09B	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$3.1\ ^{+1.6}_{-1.1}\ \pm 0.1$		[4] AVERY	00	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$3.51\pm 0.33\pm 0.45$		[2] SONI	06	BELL	Repl. by BHARDWAJ 11
$4.53\pm 0.41\pm 0.51$		[2] AUBERT	05J	BABR	Repl. by AUBERT 09B
$4.4\ \pm 1.4\ \pm 0.2$		[5] AUBERT	02	BABR	Repl. by AUBERT 05J
<27	90	[2] ALAM	94	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

[1] CHILIKIN 19 reports $[\Gamma(B^0 \rightarrow \chi_{c1}K^0)/\Gamma_{\rm total}] \times [B(\chi_{c1}(1P) \rightarrow p\overline{p}\pi^+\pi^-)] = (7.4^{+2.4}_{-2.0}{}^{+0.6}_{-0.4}) \times 10^{-7}$ which we divide by our best value B($\chi_{c1}(1P) \rightarrow p\overline{p}\pi^+\pi^-$) = $(5.0 \pm 1.9) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042S24;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S24;LINKAGE=EP

[3] Uses $\chi_{c1,2} \rightarrow J/\psi\gamma$. Assumes B($\Upsilon(4S) \rightarrow B^+B^-$) = (51.6 ± 0.6)% and B($\Upsilon(4S) \rightarrow B^0\overline{B}^0$) = (48.4 ± 0.6)%. NODE=S042S24;LINKAGE=AU

[4] AVERY 00 reports $(3.9^{+1.9}_{-1.3} \pm 0.4) \times 10^{-4}$ from a measurement of $[\Gamma(B^0 \rightarrow \chi_{c1}K^0)/\Gamma_{\rm total}] \times [B(\chi_{c1}(1P) \rightarrow \gamma J/\psi(1S))]$ assuming B($\chi_{c1}(1P) \rightarrow \gamma J/\psi(1S)$) = 0.273 ± 0.016, which we rescale to our best value B($\chi_{c1}(1P) \rightarrow \gamma J/\psi(1S)$) = $(33.8 \pm 1.2) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S24;LINKAGE=J4

[5] AUBERT 02 reports $(5.4 \pm 1.4 \pm 1.1) \times 10^{-4}$ from a measurement of $[\Gamma(B^0 \to \chi_{c1} K^0)/\Gamma_{total}] \times [B(\chi_{c1}(1P) \to \gamma J/\psi(1S))]$ assuming $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = 0.273 \pm 0.016$, which we rescale to our best value $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = (33.8 \pm 1.2) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S24;LINKAGE=J3

$\Gamma(\chi_{c1} K^0)/\Gamma(J/\psi(1S) K^0)$ — $\Gamma_{274}/\Gamma_{214}$

NODE=S042B3

VALUE	DOCUMENT ID		TECN	COMMENT
0.53±0.16±0.02	[1] AUBERT	02	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] AUBERT 02 reports $0.66 \pm 0.11 \pm 0.17$ from a measurement of $[\Gamma(B^0 \to \chi_{c1} K^0)/\Gamma(B^0 \to J/\psi(1S) K^0)] \times [B(\chi_{c1}(1P) \to \gamma J/\psi(1S))]$ assuming $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = 0.273 \pm 0.016$, which we rescale to our best value $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = (33.8 \pm 1.2) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B3;LINKAGE=J3

$\Gamma(\chi_{c1} \pi^- K^+)/\Gamma_{total}$ — Γ_{275}/Γ

NODE=S042B91

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
4.97±0.12±0.28	[1] BHARDWAJ	16	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
3.83±0.10±0.39	[1] MIZUK	08	BELL	Repl. by BHARDWAJ 16

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B91;LINKAGE=EP

$\Gamma(\chi_{c1} \pi^- K^+)/\Gamma(J/\psi(1S) K^+ \pi^-)$ — $\Gamma_{275}/\Gamma_{215}$

NODE=S042C16

VALUE	DOCUMENT ID		TECN
0.482±0.027 OUR AVERAGE [0.476 ± 0.027 OUR 2025 AVERAGE]			
0.482±0.021±0.017	[1] LEES	12B	BABR

NEW

[1] LEES 12B reports $0.474 \pm 0.013 \pm 0.026$ from a measurement of $[\Gamma(B^0 \to \chi_{c1} \pi^- K^+)/\Gamma(B^0 \to J/\psi(1S) K^+ \pi^-)] \times [B(\chi_{c1}(1P) \to \gamma J/\psi(1S))]$ assuming $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = (34.4 \pm 1.5) \times 10^{-2}$, which we rescale to our best value $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = (33.8 \pm 1.2) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042C16;LINKAGE=LE

$\Gamma(\chi_{c1} K^*(892)^0)/\Gamma_{total}$ — Γ_{276}/Γ

NODE=S042S25

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
2.38±0.19 OUR FIT Error includes scale factor of 1.2.					
$\mathbf{2.22^{+0.40}_{-0.31}}$ **OUR AVERAGE** Error includes scale factor of 1.6.					
2.5 ±0.2 ±0.2		[1] AUBERT	09B	BABR	$e^+ e^- \to \Upsilon(4S)$
$1.73^{+0.15}_{-0.12}{}^{+0.34}_{-0.22}$		[2] MIZUK	08	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
3.14±0.34±0.72		[2] SONI	06	BELL	Repl. by MIZUK 08
3.27±0.42±0.64		[2] AUBERT	05J	BABR	Repl. by AUBERT 09B
3.9 ±1.3 ±0.1		[3] AUBERT	02	BABR	Repl. by AUBERT 05J
<21	90	[4] ALAM	94	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] Uses $\chi_{c1,2} \to J/\psi \gamma$. Assumes $B(\Upsilon(4S) \to B^+ B^-) = (51.6 \pm 0.6)\%$ and $B(\Upsilon(4S) \to B^0 \overline{B}^0) = (48.4 \pm 0.6)\%$. NODE=S042S25;LINKAGE=AU

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S25;LINKAGE=EP

[3] AUBERT 02 reports $(4.8 \pm 1.4 \pm 0.9) \times 10^{-4}$ from a measurement of $[\Gamma(B^0 \to \chi_{c1} K^*(892)^0)/\Gamma_{total}] \times [B(\chi_{c1}(1P) \to \gamma J/\psi(1S))]$ assuming $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = 0.273 \pm 0.016$, which we rescale to our best value $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = (33.8 \pm 1.2) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S25;LINKAGE=J3

[4] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S25;LINKAGE=B9

$\Gamma(\chi_{c1} K^*(892)^0)/\Gamma(J/\psi(1S) K^*(892)^0)$ — $\Gamma_{276}/\Gamma_{216}$

NODE=S042QA2

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
18.8±1.5 OUR FIT Error includes scale factor of 1.1.				
19.8±1.1±1.5	[1] AAIJ	13AC	LHCB	pp at 7 TeV

[1] Uses $B(\chi_{c1} \to J/\psi \gamma) = (34.4 \pm 1.5)\%$. NODE=S042QA2;LINKAGE=AA

$\Gamma(\chi_{c1} K^*(892)^0)/\Gamma(\chi_{c1} K^0)$ — $\Gamma_{276}/\Gamma_{274}$

NODE=S042B1

VALUE	DOCUMENT ID		TECN	COMMENT
0.72±0.11±0.12	AUBERT	05J	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.89±0.34±0.17	[1] AUBERT	02	BABR	Repl. by AUBERT 05J

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B1;LINKAGE=EP

$\Gamma(T_{c\overline{c}}(4050)^- K^+,\ T^-_{c\overline{c}} \to \chi_{c1}\pi^-)/\Gamma_{\text{total}}$ — Γ_{277}/Γ

NODE=S042B92

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{3.0^{+1.5}_{-0.8}{}^{+3.7}_{-1.6}}$		[1] MIZUK	08	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1.8	90	[1,2] LEES	12B	BABR	

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[2] Uses $\chi_{c1} \to J/\psi\gamma$ mode. Uses $\chi_{c1} \to J/\psi\gamma$ mode. Finds a good description of the data without this $B^0 \to X(4051)^+ K^-$ decay mode in a fit.

NODE=S042B92;LINKAGE=EP
NODE=S042B92;LINKAGE=LE

$\Gamma(T_{c\overline{c}}(4250)^- K^+,\ T^-_{c\overline{c}} \to \chi_{c1}\pi^-)/\Gamma_{\text{total}}$ — Γ_{278}/Γ

NODE=S042B93

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{4.0^{+2.3}_{-0.9}{}^{+19.7}_{-\ 0.5}}$		[1] MIZUK	08	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<4.0	90	[1,2] LEES	12B	BABR	

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[2] Uses $\chi_{c1} \to J/\psi\gamma$ mode. Finds a good description of the data without this $B^0 \to X(4248)^+ K^-$ decay mode in a fit.

NODE=S042B93;LINKAGE=EP
NODE=S042B93;LINKAGE=LE

$\Gamma(\chi_{c1}\pi^+\pi^- K^0)/\Gamma_{\text{total}}$ — Γ_{279}/Γ

NODE=S042P16

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
3.16±0.35±0.32	[1] BHARDWAJ	16	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042P16;LINKAGE=A

$\Gamma(\chi_{c1}\pi^-\pi^0 K^+)/\Gamma_{\text{total}}$ — Γ_{280}/Γ

NODE=S042P20

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
3.52±0.52±0.24	[1] BHARDWAJ	16	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042P20;LINKAGE=A

$\Gamma(\chi_{c2} K^0)/\Gamma_{\text{total}}$ — Γ_{281}/Γ

NODE=S042Q60

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{<1.5 \times 10^{-5}}$	90	[1] BHARDWAJ	11	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<2.8 \times 10^{-5}$	90	[2] AUBERT	09B	BABR	$e^+e^- \to \Upsilon(4S)$
$<2.6 \times 10^{-5}$	90	[1] SONI	06	BELL	Repl. by BHARDWAJ 11
$<4.1 \times 10^{-5}$	90	[1] AUBERT	05K	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[2] Uses $\chi_{c1,2} \to J/\psi\gamma$. Assumes B($\Upsilon(4S) \to B^+B^-$) = (51.6 ± 0.6)% and B($\Upsilon(4S) \to B^0\overline{B}^0$) = (48.4 ± 0.6)%.

NODE=S042Q60;LINKAGE=EP
NODE=S042Q60;LINKAGE=AU

$\Gamma(\chi_{c2} K^*(892)^0)/\Gamma_{\text{total}}$ — Γ_{282}/Γ

NODE=S042Q61

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
4.9±1.2 OUR FIT Error includes scale factor of 1.1.					
6.6±1.8±0.5		[1] AUBERT	09B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<7.1	90	[2] SONI	06	BELL	$e^+e^- \to \Upsilon(4S)$
<3.6	90	[2] AUBERT	05K	BABR	Repl. by AUBERT 09B

[1] Uses $\chi_{c1,2} \to J/\psi\gamma$. Assumes B($\Upsilon(4S) \to B^+B^-$) = (51.6 ± 0.6)% and B($\Upsilon(4S) \to B^0\overline{B}^0$) = (48.4 ± 0.6)%.

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q61;LINKAGE=AU
NODE=S042Q61;LINKAGE=EP

$\Gamma(\chi_{c2} K^*(892)^0)/\Gamma(\chi_{c1} K^*(892)^0)$ — $\Gamma_{282}/\Gamma_{276}$

NODE=S042QA3

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
20 ±5 OUR FIT Error includes scale factor of 1.1.				
17.1±5.0±2.0	[1] AAIJ	13AC	LHCB	pp at 7 TeV

[1] Uses $B(\chi_{c1} \to J/\psi\gamma)/B(\chi_{c2} \to J/\psi\gamma) = 1.76 \pm 0.11$.

NODE=S042QA3;LINKAGE=AA

$\Gamma(\chi_{c2} \pi^- K^+)/\Gamma_{total}$ — Γ_{283}/Γ

NODE=S042P18

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
0.72±0.09±0.05	[1] BHARDWAJ	16	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042P18;LINKAGE=A

$\Gamma(\chi_{c2} \pi^+\pi^- K^0)/\Gamma_{total}$ — Γ_{284}/Γ

NODE=S042P19

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.70 \times 10^{-4}$	90	[1] BHARDWAJ	16	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042P19;LINKAGE=A

$\Gamma(\chi_{c2} \pi^-\pi^0 K^+)/\Gamma_{total}$ — Γ_{285}/Γ

NODE=S042P21

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<0.74 \times 10^{-4}$	90	[1] BHARDWAJ	16	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042P21;LINKAGE=A

$\Gamma(\psi(4660) K^0,\ \psi \to \Lambda_c^+ \Lambda_c^-)/\Gamma_{total}$ — Γ_{286}/Γ

NODE=S042P30

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.3 \times 10^{-4}$	90	[1] LI	18D	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes $B(\Upsilon(4S) \to B^0\overline{B}^0) = 48.6 \pm 0.6\%$ and $B(\Lambda_c^+ \to pK^-\pi^+) = 6.23 \pm 0.33\%$.

NODE=S042P30;LINKAGE=A

$\Gamma(\psi(4230)^0 K^0,\ \psi^0 \to J/\psi\pi^+\pi^-)/\Gamma_{total}$ — Γ_{287}/Γ

NODE=S042P45

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<17 \times 10^{-6}$	90	[1] GARG	19	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$.

NODE=S042P45;LINKAGE=A

$\Gamma(K^+\pi^-)/\Gamma_{total}$ — Γ_{288}/Γ

NODE=S042R10

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
20.0 ± 0.4 OUR FIT					
20.0 ± 0.4 OUR AVERAGE					
20.67± 0.37±0.62		ADACHI	24	BELL	$e^+e^- \to \Upsilon(4S)$
20.00± 0.34±0.60		[1] DUH	13	BELL	$e^+e^- \to \Upsilon(4S)$
19.1 ± 0.6 ±0.6		[1] AUBERT	07B	BABR	$e^+e^- \to \Upsilon(4S)$
$18.0\ ^{+2.3}_{-2.1}\ ^{+1.2}_{-0.9}$		[1] BORNHEIM	03	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
19.9 ± 0.4 ±0.8		[1] LIN	07A	BELL	Repl. by DUH 13
18.5 ± 1.0 ±0.7		[1] CHAO	04	BELL	Repl. by LIN 07A
17.9 ± 0.9 ±0.7		[1] AUBERT	02Q	BABR	Repl. by AUBERT 07B
22.5 ± 1.9 ±1.8		[1] CASEY	02	BELL	Repl. by CHAO 04
$19.3\ ^{+3.4}_{-3.2}\ ^{+1.5}_{-0.6}$		[1] ABE	01H	BELL	Repl. by CASEY 02
16.7 ± 1.6 ±1.3		[1] AUBERT	01E	BABR	Repl. by AUBERT 02Q
< 66	90	[2] ABE	00C	SLD	$e^+e^- \to Z$
$17.2\ ^{+2.5}_{-2.4}$ ±1.2		[1] CRONIN-HEN...	00	CLE2	Repl. by BORNHEIM 03
$15\ ^{+5.}_{-4}$ ±1.4		GODANG	98	CLE2	Repl. by CRONIN-HENNESSY 00
$24\ ^{+17}_{-11}$ ±2		[3] ADAM	96D	DLPH	$e^+e^- \to Z$
< 17	90	ASNER	96	CLE2	Sup. by ADAM 96D
< 30	90	[4] BUSKULIC	96V	ALEP	$e^+e^- \to Z$
< 90	90	[5] ABREU	95N	DLPH	Sup. by ADAM 96D
< 81	90	[6] AKERS	94L	OPAL	$e^+e^- \to Z$
< 26	90	[7] BATTLE	93	CLE2	$e^+e^- \to \Upsilon(4S)$
<180	90	ALBRECHT	91B	ARG	$e^+e^- \to \Upsilon(4S)$
< 90	90	[8] AVERY	89B	CLEO	$e^+e^- \to \Upsilon(4S)$
<320	90	AVERY	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R10;LINKAGE=EP

[2] ABE 00C assumes B($Z \to b\overline{b}$)=(21.7 ± 0.1)% and the B fractions f_{B^0}=f_{B^+}=$(39.7^{+1.8}_{-2.2})$% and f_{B_s}=$(10.5^{+1.8}_{-2.2})$%. NODE=S042R10;LINKAGE=KQ

[3] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$. Contributions from B^0 and B_s decays cannot be separated. Limits are given for the weighted average of the decay rates for the two neutral B mesons. NODE=S042R10;LINKAGE=DQ

[4] BUSKULIC 96V assumes PDG 96 production fractions for B^0, B^+, B_s, b baryons. NODE=S042R10;LINKAGE=BV

[5] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12. Contributions from B^0 and B^0_s decays cannot be separated. Limits are given for the weighted average of the decay rates for the two neutral B mesons. NODE=S042R10;LINKAGE=SR

[6] Assumes B($Z \to b\overline{b}$) = 0.217 and B^0_d (B^0_s) fraction 39.5% (12%). NODE=S042R10;LINKAGE=C

[7] BATTLE 93 assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$. NODE=S042R10;LINKAGE=B

[8] Assumes the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. NODE=S042R10;LINKAGE=A1

$\Gamma(K^+\pi^-)/\Gamma(K^0\pi^0)$ $\Gamma_{288}/\Gamma_{289}$

NODE=S042S95
NODE=S042S95

VALUE	DOCUMENT ID		TECN	COMMENT
2.16±0.16±0.16	LIN	07A	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.20^{+0.50}_{-0.58}{}^{+0.22}_{-0.32}$	[1] ABE	01H	BELL	Repl. by LIN 07A

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S95;LINKAGE=EP

$\left[\Gamma(K^+\pi^-)+\Gamma(\pi^+\pi^-)\right]/\Gamma_{total}$ $(\Gamma_{288}+\Gamma_{423})/\Gamma$

NODE=S042S2
NODE=S042S2

VALUE (units 10^{-6})	EVTS	DOCUMENT ID		TECN	COMMENT
19± 6 OUR AVERAGE					
$28^{+15}_{-10}\pm20$		[1] ADAM	96D	DLPH	$e^+e^- \to Z$
$18^{+6}_{-5}{}^{+3}_{-4}$	17.2	ASNER	96	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$24^{+8}_{-7}\pm2$		[2] BATTLE	93	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$. Contributions from B^0 and B_s decays cannot be separated. Limits are given for the weighted average of the decay rates for the two neutral B mesons. NODE=S042S2;LINKAGE=DQ

[2] BATTLE 93 assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$. NODE=S042S2;LINKAGE=B

$\Gamma(K^0\pi^0)/\Gamma_{total}$ Γ_{289}/Γ

NODE=S042S41
NODE=S042S41

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
10.1 ±0.4 OUR AVERAGE					
10.73±0.63±0.62		[1] ADACHI	24	BELL	$e^+e^- \to \Upsilon(4S)$
9.68±0.46±0.50		[2] DUH	13	BELL	$e^+e^- \to \Upsilon(4S)$
10.1 ±0.6 ±0.4		[2] LEES	13D	BABR	$e^+e^- \to \Upsilon(4S)$
$12.8^{+4.0}_{-3.3}{}^{+1.7}_{-1.4}$		[2] BORNHEIM	03	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
8.7 ±0.5 ±0.6		[2] FUJIKAWA	10A	BELL	Repl. by DUH 13
10.3 ±0.7 ±0.6		[2] AUBERT	08E	BABR	Repl. by LEES 13D
9.2 ±0.7 ±0.6		[2] LIN	07A	BELL	Repl. by FUJIKAWA 10A
11.4 ±0.9 ±0.6		[2] AUBERT	05Y	BABR	Repl. by AUBERT 08E
11.4 ±1.7 ±0.8		[2] AUBERT	04M	BABR	Repl. by AUBERT 05Y
$11.7 \pm2.3{}^{+1.2}_{-1.3}$		[2] CHAO	04	BELL	Repl. by LIN 07A
$8.0^{+3.3}_{-3.1}\pm1.6$		[2] CASEY	02	BELL	Repl. by CHAO 04
$16.0^{+7.2}_{-5.9}{}^{+2.5}_{-2.7}$		[2] ABE	01H	BELL	Repl. by CASEY 02
$8.2^{+3.1}_{-2.7}\pm1.2$		[2] AUBERT	01E	BABR	Repl. by AUBERT 04M
$14.6^{+5.9}_{-5.1}{}^{+2.4}_{-3.3}$		[2] CRONIN-HEN...	00	CLE2	Repl. by BORNHEIM 03
<41	90	GODANG	98	CLE2	Repl. by CRONIN-HENNESSY 00
<40	90	ASNER	96	CLE2	Rep. by GODANG 98

[1] This is the combined result of this analysis (ADACHI 24) and the updated analysis of ADACHI 23E. The individual results are (10.40 ± 0.66 ± 0.60) × 10^{-6} and (11.15 ± 0.68 ± 0.62) × 10^{-6}, respectively. NODE=S042S41;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S41;LINKAGE=EP

$\Gamma(\eta' K^0)/\Gamma_{total}$ — Γ_{290}/Γ

NODE=S042S61
NODE=S042S61

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
66 ± 4 OUR AVERAGE	Error includes scale factor of 1.4.			
$68.5 \pm 2.2 \pm 3.1$	[1] AUBERT	09AV	BABR	$e^+ e^- \to \Upsilon(4S)$
$58.9^{+3.6}_{-3.5} \pm 4.3$	[1] SCHUEMANN	06	BELL	$e^+ e^- \to \Upsilon(4S)$
$89^{+18}_{-16} \pm 9$	[1] RICHICHI	00	CLE2	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$66.6 \pm 2.6 \pm 2.8$	[1] AUBERT	07AE	BABR	Repl. by AUBERT 09AV
$67.4 \pm 3.3 \pm 3.2$	[1] AUBERT	05M	BABR	AUBERT 07AE
$60.6 \pm 5.6 \pm 4.6$	[1] AUBERT	03W	BABR	Repl. by AUBERT 05M
$55^{+19}_{-16} \pm 8$	[1] ABE	01M	BELL	Repl. by SCHUEMANN 06
$42^{+13}_{-11} \pm 4$	[1] AUBERT	01G	BABR	Repl. by AUBERT 03W
$47^{+27}_{-20} \pm 9$	BEHRENS	98	CLE2	Repl. by RICHICHI 00

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S61;LINKAGE=EP

$\Gamma(\eta' K^*(892)^0)/\Gamma_{total}$ — Γ_{291}/Γ

NODE=S042S62
NODE=S042S62

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
2.8±0.6 OUR AVERAGE					
$2.6 \pm 0.7 \pm 0.2$		[1] SATO	14	BELL	$e^+ e^- \to \Upsilon(4S)$
$3.1^{+0.9}_{-0.8} \pm 0.3$		[1] DEL-AMO-SA...	10A	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$3.8 \pm 1.1 \pm 0.5$		[1] AUBERT	07E	BABR	Repl. by DEL-AMO-SANCHEZ 10A
< 2.6	90	[1] SCHUEMANN	07	BELL	$e^+ e^- \to \Upsilon(4S)$
< 7.6	90	[1] AUBERT,B	04D	BABR	Repl. by AUBERT 07E
<24	90	[1] RICHICHI	00	CLE2	$e^+ e^- \to \Upsilon(4S)$
<39	90	BEHRENS	98	CLE2	Repl. by RICHICHI 00

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S62;LINKAGE=EP

$\Gamma(\eta' K_0^*(1430)^0)/\Gamma_{total}$ — Γ_{292}/Γ

NODE=S042T72
NODE=S042T72

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
6.3±1.3±0.9	[1] DEL-AMO-SA...	10A	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T72;LINKAGE=EP

$\Gamma(\eta' K_2^*(1430)^0)/\Gamma_{total}$ — Γ_{293}/Γ

NODE=S042T73
NODE=S042T73

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{13.7^{+3.0}_{-2.9} \pm 1.2}$	[1] DEL-AMO-SA...	10A	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T73;LINKAGE=EP

$\Gamma(\eta K^0)/\Gamma_{total}$ — Γ_{294}/Γ

NODE=S042S64
NODE=S042S64

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{1.23^{+0.27}_{-0.24}}$ **OUR AVERAGE**					
$1.27^{+0.33}_{-0.29} \pm 0.08$		[1] HOI	12	BELL	$e^+ e^- \to \Upsilon(4S)$
$1.15^{+0.43}_{-0.38} \pm 0.09$		[1] AUBERT	09AV	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 1.9	90	[1] CHANG	07B	BELL	Repl. by HOI 12
< 2.9	90	[1] AUBERT,B	06V	BABR	$e^+ e^- \to \Upsilon(4S)$
< 2.5	90	[1] AUBERT,B	05K	BABR	$e^+ e^- \to \Upsilon(4S)$
< 2.0	90	[1] CHANG	05A	BELL	Repl. by CHANG 07B
< 5.2	90	[1] AUBERT	04H	BABR	Repl. by AUBERT,B 05K
< 9.3	90	[1] RICHICHI	00	CLE2	$e^+ e^- \to \Upsilon(4S)$
<33	90	BEHRENS	98	CLE2	Repl. by RICHICHI 00

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S64;LINKAGE=EP

$\Gamma(\eta K^*(892)^0)/\Gamma_{total}$ — Γ_{295}/Γ

NODE=S042S63
NODE=S042S63

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
15.9±1.0 OUR AVERAGE					
15.2±1.2±1.0		[1] WANG	07B	BELL	$e^+e^- \to \Upsilon(4S)$
16.5±1.1±0.8		[1] AUBERT,B	06H	BABR	$e^+e^- \to \Upsilon(4S)$
$13.8^{+5.5}_{-4.6}\pm1.6$		[1] RICHICHI	00	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
18.6±2.3±1.2		[1] AUBERT,B	04D	BABR	Repl. by AUBERT,B 06H
<30	90	BEHRENS	98	CLE2	Repl. by RICHICHI 00

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S63;LINKAGE=EP

$\Gamma(\eta K_0^*(1430)^0)/\Gamma_{total}$ — Γ_{296}/Γ

NODE=S042T12
NODE=S042T12

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
11.0±1.6±1.5	[1] AUBERT,B	06H	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T12;LINKAGE=EP

$\Gamma(\eta K_2^*(1430)^0)/\Gamma_{total}$ — Γ_{297}/Γ

NODE=S042T13
NODE=S042T13

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
9.6±1.8±1.1	[1] AUBERT,B	06H	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T13;LINKAGE=EP

$\Gamma(\omega K^0)/\Gamma_{total}$ — Γ_{298}/Γ

NODE=S042S71
NODE=S042S71

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
4.8±0.4 OUR AVERAGE					
4.5±0.4±0.3		[1] CHOBANOVA	14	BELL	$e^+e^- \to \Upsilon(4S)$
5.4±0.8±0.3		[1] AUBERT	07AE	BABR	$e^+e^- \to \Upsilon(4S)$
$10.0^{+5.4}_{-4.2}\pm1.4$		[1] JESSOP	00	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
6.2±1.0±0.4		[1] AUBERT,B	06E	BABR	Repl. by AUBERT 07AE
$4.4^{+0.8}_{-0.7}\pm0.4$		[1] JEN	06	BELL	Repl. by CHOBANOVA 14
$5.9^{+1.6}_{-1.3}\pm0.5$		[1] AUBERT	04H	BABR	Repl. by AUBERT,B 06E
$4.0^{+1.9}_{-1.6}\pm0.5$		[1] WANG	04A	BELL	Repl. by JEN 06
<13	90	[1] AUBERT	01G	BABR	Repl. by AUBERT 04H
<57	90	[1] BERGFELD	98	CLE2	Repl. by JESSOP 00

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S71;LINKAGE=EP

$\Gamma(a_0(980)^0 K^0,\ a_0^0 \to \eta\pi^0)/\Gamma_{total}$ — Γ_{299}/Γ

NODE=S042RA6
NODE=S042RA6

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<7.8	90	[1] AUBERT,BE	04	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of charged and neutral B mesons at $\Upsilon(4S)$.

NODE=S042RA6;LINKAGE=EP

$\Gamma(b_1^0 K^0,\ b_1^0 \to \omega\pi^0)/\Gamma_{total}$ — Γ_{300}/Γ

NODE=S042T50
NODE=S042T50

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<7.8	90	[1] AUBERT	08AG	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T50;LINKAGE=EP

$\Gamma(a_0(980)^\pm K^\mp,\ a_0^\pm \to \eta\pi^\pm)/\Gamma_{total}$ — Γ_{301}/Γ

NODE=S042RA5
NODE=S042RA5

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<1.9	90	[1] AUBERT	07Y	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2.1	90	[1] AUBERT,BE	04	BABR	Repl. by AUBERT 07Y

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042RA5;LINKAGE=EP

$\Gamma(b_1^- K^+,\ b_1^- \to \omega\pi^-)/\Gamma_{total}$ — Γ_{302}/Γ

NODE=S042T34
NODE=S042T34

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
7.4±1.0±1.0	[1] AUBERT	07BI	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T34;LINKAGE=EP

$\Gamma(b_1^0 K^{*0},\ b_1^0 \to \omega\pi^0)/\Gamma_{total}$ — Γ_{303}/Γ

NODE=S042T67

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<8.0 × 10^−6	90	[1] AUBERT 09AF	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T67;LINKAGE=EP

$\Gamma(b_1^- K^{*+},\ b_1^- \to \omega\pi^-)/\Gamma_{total}$ — Γ_{304}/Γ

NODE=S042T68

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<5.0 × 10^−6	90	[1] AUBERT 09AF	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T68;LINKAGE=EP

$\Gamma(a_0(1450)^\pm K^\mp,\ a_0^\pm \to \eta\pi^\pm)/\Gamma_{total}$ — Γ_{305}/Γ

NODE=S042T19

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<3.1	90	[1] AUBERT 07Y	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T19;LINKAGE=EP

$\Gamma(K_S^0 X^0 \text{(Familon)})/\Gamma_{total}$ — Γ_{306}/Γ

NODE=S042B11

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<53	90	[1] AMMAR 01B	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] AMMAR 01B searched for the two-body decay of the B meson to a massless neutral feebly-interacting particle X^0 such as the familon, the Nambu-Goldstone boson associated with a spontaneously broken global family symmetry.

NODE=S042B11;LINKAGE=A

$\Gamma(\omega K^*(892)^0)/\Gamma_{total}$ — Γ_{307}/Γ

NODE=S042S72

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
2.0±0.5 OUR AVERAGE				
2.2±0.6±0.2		[1] AUBERT 09H	BABR	$e^+ e^- \to \Upsilon(4S)$
1.8±0.7±0.3		[1] GOLDENZWE..08	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
< 4.2	90	[1] AUBERT,B 06T	BABR	Repl. by AUBERT 09H
< 6.0	90	[1] AUBERT 05O	BABR	Repl. by AUBERT,B 06T
<23	90	[1] BERGFELD 98	CLE2	

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S72;LINKAGE=EP

$\Gamma(\omega (K\pi)_0^{*0})/\Gamma_{total}$ — Γ_{308}/Γ

NODE=S042T57

$(K\pi)_0^{*0}$ is the total S-wave composed of $K_0^*(1430)$ and nonresonant that are described using LASS shape.

NODE=S042T57

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
18.4±1.8±1.7	[1] AUBERT 09H	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T57;LINKAGE=EP

$\Gamma(\omega K_0^*(1430)^0)/\Gamma_{total}$ — Γ_{309}/Γ

NODE=S042T58

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
16.0±1.6±3.0	[1] AUBERT 09H	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T58;LINKAGE=EP

$\Gamma(\omega K_2^*(1430)^0)/\Gamma_{total}$ — Γ_{310}/Γ

NODE=S042T59

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
10.1±2.0±1.1	[1] AUBERT 09H	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T59;LINKAGE=EP

$\Gamma(\omega K^+ \pi^- \text{ nonresonant})/\Gamma_{total}$ — Γ_{311}/Γ

NODE=S042T56

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
5.1±0.7±0.7	[1,2] GOLDENZWE..08	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T56;LINKAGE=EP

[2] For the $K\pi$ mass range 0.755–1.250 GeV/c^2, excluding $K^*(892)$.

NODE=S042T56;LINKAGE=GO

$\Gamma(K^+\pi^-\pi^0)/\Gamma_{total}$ — Γ_{312}/Γ

NODE=S042B32
NODE=S042B32

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
37.8±3.2 OUR AVERAGE					
38.5±1.0±3.9		[1,2] LEES	11	BABR	$e^+e^- \to \Upsilon(4S)$
$36.6^{+4.2}_{-4.3}\pm3.0$		[1] CHANG	04	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$35.7^{+2.6}_{-1.5}\pm2.2$		[1] AUBERT	08AQ	BABR	Repl. by LEES 11
<40	90	[1] ECKHART	02	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B32;LINKAGE=EP
[2] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. NODE=S042B32;LINKAGE=LE

$\Gamma(K^+\rho^-)/\Gamma_{total}$ — Γ_{313}/Γ

NODE=S042S42
NODE=S042S42

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
7.0±0.9 OUR AVERAGE					
6.6±0.5±0.8		[1,2] LEES	11	BABR	$e^+e^- \to \Upsilon(4S)$
$15.1^{+3.4}_{-3.3}{}^{+2.4}_{-2.6}$		[1] CHANG	04	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$8.0^{+0.8}_{-1.3}\pm0.6$		[1] AUBERT	08AQ	BABR	Repl. by LEES 11
$7.3^{+1.3}_{-1.2}\pm1.3$		[1] AUBERT	03T	BABR	Repl. by AUBERT 08AQ
<32	90	[1] JESSOP	00	CLE2	$e^+e^- \to \Upsilon(4S)$
<35	90	ASNER	96	CLE2	Repl. by JESSOP 00

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S42;LINKAGE=EP
[2] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. NODE=S042S42;LINKAGE=LE

$\Gamma(K^+\rho(1450)^-)/\Gamma_{total}$ — Γ_{314}/Γ

NODE=S042T45
NODE=S042T45

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
2.4±1.0±0.6		[1,2] LEES	11	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2.1	90	[1] AUBERT	08AQ	BABR	Repl. by LEES 11

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T45;LINKAGE=EP
[2] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. NODE=S042T45;LINKAGE=LE

$\Gamma(K^+\rho(1700)^-)/\Gamma_{total}$ — Γ_{315}/Γ

NODE=S042T44
NODE=S042T44

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
0.6±0.6±0.4		[1,2] LEES	11	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1.1	90	[1] AUBERT	08AQ	BABR	Repl. by LEES 11

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T44;LINKAGE=EP
[2] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. NODE=S042T44;LINKAGE=LE

$\Gamma((K^+\pi^-\pi^0)\text{ nonresonant})/\Gamma_{total}$ — Γ_{316}/Γ

NODE=S042Q07
NODE=S042Q07

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
2.8±0.5±0.4		[1,2] LEES	11	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
4.4±0.9±0.5		[1] AUBERT	08AQ	BABR	Repl. by LEES 11
<9.4	90	[1] CHANG	04	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q07;LINKAGE=EP
[2] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. The quoted value is only for the flat part of the non-resonant component. NODE=S042Q07;LINKAGE=LE

$\Gamma((K\pi)^{*+}_0\pi^-,\ (K\pi)^{*+}_0 \to K^+\pi^0)/\Gamma_{total}$ — Γ_{317}/Γ

NODE=S042T46

$(K\pi)^{*+}_0$ is the total S-wave composed of $K^*_0(1430)$ and nonresonant that are described using LASS shape. NODE=S042T46

NODE=S042T46

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
34.2±2.4±4.1	[1,2] LEES	11	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$9.4^{+1.1}_{-1.3}{}^{+2.3}_{-2.1}$	[1] AUBERT	08AQ	BABR	Repl. by LEES 11

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T46;LINKAGE=EP
[2] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. NODE=S042T46;LINKAGE=LE

$\Gamma\big((K\pi)^{*0}_0\pi^0,\ (K\pi)^{*0}_0 \to K^+\pi^-\big)/\Gamma_{total}$ — Γ_{318}/Γ

NODE=S042T47

$(K\pi)^{*0}_0$ is the total S-wave composed of $K^*_0(1430)$ and nonresonant that are described using LASS shape.

NODE=S042T47

NODE=S042T47

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
8.6±1.1±1.3	[1,2] LEES 11	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$8.7^{+1.1}_{-0.9}{}^{+2.8}_{-2.6}$	[1] AUBERT 08AQ	BABR	Repl. by LEES 11

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T47;LINKAGE=EP

[2] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. NODE=S042T47;LINKAGE=LE

$\Gamma\big(K^*_2(1430)^0\pi^0\big)/\Gamma_{total}$ — Γ_{319}/Γ

NODE=S042T49
NODE=S042T49

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<4.0	90	[1] AUBERT 08AQ	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T49;LINKAGE=EP

$\Gamma\big(K^*(1680)^0\pi^0\big)/\Gamma_{total}$ — Γ_{320}/Γ

NODE=S042T48
NODE=S042T48

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<7.5	90	[1] AUBERT 08AQ	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T48;LINKAGE=EP

$\Gamma\big(K^{*0}_x\pi^0\big)/\Gamma_{total}$ — Γ_{321}/Γ

NODE=S042Q05

K^{*0}_x stands for the possible candidates of $K^*(1410)$, $K^*_0(1430)$ and $K^*_2(1430)$.

NODE=S042Q05
NODE=S042Q05

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$\mathbf{6.1^{+1.6}_{-1.5}{}^{+0.5}_{-0.6}}$	[1] CHANG 04	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q05;LINKAGE=CH

$\Gamma\big(K^0\pi^+\pi^-\big)/\Gamma_{total}$ — Γ_{322}/Γ

NODE=S042R80
NODE=S042R80

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
49.7± 1.8 OUR FIT				
49.6± 2.0 OUR AVERAGE				
50.2± 1.5±1.8		[1] AUBERT 09AU	BABR	$e^+e^- \to \Upsilon(4S)$
47.5± 2.4±3.7		[2] GARMASH 07	BELL	$e^+e^- \to \Upsilon(4S)$
$50\ ^{+10}_{-\ 9}\ \pm 7$		[1] ECKHART 02	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
43.0± 2.3±2.3		[1] AUBERT 06I	BABR	Repl. by AUBERT 09AU
43.7± 3.8±3.4		[1] AUBERT,B 04O	BABR	Repl. by AUBERT 06I
45.4± 5.2±5.9		[1] GARMASH 04	BELL	Repl. by GARMASH 07
<440	90	ALBRECHT 91E	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R80;LINKAGE=EP

[2] Uses Dalitz plot analysis of the $B^0 \to K^0\pi^+\pi^-$ final state decays. NODE=S042R80;LINKAGE=GM

$\Gamma\big(K^0\pi^+\pi^-\ \text{nonresonant}\big)/\Gamma_{total}$ — Γ_{323}/Γ

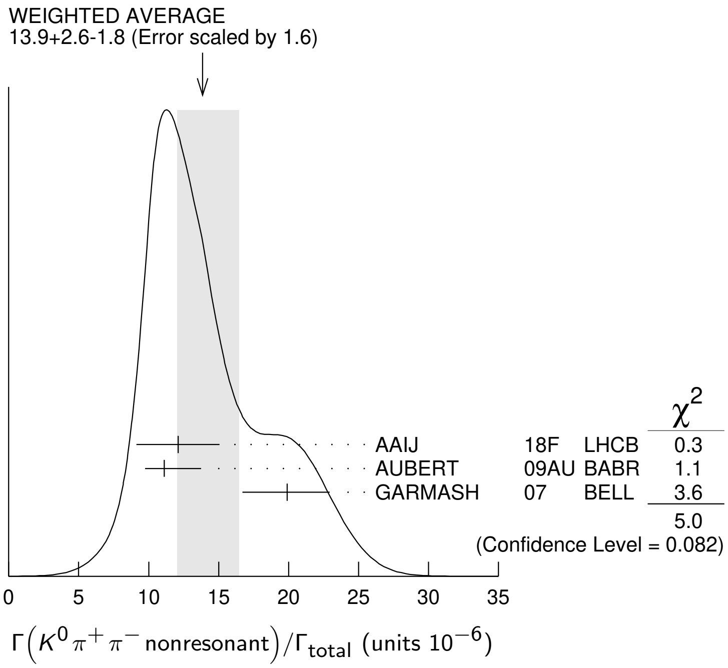
NODE=S042B00
NODE=S042B00

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$\mathbf{13.9^{+2.6}_{-1.8}}$ **OUR AVERAGE** Error includes scale factor of 1.6. See the ideogram below.			
12.1±0.6±2.9	[1] AAIJ 18F	LHCB	pp at 7, 8 TeV
$11.1^{+2.5}_{-1.0}\pm0.9$	[2] AUBERT 09AU	BABR	$e^+e^- \to \Upsilon(4S)$
$19.9\pm2.5^{+1.7}_{-2.0}$	[3] GARMASH 07	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of the $B^0 \to K^0_S\pi^+\pi^-$ final state decays. For the branching fraction of the reference mode, the PDG 18 average B$(B^0 \to K^0_S\pi^+\pi^-) = (4.96 \pm 0.20) \times 10^{-5}$ is used. NODE=S042B00;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B00;LINKAGE=EP

[3] Uses Dalitz plot analysis of the $B^0 \to K^0\pi^+\pi^-$ final state decays. NODE=S042B00;LINKAGE=GM



$\Gamma(K^0\rho^0)/\Gamma_{\text{total}}$ Γ_{324}/Γ

NODE=S042R12
NODE=S042R12

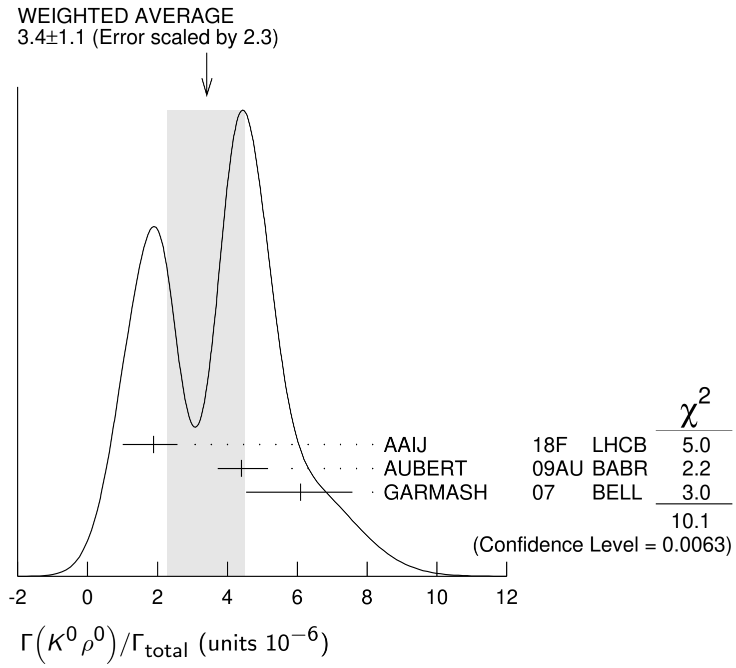
VALUE (units 10^{-6})	*CL%*	*DOCUMENT ID*	*TECN*	*COMMENT*
3.4 ±1.1 OUR AVERAGE Error includes scale factor of 2.3. See the ideogram below.				
$1.89^{+0.55}_{-0.79}\pm0.40$		[1] AAIJ 18F	LHCB	pp at 7, 8 TeV
$4.4\ ^{+0.7}_{-0.6}\ \pm0.3$		[2] AUBERT 09AU	BABR	$e^+e^- \to \Upsilon(4S)$
$6.1\ \pm1.0\ ^{+1.1}_{-1.2}$		[3] GARMASH 07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$4.9\ \pm0.8\ \pm0.9$		[2] AUBERT 07F	BABR	Repl. by AUBERT 09AU
$<\ 39$	90	ASNER 96	CLEO	$e^+e^- \to \Upsilon(4S)$
<320	90	ALBRECHT 91B	ARG	$e^+e^- \to \Upsilon(4S)$
<500	90	[4] AVERY 89B	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of the $B^0 \to K^0_S\pi^+\pi^-$ final state decays. For the branching fraction of the reference mode, the PDG 18 average B($B^0 \to K^0_S\pi^+\pi^-$) = $(4.96 \pm 0.20) \times 10^{-5}$ is used. NODE=S042R12;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R12;LINKAGE=EP

[3] Uses Dalitz plot analysis of the $B^0 \to K^0\pi^+\pi^-$ final state decays. NODE=S042R12;LINKAGE=GM

[4] AVERY 89B reports $< 5.8 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R12;LINKAGE=A1



$\Gamma(K^*(892)^+\pi^-)/\Gamma_{total}$ Γ_{325}/Γ

NODE=S042R11
NODE=S042R11

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
7.5 ±0.4 OUR AVERAGE					
$7.02\pm0.30\pm0.45$		[1] AAIJ	18F	LHCB	pp at 7, 8 TeV
$8.0\ \pm1.1\ \pm0.8$		[2,3] LEES	11	BABR	$e^+e^-\to\Upsilon(4S)$
$8.3\ ^{+0.9}_{-0.8}\ \pm0.8$		[3,4] AUBERT	09AU	BABR	$e^+e^-\to\Upsilon(4S)$
$8.4\ \pm1.1\ ^{+1.0}_{-0.9}$		[4] GARMASH	07	BELL	$e^+e^-\to\Upsilon(4S)$
$16\ ^{+6}_{-5}\ \pm2$		[3] ECKHART	02	CLE2	$e^+e^-\to\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$12.6\ ^{+2.7}_{-1.6}\ \pm0.9$		[2,3] AUBERT	08AQ	BABR	Repl. by LEES 11
$11.0\ \pm1.5\ \pm0.71$		[3] AUBERT	06I	BABR	Repl. by AUBERT 09AU
$12.9\ \pm2.4\ \pm1.4$		[3] AUBERT,B	04O	BABR	Repl. by AUBERT 06I
$14.8\ ^{+4.6}_{-4.4}\ ^{+2.8}_{-1.3}$		[3] CHANG	04	BELL	Repl. by GARMASH 07
$<\ 72$	90	ASNER	96	CLE2	$e^+e^-\to\Upsilon(4S)$
<620	90	ALBRECHT	91B	ARG	$e^+e^-\to\Upsilon(4S)$
<380	90	[5] AVERY	89B	CLEO	$e^+e^-\to\Upsilon(4S)$
<560	90	[6] AVERY	87	CLEO	$e^+e^-\to\Upsilon(4S)$

[1] Uses Dalitz plot analysis of the $B^0\to K^0_S\pi^+\pi^-$ final state decays. For the branching fraction of the reference mode, the PDG 18 average B($B^0\to K^0_S\pi^+\pi^-$) = $(4.96\pm0.20)\times10^{-5}$ is used. NODE=S042R11;LINKAGE=A

[2] Uses Dalitz plot analysis of $B^0\to K^+\pi^-\pi^0$ decays. NODE=S042R11;LINKAGE=DA

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R11;LINKAGE=EP

[4] Uses Dalitz plot analysis of the $B^0\to K^0\pi^+\pi^-$ final state decays. NODE=S042R11;LINKAGE=GM

[5] AVERY 89B reports $<4.4\times10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R11;LINKAGE=A1

[6] AVERY 87 reports $<7\times10^{-4}$ assuming the $\Upsilon(4S)$ decays 40% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R11;LINKAGE=AV

$\Gamma(K^*_0(1430)^+\pi^-)/\Gamma_{total}$ Γ_{326}/Γ

NODE=S042B01
NODE=S042B01

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
33 ±7 OUR AVERAGE Error includes scale factor of 2.0.				
$29.9^{+2.3}_{-1.7}\pm3.6$	[1,2] AUBERT	09AU	BABR	$e^+e^-\to\Upsilon(4S)$
$49.7\pm3.8^{+6.8}_{-8.2}$	[2] GARMASH	07	BELL	$e^+e^-\to\Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B01;LINKAGE=EP

[2] Uses Dalitz plot analysis of the $B^0\to K^0\pi^+\pi^-$ final state decays. NODE=S042B01;LINKAGE=GM

$\Gamma(K_x^{*+}\pi^-)/\Gamma_{total}$ — Γ_{327}/Γ

NODE=S042Q06

K_x^{*+} stands for the possible candidates of $K^*(1410)$, $K_0^*(1430)$ and $K_2^*(1430)$.

NODE=S042Q06
NODE=S042Q06

VALUE (units 10^{-6})	*DOCUMENT ID*		*TECN*	*COMMENT*
$5.1\pm1.5^{+0.6}_{-0.7}$	[1] CHANG	04	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q06;LINKAGE=CH

$\Gamma(K^*(1410)^+\pi^-,\ K^{*+}\to K^0\pi^+)/\Gamma_{total}$ — Γ_{328}/Γ

NODE=S042B02
NODE=S042B02

VALUE (units 10^{-6})	*CL%*	*DOCUMENT ID*		*TECN*	*COMMENT*
<3.8	90	[1] GARMASH	07	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of the $B^0 \to K^0\pi^+\pi^-$ final state decays.

NODE=S042B02;LINKAGE=GM

$\Gamma((K\pi)_0^{*+}\pi^-,\ (K\pi)_0^{*+}\to K^0\pi^+)/\Gamma_{total}$ — Γ_{329}/Γ

NODE=S042P43
NODE=S042P43

VALUE (units 10^{-6})	*DOCUMENT ID*		*TECN*	*COMMENT*
$16.2\pm0.69\pm1.15$	[1] AAIJ	18F	LHCB	pp at 7, 8 TeV

[1] Uses Dalitz plot analysis of the $B^0 \to K_S^0\pi^+\pi^-$ final state decays. $(K\pi)_0^{*+}$ is the S-wave component of $K^0\pi^+$. For the branching fraction of the reference mode, the PDG 18 average B($B^0 \to K_S^0\pi^+\pi^-$) = $(4.96 \pm 0.20)\times10^{-5}$ is used.

NODE=S042P43;LINKAGE=A

$\Gamma(f_0(980)K^0,\ f_0\to\pi^+\pi^-)/\Gamma_{total}$ — Γ_{330}/Γ

NODE=S042B05
NODE=S042B05

VALUE (units 10^{-6})	*CL%*	*DOCUMENT ID*		*TECN*	*COMMENT*
8.1 ± 0.8 OUR AVERAGE		Error includes scale factor of 1.3. See the ideogram below.			
$9.23\pm0.40\pm0.79$		[1] AAIJ	18F	LHCB	pp at 7, 8 TeV
$6.9\pm0.8\pm0.6$		[2] AUBERT	09AU	BABR	$e^+e^- \to \Upsilon(4S)$
$7.6\pm1.7\ ^{+0.9}_{-1.3}$		[3] GARMASH	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$5.5\pm0.7\pm0.6$		[2] AUBERT	06I	BABR	Repl. by AUBERT 09AU
<360	90	[4] AVERY	89B	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of the $B^0 \to K_S^0\pi^+\pi^-$ final state decays. For the branching fraction of the reference mode, the PDG 18 average B($B^0 \to K_S^0\pi^+\pi^-$) = $(4.96 \pm 0.20)\times10^{-5}$ is used.

NODE=S042B05;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

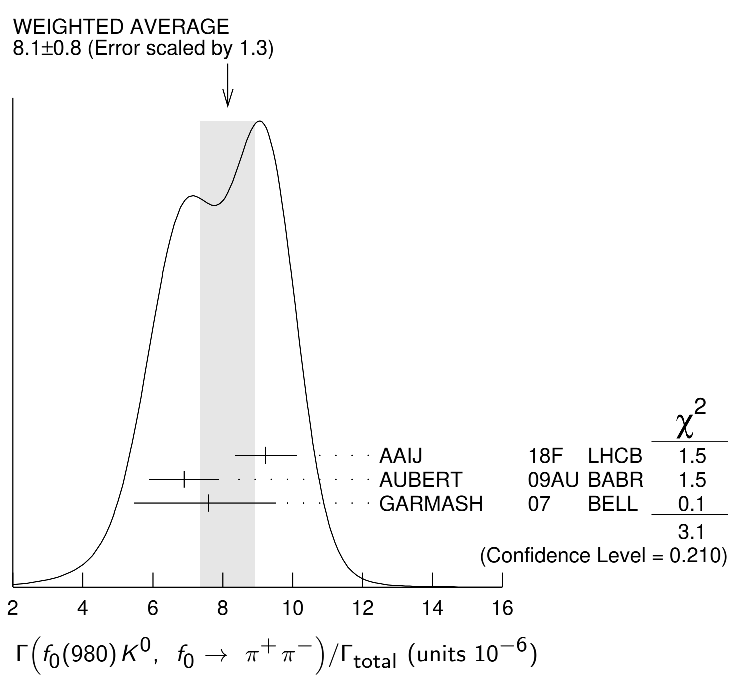
NODE=S042B05;LINKAGE=EP

[3] Uses Dalitz plot analysis of the $B^0 \to K^0\pi^+\pi^-$ final state decays.

NODE=S042B05;LINKAGE=GM

[4] AVERY 89B reports $< 4.2\times10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

NODE=S042B05;LINKAGE=A1



$\Gamma(K^0 f_0(500))/\Gamma_{total}$ — Γ_{331}/Γ

NODE=S042P40

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$\mathbf{0.16^{+0.20}_{-0.04}\pm0.15}$	[1] AAIJ 18F	LHCB	pp at 7, 8 TeV

[1] Uses Dalitz plot analysis of the $B^0 \to K^0_S \pi^+\pi^-$ final state decays. For the branching fraction of the reference mode, the PDG 18 average B($B^0 \to K^0_S \pi^+\pi^-$) = (4.96 ± 0.20) × 10^{-5} is used.

NODE=S042P40;LINKAGE=A

$\Gamma(K^0 f_0(1500))/\Gamma_{total}$ — Γ_{332}/Γ

NODE=S042P42

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
1.29±0.27±0.70	[1] AAIJ 18F	LHCB	pp at 7, 8 TeV

[1] Uses Dalitz plot analysis of the $B^0 \to K^0_S \pi^+\pi^-$ final state decays. For the branching fraction of the reference mode, the PDG 18 average B($B^0 \to K^0_S \pi^+\pi^-$) = (4.96 ± 0.20) × 10^{-5} is used.

NODE=S042P42;LINKAGE=A

$\Gamma(f_2(1270) K^0)/\Gamma_{total}$ — Γ_{333}/Γ

NODE=S042B06

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
$\mathbf{2.7^{+1.0}_{-0.8}\pm0.9}$		[1] AUBERT 09AU	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<2.5	90	[2] GARMASH 07	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B06;LINKAGE=EP

[2] GARMASH 07 reports B($B^0 \to f_2(1270) K^0$)×B($f_2(1270) \to \pi^+\pi^-$) < 1.4 × 10^{-6} using Dalitz plot analysis. We compute B($B^0 \to f_2(1270) K^0$) using the PDG value B($f_2(1270) \to \pi\pi$) = 84.3 × 10^{-2} and 2/3 for the $\pi^+\pi^-$ fraction.

NODE=S042B06;LINKAGE=GM

$\Gamma(f_x(1300) K0, f_x \to \pi^+\pi^-)/\Gamma_{total}$ — Γ_{334}/Γ

NODE=S042P05

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$\mathbf{1.81^{+0.55}_{-0.45}\pm0.48}$	[1] AUBERT 09AU	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042P05;LINKAGE=EP

$\Gamma(K^*(892)^0 \pi^0)/\Gamma_{total}$ — Γ_{335}/Γ

NODE=S042S43

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
3.3±0.5±0.4		[1,2] LEES 11	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
3.6±0.7±0.4		[1,2] AUBERT 08AQ	BABR	Repl. by LEES 11
< 3.5	90	[2] CHANG 04	BELL	$e^+e^- \to \Upsilon(4S)$
< 3.6	90	JESSOP 00	CLE2	$e^+e^- \to \Upsilon(4S)$
<28	90	ASNER 96	CLE2	Repl. by JESSOP 00

[1] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays.

NODE=S042S43;LINKAGE=DA

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S43;LINKAGE=EP

$\Gamma(K^*_2(1430)^+ \pi^-)/\Gamma_{total}$ — Γ_{336}/Γ

NODE=S042R72

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
$\mathbf{3.65^{+0.15}_{-0.12}\pm0.31}$		[1] AAIJ 18F	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
< 16.2	90	[2,3] AUBERT 08AQ	BABR	$e^+e^- \to \Upsilon(4S)$
< 6	90	[4] GARMASH 07	BELL	$e^+e^- \to \Upsilon(4S)$
< 18	90	[3] GARMASH 04	BELL	Repl. by GARMASH 07
<2600	90	ALBRECHT 91B	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of the $B^0 \to K^0_S \pi^+\pi^-$ final state decays. We compute B($B^0 \to K^*_2(1430)^+\pi^-$) using the PDG 18 value B($K^*_2(1430) \to K\pi$) = 49.9 × 10^{-2} and 2/3 for the $K^0\pi^+$ fraction. For the branching fraction of the reference mode, the PDG 18 average B($B^0 \to K^0_S \pi^+\pi^-$) = (4.96 ± 0.20) × 10^{-5} is used.

NODE=S042R72;LINKAGE=A

[2] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays.

NODE=S042R72;LINKAGE=DA

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042R72;LINKAGE=EP

[4] GARMASH 07 reports B($B^0 \to K^*_2(1430)^+\pi^-$)×B($K^{*+}_2 \to K^0\pi^+$) < 2.1 × 10^{-6} using Dalitz plot analysis. We compute B($B^0 \to K^*_2(1430)^+\pi^-$) using the PDG value B($K^*_2(1430) \to K\pi$) = 49.9 × 10^{-2} and 2/3 for the $K^0\pi^+$ fraction.

NODE=S042R72;LINKAGE=GM

$\Gamma(K^*(1680)^+\pi^-)/\Gamma_{total}$ Γ_{337}/Γ

NODE=S042B03

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
14.1±0.58±0.84		[1] AAIJ	18F	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<25	90	[2,3] AUBERT	08AQ	BABR	$e^+e^- \to \Upsilon(4S)$
<10	90	[4] GARMASH	07	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of the $B^0 \to K^0_S\pi^+\pi^-$ final state decays. We compute B($B^0 \to K^*_2(1430)^+\pi^-$) using the PDG 18 value B($K^*_2(1430) \to K\pi$) = $(49.9 \pm 1.2) \times 10^{-2}$ and 2/3 for the $K^0\pi^+$ fraction. For the branching fraction of the reference mode, the PDG 18 average B($B^0 \to K^0_S\pi^+\pi^-$) = $(4.96 \pm 0.20) \times 10^{-5}$ is used. NODE=S042B03;LINKAGE=A

[2] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. NODE=S042B03;LINKAGE=DA

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B03;LINKAGE=EP

[4] GARMASH 07 reports B($B^0 \to K^*(1680)^+\pi^-$)×B($K^{*+} \to K^0\pi^+$) $< 2.6 \times 10^{-6}$ using Dalitz plot analysis. We compute B($B^0 \to K^*(1680)^+\pi^-$) using the PDG value B($K^*(1680) \to K\pi$)=38.7×10^{-2} and 2/3 for the $K^0\pi^+$ fraction. NODE=S042B03;LINKAGE=GM

$\Gamma(K^+\pi^-\pi^+\pi^-)/\Gamma_{total}$ Γ_{338}/Γ

NODE=S042S40

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<2.3 × 10⁻⁴	90	[1] ADAM	96D	DLPH	$e^+e^- \to Z$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<2.1 \times 10^{-4}$	90	[2] ABREU	95N	DLPH	Sup. by ADAM 96D

[1] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$. Contributions from B^0 and B_s decays cannot be separated. Limits are given for the weighted average of the decay rates for the two neutral B mesons. NODE=S042S40;LINKAGE=DQ

[2] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12. Contributions from B^0 and B^0_s decays cannot be separated. Limits are given for the weighted average of the decay rates for the two neutral B mesons. NODE=S042S40;LINKAGE=SR

$\Gamma(\rho^0 K^+\pi^-)/\Gamma_{total}$ Γ_{339}/Γ

NODE=S042T63

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
2.8±0.5±0.5	[1,2] KYEONG	09	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T63;LINKAGE=EP

[2] Required $0.75 < m_{K^+\pi^-} < 1.20$ GeV/c^2. NODE=S042T63;LINKAGE=KY

$\Gamma(f_0(980)K^+\pi^-,\ f_0 \to \pi\pi)/\Gamma_{total}$ Γ_{340}/Γ

NODE=S042T64

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$1.4\pm0.4^{+0.3}_{-0.4}$	[1,2] KYEONG	09	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T64;LINKAGE=EP

[2] Required $0.75 < m_{K^+K^-} < 1.2$ GeV/c^2. NODE=S042T64;LINKAGE=KY

$\Gamma(K^+\pi^-\pi^+\pi^-$ nonresonant$)/\Gamma_{total}$ Γ_{341}/Γ

NODE=S042T66

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<2.1 × 10⁻⁶	90	[1,2] KYEONG	09	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T66;LINKAGE=EP

[2] Required $0.55 < m_{\pi^+\pi^-} < 1.42$ and $0.75 < m_{K^+\pi^-} < 1.20$ GeV/c^2. NODE=S042T66;LINKAGE=KY

$\Gamma(K^*(892)^0\pi^+\pi^-)/\Gamma_{total}$ Γ_{342}/Γ

NODE=S042R84

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
54.5±2.9±4.3		[1] AUBERT	07AS	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$4.5^{+1.1}_{-1.0}{}^{+0.9}_{-1.6}$		[1,2] KYEONG	09	BELL	$e^+e^- \to \Upsilon(4S)$
<1400	90	ALBRECHT	91E	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R84;LINKAGE=EP

[2] Required $0.55 < m_{\pi^+\pi^-} < 1.42$ GeV/c^2. NODE=S042R84;LINKAGE=KY

$\Gamma\big(K^*(892)^0\rho^0\big)/\Gamma_{\text{total}}$ Γ_{343}/Γ

NODE=S042R15
NODE=S042R15

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
3.9±1.3 OUR AVERAGE		Error includes scale factor of 1.9.			
$5.1\pm0.6^{+0.6}_{-0.8}$		[1] LEES	12K	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$2.1^{+0.8}_{-0.7}{}^{+0.9}_{-0.5}$		[1] KYEONG	09	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$5.6\pm0.9\pm1.3$		[1] AUBERT,B	06G	BABR	Repl. by LEES 12K
<34	90	[2] GODANG	02	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
<286	90	[3] ABE	00C	SLD	$e^+e^- \rightarrow Z$
<460	90	ALBRECHT	91B	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
<580	90	[4] AVERY	89B	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
<960	90	[5] AVERY	87	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R15;LINKAGE=EP

[2] Assumes a helicity 00 configuration. For a helicity 11 configuration, the limit decreases to 2.4×10^{-5}. NODE=S042R15;LINKAGE=Z1

[3] ABE 00C assumes B($Z \rightarrow b\overline{b}$)=(21.7 ± 0.1)% and the B fractions $f_{B^0}=f_{B^+}=(39.7^{+1.8}_{-2.2})$% and $f_{B_s}=(10.5^{+1.8}_{-2.2})$%. NODE=S042R15;LINKAGE=KQ

[4] AVERY 89B reports $<6.7\times10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R15;LINKAGE=A1

[5] AVERY 87 reports $<1.2\times10^{-3}$ assuming the $\Upsilon(4S)$ decays 40% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R15;LINKAGE=AV

$\Gamma\big(K^*(892)^0 f_0(980),\ f_0 \rightarrow \pi\pi\big)/\Gamma_{\text{total}}$ Γ_{344}/Γ

NODE=S042R43
NODE=S042R43

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{3.9^{+2.1}_{-1.8}}$ **OUR AVERAGE**		Error includes scale factor of 3.9.			
$5.7\pm0.6\pm0.4$		[1] LEES	12K	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$1.4^{+0.6}_{-0.5}{}^{+0.6}_{-0.4}$		[1,2] KYEONG	09	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<4.3	90	[1] AUBERT,B	06G	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
<170	90	[3] AVERY	89B	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R43;LINKAGE=EP

[2] The upper limit is 2.2×10^{-6} at 90% CL. NODE=S042R43;LINKAGE=LE

[3] AVERY 89B reports $<2.0\times10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R43;LINKAGE=A1

$\Gamma\big(K_1(1270)^+\pi^-\big)/\Gamma_{\text{total}}$ Γ_{345}/Γ

NODE=S042T71
NODE=S042T71

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{<3.0\times10^{-5}}$	90	[1] AUBERT	10D	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T71;LINKAGE=EP

$\Gamma\big(K_1(1400)^+\pi^-\big)/\Gamma_{\text{total}}$ Γ_{346}/Γ

NODE=S042R71
NODE=S042R71

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{<2.7\times10^{-5}}$	90	[1] AUBERT	10D	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.1\times10^{-3}$	90	ALBRECHT	91B	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R71;LINKAGE=EP

$\Gamma\big(a_1(1260)^- K^+\big)/\Gamma_{\text{total}}$ Γ_{347}/Γ

NODE=S042S39
NODE=S042S39

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
16.3±2.9±2.3		[1,2] AUBERT	08F	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<230	90	[3] ADAM	96D	DLPH	$e^+e^- \rightarrow Z$
<390	90	[4] ABREU	95N	DLPH	Sup. by ADAM 96D

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S39;LINKAGE=EP

[2] Assumes $a_1^\pm$ decays only to 3π and B($a_1^\pm \rightarrow \pi^\pm\pi^\mp\pi^\pm$) = 0.5. NODE=S042S39;LINKAGE=UB

[3] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$. Contributions from B^0 and B_s decays cannot be separated. Limits are given for the weighted average of the decay rates for the two neutral B mesons. NODE=S042S39;LINKAGE=DQ

[4] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12. Contributions from B^0 and B_s^0 decays cannot be separated. Limits are given for the weighted average of the decay rates for the two neutral B mesons. NODE=S042S39;LINKAGE=SR

$\Gamma(K^*(892)^+ \rho^-)/\Gamma_{total}$ — Γ_{348}/Γ

NODE=S042T11

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
10.3±2.3±1.3		[1] LEES	12K	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<12.0	90	[1] AUBERT,B	06G	BABR	Repl. by LEES 12K

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T11;LINKAGE=EP

$\Gamma(K_0^*(1430)^+ \rho^-)/\Gamma_{total}$ — Γ_{349}/Γ

NODE=S042T86

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
28±10±6	[1] LEES	12K	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T86;LINKAGE=EP

$\Gamma(K_1(1400)^0 \rho^0)/\Gamma_{total}$ — Γ_{350}/Γ

NODE=S042R73

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<3.0 × 10^{-3}	90	ALBRECHT	91B	ARG	$e^+e^- \to \Upsilon(4S)$

$\Gamma(K_0^*(1430)^0 \rho^0)/\Gamma_{total}$ — Γ_{351}/Γ

NODE=S042T83

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
27±4±4	[1] LEES	12K	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T83;LINKAGE=EP

$\Gamma(K_0^*(1430)^0 f_0(980),\ f_0 \to \pi\pi)/\Gamma_{total}$ — Γ_{352}/Γ

NODE=S042T84

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
2.7±0.7±0.6	[1] LEES	12K	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T84;LINKAGE=EP

$\Gamma(K_2^*(1430)^0 f_0(980),\ f_0 \to \pi\pi)/\Gamma_{total}$ — Γ_{353}/Γ

NODE=S042T85

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
8.6±1.7±1.0	[1] LEES	12K	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T85;LINKAGE=EP

$\Gamma(K^+ K^-)/\Gamma_{total}$ — Γ_{354}/Γ

NODE=S042S1

VALUE (units 10^{-8})	CL%	DOCUMENT ID		TECN	COMMENT
7.80± 1.27± 0.84		[1] AAIJ	17G	LHCB	pp at 7 and 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
10 ± 8 ± 4		[2,3] DUH	13	BELL	$e^+e^- \to \Upsilon(4S)$
12 ± 8 ± 2		[4] AAIJ	12AR	LHCB	Repl. by AAIJ 17G
23 ±10 ±10		[5] AALTONEN	12L	CDF	$p\overline{p}$ at 1.96 TeV
< 70	90	[6] AALTONEN	09C	CDF	Repl. by AALTONEN 12L
< 50	90	[3] AUBERT	07B	BABR	$e^+e^- \to \Upsilon(4S)$
< 41	90	[3] LIN	07	BELL	Repl. by DUH 13
< 180	90	[7] ABULENCIA,A	06D	CDF	Repl. by AALTONEN 09C
< 37	90	ABE	05G	BELL	Repl. by LIN 07
< 70	90	CHAO	04	BELL	$e^+e^- \to \Upsilon(4S)$
< 80	90	[3] BORNHEIM	03	CLE2	$e^+e^- \to \Upsilon(4S)$
< 60	90	[3] AUBERT	02Q	BABR	$e^+e^- \to \Upsilon(4S)$
< 90	90	[3] CASEY	02	BELL	$e^+e^- \to \Upsilon(4S)$
< 270	90	[3] ABE	01H	BELL	$e^+e^- \to \Upsilon(4S)$
< 250	90	[3] AUBERT	01E	BABR	$e^+e^- \to \Upsilon(4S)$
< 6600	90	[8] ABE	00C	SLD	$e^+e^- \to Z$
< 190	90	[3] CRONIN-HEN...	00	CLE2	$e^+e^- \to \Upsilon(4S)$
< 430	90	GODANG	98	CLE2	Repl. by CRONIN-HENNESSY 00
< 4600		[9] ADAM	96D	DLPH	$e^+e^- \to Z$
< 400	90	ASNER	96	CLE2	Repl. by GODANG 98
< 1800	90	[10] BUSKULIC	96V	ALEP	$e^+e^- \to Z$
<12000	90	[11] ABREU	95N	DLPH	Sup. by ADAM 96D
< 700	90	[3] BATTLE	93	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Supercedes results of AAIJ 12AR. NODE=S042S1;LINKAGE=A

[2] DUH 13 reports also for the same data B($B^0 \to K^+ K^-$) < 0.20×10^{-6} at 90% CL. NODE=S042S1;LINKAGE=B

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S1;LINKAGE=EP

[4] AAIJ 12AR reports [$\Gamma(B^0 \to K^+ K^-)/\Gamma_{total}$] / [B($B^0_s \to K^+ K^-$)] / [$\Gamma(\overline{b} \to B^0_s)$/ $\Gamma(\overline{b} \to B^0)$] = $0.018^{+0.008}_{-0.007} \pm 0.009$ which we multiply by our best values B($B^0_s \to K^+ K^-$) = $(2.72 \pm 0.23) \times 10^{-5}$, $\Gamma(\overline{b} \to B^0_s)/\Gamma(\overline{b} \to B^0) = 0.246 \pm 0.023$. Our first error is their experiment's error and our second error is the systematic error from using our best values. NODE=S042S1;LINKAGE=AI

[5] Reported a central value of $(0.23 \pm 0.10 \pm 0.10) \times 10^{-6}$ using B($B^0 \to K^+ \pi^-$) = $(19.4 \pm 0.6) \times 10^{-6}$. NODE=S042S1;LINKAGE=AL

[6] Obtains this result from B($K^+ K^-$)/B($K^+ \pi^-$) = $0.020 \pm 0.008 \pm 0.006$, assuming B($B^0 \to K^+ \pi^-$) = $(19.4 \pm 0.6) \times 10^{-6}$. NODE=S042S1;LINKAGE=AA

[7] ABULENCIA,A 06D obtains this from $\Gamma(K^+ K^-)/\Gamma(K^+ \pi^-) < 0.10$ at 90% CL, assuming B($B^0 \to K^+ \pi^-$) = $(18.9 \pm 0.7) \times 10^{-6}$. NODE=S042S1;LINKAGE=AB

[8] ABE 00C assumes B($Z \to b\overline{b}$)=(21.7 ± 0.1)% and the B fractions f_{B^0}=f_{B^+}= $(39.7^{+1.8}_{-2.2})$% and f_{B_s}=$(10.5^{+1.8}_{-2.2})$%. NODE=S042S1;LINKAGE=KQ

[9] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$. Contributions from B^0 and B_s decays cannot be separated. Limits are given for the weighted average of the decay rates for the two neutral B mesons. NODE=S042S1;LINKAGE=DQ

[10] BUSKULIC 96V assumes PDG 96 production fractions for B^0, B^+, B_s, b baryons. NODE=S042S1;LINKAGE=BV

[11] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12. Contributions from B^0 and B^0_s decays cannot be separated. Limits are given for the weighted average of the decay rates for the two neutral B mesons. NODE=S042S1;LINKAGE=SR

$\Gamma(K^0 \overline{K}^0)/\Gamma_{total}$ — Γ_{355}/Γ

NODE=S042S60
NODE=S042S60

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
1.21±0.16 OUR AVERAGE					
1.26±0.19±0.05		[1] DUH	13	BELL	$e^+ e^- \to \Upsilon(4S)$
1.08±0.28±0.11		[1] AUBERT,BE	06C	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.87^{+0.25}_{-0.20}\pm0.09$		[1] LIN	07	BELL	Repl. by DUH 13
0.8 ±0.3 ±0.9		[1] ABE	05G	BELL	Repl. by LIN 07
$1.19^{+0.40}_{-0.35}\pm0.13$		[1] AUBERT,BE	05E	BABR	Repl. by AUBERT,BE 06C
< 1.8	90	[1] AUBERT	04M	BABR	$e^+ e^- \to \Upsilon(4S)$
< 1.5	90	[1] CHAO	04	BELL	Repl. by ABE 05G
< 3.3	90	[1] BORNHEIM	03	CLE2	$e^+ e^- \to \Upsilon(4S)$
< 4.1	90	[1] CASEY	02	BELL	$e^+ e^- \to \Upsilon(4S)$
<17	90	GODANG	98	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S60;LINKAGE=EP

$\Gamma(K^0 \overline{K}^0)/\Gamma(K^0 \phi)$ — $\Gamma_{355}/\Gamma_{364}$

NODE=S042P58
NODE=S042P58

VALUE	DOCUMENT ID		TECN	COMMENT
0.17±0.08±0.02	[1] AAIJ	20F	LHCB	pp at 7, 8, 13 TeV

[1] Observed signal with a significance of 3.5 σ. NODE=S042P58;LINKAGE=A

$\Gamma(K^0 K^- \pi^+)/\Gamma_{total}$ — Γ_{356}/Γ

NODE=S042B31
NODE=S042B31

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
6.7±0.5 OUR FIT					
7.0±0.6 OUR AVERAGE					
7.2±0.7±0.3		[1] LAI	19	BELL	$e^+ e^- \to \Upsilon(4S)$
6.4±1.0±0.6		[1] DEL-AMO-SA...	10E	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<18	90	[1] GARMASH	04	BELL	$e^+ e^- \to \Upsilon(4S)$
<21	90	[1] ECKHART	02	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B31;LINKAGE=EP

$\Gamma(K^*(892)^{\pm} K^{\mp})/\Gamma_{total}$ — Γ_{357}/Γ

NODE=S042C27
NODE=S042C27

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.4 × 10^{-6}	90	AAIJ	14BM	LHCB	pp at 7 TeV

$\Gamma(K^0 K^- \pi^+)/\Gamma(K^0 \pi^+ \pi^-)$ — $\Gamma_{356}/\Gamma_{322}$

NODE=S042C18

VALUE	DOCUMENT ID	TECN	COMMENT
0.134±0.011 OUR FIT			
0.123±0.009±0.015	AAIJ 17BP	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.128±0.017±0.009	AAIJ 13BP	LHCB	Repl. by AAIJ 17BP

$\left[\Gamma(\overline{K}^{*0} K^0) + \Gamma(K^{*0} \overline{K}^0)\right]/\Gamma_{total}$ — Γ_{358}/Γ

NODE=S042T10

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<0.96	90	[1] AAIJ 16	LHCB	pp at 7 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<1.9	90	[2] AUBERT,BE 06N	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes B($B^0 \to K^0 \pi^+ \pi^-$) = $(4.96 \pm 0.20) \times 10^{-5}$. NODE=S042T10;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T10;LINKAGE=EP

$\Gamma(K^+ K^- \pi^0)/\Gamma_{total}$ — Γ_{359}/Γ

NODE=S042B33

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
2.17±0.60±0.24		[1] GAUR 13	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<19	90	[1] ECKHART 02	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B33;LINKAGE=EP

$\Gamma(K^0_S K^0_S \pi^0)/\Gamma_{total}$ — Γ_{360}/Γ

NODE=S042T60

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.9 × 10^{-6}	90	[1] AUBERT 09AD	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T60;LINKAGE=EP

$\Gamma(K^0_S K^0_S \eta)/\Gamma_{total}$ — Γ_{361}/Γ

NODE=S042T61

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<1.0 × 10^{-6}	90	[1] AUBERT 09AD	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T61;LINKAGE=EP

$\Gamma(K^0_S K^0_S \eta')/\Gamma_{total}$ — Γ_{362}/Γ

NODE=S042T62

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<2.0 × 10^{-6}	90	[1] AUBERT 09AD	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T62;LINKAGE=EP

$\Gamma(K^0 K^+ K^-)/\Gamma_{total}$ — Γ_{363}/Γ

NODE=S042R81

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
26.8±1.1 OUR FIT				
26.6±1.2 OUR AVERAGE				
26.5±0.9±0.8		[1,2] LEES 12O	BABR	$e^+ e^- \to \Upsilon(4S)$
28.3±3.3±4.0		[1] GARMASH 04	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
23.8±2.0±1.6		[1] AUBERT,B 04V	BABR	Repl. by LEES 12O
<1300	90	ALBRECHT 91E	ARG	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R81;LINKAGE=EP

[2] All intermediate charmonium and charm resonances are removed, except of χ_{c0}. NODE=S042R81;LINKAGE=LE

$\Gamma(K^0 K^+ K^-)/\Gamma(K^0 \pi^+ \pi^-)$ — $\Gamma_{363}/\Gamma_{322}$

NODE=S042C19

VALUE	DOCUMENT ID	TECN	COMMENT
0.539±0.025 OUR FIT			
0.549±0.018±0.033	AAIJ 17BP	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.385±0.031±0.023	AAIJ 13BP	LHCB	Repl. by AAIJ 17BP

$\Gamma(K^0\phi)/\Gamma_{total}$ — Γ_{364}/Γ

NODE=S042R13

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
7.3±0.7 OUR AVERAGE					
$7.1\pm0.6^{+0.4}_{-0.3}$		[1] LEES	12O	BABR	$e^+e^- \to \Upsilon(4S)$
$9.0^{+2.2}_{-1.8}\pm0.7$		[1] CHEN	03B	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$8.4^{+1.5}_{-1.3}\pm0.5$		[1] AUBERT	04A	BABR	Repl. by LEES 12O
$8.1^{+3.1}_{-2.5}\pm0.8$		[1] AUBERT	01D	BABR	$e^+e^- \to \Upsilon(4S)$
$<$ 12.3	90	[1] BRIERE	01	CLE2	$e^+e^- \to \Upsilon(4S)$
$<$ 31	90	[1] BERGFELD	98	CLE2	
$<$ 88	90	ASNER	96	CLE2	$e^+e^- \to \Upsilon(4S)$
$<$ 720	90	ALBRECHT	91B	ARG	$e^+e^- \to \Upsilon(4S)$
$<$ 420	90	[2] AVERY	89B	CLEO	$e^+e^- \to \Upsilon(4S)$
$<$1000	90	[3] AVERY	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R13;LINKAGE=EP

[2] AVERY 89B reports $< 4.9\times10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R13;LINKAGE=A1

[3] AVERY 87 reports $< 1.3\times10^{-3}$ assuming the $\Upsilon(4S)$ decays 40% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R13;LINKAGE=AV

$\Gamma(f_0(980)K^0,\ f_0\to K^+K^-)/\Gamma_{total}$ — Γ_{365}/Γ

NODE=S042T87

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{7.0^{+2.6}_{-1.8}\pm2.4}$	[1] LEES	12O	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T87;LINKAGE=EP

$\Gamma(f_0(1500)K^0)/\Gamma_{total}$ — Γ_{366}/Γ

NODE=S042T88

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{13.3^{+5.8}_{-4.4}\pm3.2}$	[1] LEES	12O	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T88;LINKAGE=EP

$\Gamma(f'_2(1525)^0K^0)/\Gamma_{total}$ — Γ_{367}/Γ

NODE=S042T89

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.29^{+0.27}_{-0.18}\pm0.36}$	[1] LEES	12O	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T89;LINKAGE=EP

$\Gamma(f_0(1710)K^0,\ f_0\to K^+K^-)/\Gamma_{total}$ — Γ_{368}/Γ

NODE=S042T90

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
4.4±0.7±0.5	[1] LEES	12O	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T90;LINKAGE=EP

$\Gamma(K^0K^+K^-\ \text{nonresonant})/\Gamma_{total}$ — Γ_{369}/Γ

NODE=S042T95

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
33±5±9	[1] LEES	12O	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T95;LINKAGE=EP

$\Gamma(K^0_SK^0_SK^0_S)/\Gamma_{total}$ — Γ_{370}/Γ

NODE=S042B59

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
6.0 ±0.5 OUR AVERAGE Error includes scale factor of 1.1.				
6.19±0.48±0.19	[1] LEES	12I	BABR	$e^+e^- \to \Upsilon(4S)$
$4.2\ ^{+1.6}_{-1.3}\ \pm0.8$	[1] GARMASH	04	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$6.9\ ^{+0.9}_{-0.8}\ \pm0.6$	[1] AUBERT,B	05	BABR	Repl. by LEES 12I

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B59;LINKAGE=EP

$\Gamma\big(f_0(980)K^0,\ f_0 \to K^0_S K^0_S\big)/\Gamma_{total}$ Γ_{371}/Γ

NODE=S042T91

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{2.7^{+1.3}_{-1.2}\pm1.3}$	[1,2] LEES	12I	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Uses Dalitz plot analysis of the $B^0 \to K^0_S K^0_S K^0_S$ decay.

NODE=S042T91;LINKAGE=EP
NODE=S042T91;LINKAGE=LE

$\Gamma\big(f_0(1710)K^0,\ f_0 \to K^0_S K^0_S\big)/\Gamma_{total}$ Γ_{372}/Γ

NODE=S042T92

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.50^{+0.46}_{-0.24}\pm0.11}$	[1,2] LEES	12I	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Uses Dalitz plot analysis of the $B^0 \to K^0_S K^0_S K^0_S$ decay.

NODE=S042T92;LINKAGE=EP
NODE=S042T92;LINKAGE=LE

$\Gamma\big(f_2(2010)K^0,\ f_2 \to K^0_S K^0_S\big)/\Gamma_{total}$ Γ_{373}/Γ

NODE=S042T93

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.54^{+0.21}_{-0.20}\pm0.52}$	[1,2] LEES	12I	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Uses Dalitz plot analysis of the $B^0 \to K^0_S K^0_S K^0_S$ decay.

NODE=S042T93;LINKAGE=EP
NODE=S042T93;LINKAGE=LE

$\Gamma\big(K^0_S K^0_S K^0_S\ \text{nonresonant}\big)/\Gamma_{total}$ Γ_{374}/Γ

NODE=S042T94

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{13.3^{+2.2}_{-2.3}\pm2.2}$	[1,2] LEES	12I	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Uses Dalitz plot analysis of the $B^0 \to K^0_S K^0_S K^0_S$ decay.

NODE=S042T94;LINKAGE=EP
NODE=S042T94;LINKAGE=LE

$\Gamma\big(K^0_S K^0_S K^0_L\big)/\Gamma_{total}$ Γ_{375}/Γ

NODE=S042T08

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<16	90	[1] AUBERT,B	06R	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T08;LINKAGE=EP

$\Gamma\big(K^*(892)^0 K^+ K^-\big)/\Gamma_{total}$ Γ_{376}/Γ

NODE=S042R85

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
27.5±1.3±2.2		[1] AUBERT	07AS	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<610	90	ALBRECHT	91E	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042R85;LINKAGE=EP

$\Gamma\big(K^*(892)^0 \phi\big)/\Gamma_{total}$ Γ_{377}/Γ

NODE=S042R14

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
10.0±0.5 OUR FIT					
10.0±0.5 OUR AVERAGE					
10.4±0.5±0.6		[1] PRIM	13	BELL	$e^+e^- \to \Upsilon(4S)$
9.7±0.5±0.5		[1] AUBERT	08BG	BABR	$e^+e^- \to \Upsilon(4S)$
$11.5^{+4.5}_{-3.7}{}^{+1.8}_{-1.7}$		[1] BRIERE	01	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
9.2±0.7±0.6		[1] AUBERT	07D	BABR	Repl. by AUBERT 08BG
9.2±0.9±0.5		[1] AUBERT,B	04W	BABR	Repl. by AUBERT 07D
11.2±1.3±0.8		[1] AUBERT	03V	BABR	Repl. by AUBERT,B 04W
$10.0^{+1.6}_{-1.5}{}^{+0.7}_{-0.8}$		[1] CHEN	03B	BELL	Repl. by PRIM 13
$8.7^{+2.5}_{-2.1}\pm1.1$		[1] AUBERT	01D	BABR	Repl. by AUBERT 03V
<384	90	[2] ABE	00C	SLD	$e^+e^- \to Z$
< 21	90	[1] BERGFELD	98	CLE2	
< 43	90	ASNER	96	CLE2	$e^+e^- \to \Upsilon(4S)$
<320	90	ALBRECHT	91B	ARG	$e^+e^- \to \Upsilon(4S)$
<380	90	[3] AVERY	89B	CLEO	$e^+e^- \to \Upsilon(4S)$
<380	90	[4] AVERY	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R14;LINKAGE=EP

[2] ABE 00C assumes B($Z \to b\overline{b}$)=(21.7 ± 0.1)% and the B fractions $f_{B^0}=f_{B^+}=(39.7^{+1.8}_{-2.2})$% and $f_{B_s}=(10.5^{+1.8}_{-2.2})$%. NODE=S042R14;LINKAGE=KQ

[3] AVERY 89B reports $< 4.4 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R14;LINKAGE=A1

[4] AVERY 87 reports $< 4.7 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 40% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R14;LINKAGE=AV

$\Gamma(K^+K^-\pi^+\pi^-$ nonresonant$)/\Gamma_{total}$ Γ_{378}/Γ

NODE=S042T74
NODE=S042T74

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<71.7	90	[1,2] CHIANG	10	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Measured in the range 0.7< $m_{K\pi}$ < 1.7 and corrected using PS assumption for the full $K\pi$ mass range. NODE=S042T74;LINKAGE=CH

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T74;LINKAGE=EP

$\Gamma(K^*(892)^0K^-\pi^+)/\Gamma_{total}$ Γ_{379}/Γ

NODE=S042T30
NODE=S042T30

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
4.5 ±1.3 OUR AVERAGE				
$2.11^{+5.63}_{-5.26}{}^{+4.85}_{-4.75}$	[1,2] CHIANG	10	BELL	$e^+e^- \to \Upsilon(4S)$
4.6 ±1.1 ±0.8	[2] AUBERT	07AS	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Measured in the range 0.7< $m_{K\pi}$ < 1.7 and corrected using PS assumption for the full $K\pi$ mass range. The quoted result is equivalent to the upper limit of $< 13.9 \times 10^{-6}$ at 90% CL. NODE=S042T30;LINKAGE=CH

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T30;LINKAGE=EP

$\Gamma(K^*(892)^0\overline{K}^*(892)^0)/\Gamma_{total}$ Γ_{380}/Γ

NODE=S042S87
NODE=S042S87

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
0.83±0.24 OUR AVERAGE Error includes scale factor of 1.5. See the ideogram below.					
0.85±0.07±0.20		[1] AAIJ	19L	LHCB	pp at 7 and 8 TeV
$0.26^{+0.33}_{-0.29}{}^{+0.10}_{-0.08}$		[2,3] CHIANG	10	BELL	$e^+e^- \to \Upsilon(4S)$
$1.28^{+0.35}_{-0.30}\pm0.11$		[3] AUBERT	08I	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 22	90	[4] GODANG	02	CLE2	$e^+e^- \to \Upsilon(4S)$
<469	90	[5] ABE	00C	SLD	$e^+e^- \to Z$

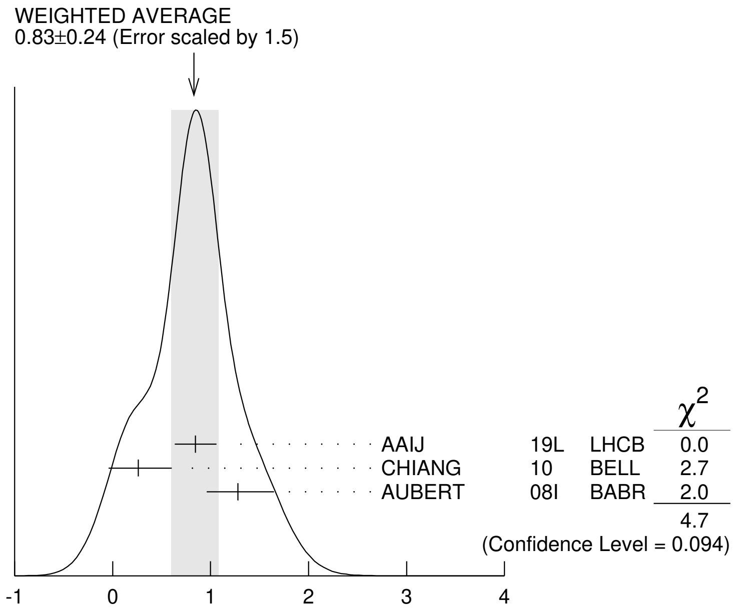
[1] AAIJ 19L reports $[\Gamma(B^0 \to K^*(892)^0\overline{K}^*(892)^0)/\Gamma_{total}]$ / $[B(B^0_s \to \overline{K}^*(892)^0K^*(892)^0)] = 0.0758 \pm 0.0057 \pm 0.0030$ which we multiply by our best value $B(B^0_s \to \overline{K}^*(892)^0K^*(892)^0) = (1.11 \pm 0.27) \times 10^{-5}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042S87;LINKAGE=C

[2] Measured in the range 0.7< $m_{K\pi}$ < 1.7 and corrected using PS assumption for the full $K\pi$ mass range. The quoted result is equivalent to the upper limit of $< 0.8 \times 10^{-6}$ at 90% CL. NODE=S042S87;LINKAGE=CH

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S87;LINKAGE=EP

[4] Assumes a helicity 00 configuration. For a helicity 11 configuration, the limit decreases to 1.9×10^{-5}. NODE=S042S87;LINKAGE=Z1

[5] ABE 00C assumes B($Z \to b\overline{b}$)=(21.7 ± 0.1)% and the B fractions $f_{B^0}=f_{B^+}=(39.7^{+1.8}_{-2.2})$% and $f_{B_s}=(10.5^{+1.8}_{-2.2})$%. NODE=S042S87;LINKAGE=KQ



$\Gamma\left(K^*(892)^0\overline{K}^*(892)^0\right)/\Gamma_{\text{total}}$ (units 10^{-6})

$\Gamma(K^+K^+\pi^-\pi^-$ nonresonant$)/\Gamma_{\text{total}}$ — Γ_{381}/Γ

NODE=S042T78
NODE=S042T78

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<6.0	90	[1] CHIANG	10	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T78;LINKAGE=EP

$\Gamma(K^*(892)^0K^+\pi^-)/\Gamma_{\text{total}}$ — Γ_{382}/Γ

NODE=S042T31
NODE=S042T31

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<2.2	90	[1] AUBERT	07AS	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<7.6	90	[1] CHIANG	10	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T31;LINKAGE=EP

$\Gamma(K^*(892)^0K^*(892)^0)/\Gamma_{\text{total}}$ — Γ_{383}/Γ

NODE=S042B9
NODE=S042B9

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 0.2	90	[1] CHIANG	10	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 0.41	90	[1] AUBERT	08I	BABR	$e^+e^- \to \Upsilon(4S)$
<37	90	[2] GODANG	02	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B9;LINKAGE=EP

[2] Assumes a helicity 00 configuration. For a helicity 11 configuration, the limit decreases to 2.9×10^{-5}.

NODE=S042B9;LINKAGE=Z1

$\Gamma(K^*(892)^+K^*(892)^-)/\Gamma_{\text{total}}$ — Γ_{384}/Γ

NODE=S042B10
NODE=S042B10

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 2.0	90	[1] AUBERT	08AP	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<141	90	[2] GODANG	02	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B10;LINKAGE=EP

[2] Assumes a helicity 00 configuration. For a helicity 11 configuration, the limit decreases to 8.9×10^{-5}.

NODE=S042B10;LINKAGE=Z1

$\Gamma(K_1(1400)^0\phi)/\Gamma_{\text{total}}$ — Γ_{385}/Γ

NODE=S042R75
NODE=S042R75

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<5.0 \times 10^{-3}$	90	ALBRECHT	91B	ARG	$e^+e^- \to \Upsilon(4S)$

$\Gamma\big(\phi(K\pi)^{*0}_0\big)/\Gamma_{\text{total}}$ Γ_{386}/Γ

NODE=S042T15

This decay refers to the coherent sum of resonant and nonresonant $J^P = 0^+$ $K\pi$ components with $1.13 < m_{K\pi} < 1.53$ GeV/c^2.

NODE=S042T15

NODE=S042T15

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
4.3±0.4 OUR AVERAGE				
4.3±0.4±0.4	[1] PRIM	13	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
4.3±0.6±0.4	[1] AUBERT	08BG	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
5.0±0.8±0.3	[1] AUBERT	07D	BABR	Repl. by AUBERT 08BG

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T15;LINKAGE=EP

$\Gamma\big(\phi(K\pi)^{*0}_0\ (1.60<m_{K\pi}<2.15)\big)/\Gamma_{\text{total}}$ Γ_{387}/Γ

NODE=S042T25

This decay refers to the coherent sum of resonant and nonresonant $J^P = 0^+$ $K\pi$ components with $1.60 < m_{K\pi} < 2.15$ GeV/c^2.

NODE=S042T25

NODE=S042T25

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<1.7	90	[1] AUBERT	07AO	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T25;LINKAGE=EP

$\Gamma\big(K^*_0(1430)^0 K^- \pi^+\big)/\Gamma_{\text{total}}$ Γ_{388}/Γ

NODE=S042T75
NODE=S042T75

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<31.8	90	[1,2] CHIANG	10	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Measured in the range $0.7< m_{K\pi} < 1.7$ and corrected using PS assumption for the full $K\pi$ mass range.

NODE=S042T75;LINKAGE=CH

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T75;LINKAGE=EP

$\Gamma\big(K^*_0(1430)^0 \overline{K}^*(892)^0\big)/\Gamma_{\text{total}}$ Γ_{389}/Γ

NODE=S042T76
NODE=S042T76

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<3.3	90	[1,2] CHIANG	10	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Measured in the range $0.7< m_{K\pi} < 1.7$ and corrected using PS assumption for the full $K\pi$ mass range.

NODE=S042T76;LINKAGE=CH

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T76;LINKAGE=EP

$\Gamma\big(K^*_0(1430)^0 \overline{K}^*_0(1430)^0\big)/\Gamma_{\text{total}}$ Γ_{390}/Γ

NODE=S042T77
NODE=S042T77

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<8.4	90	[1,2] CHIANG	10	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Measured in the range $0.7< m_{K\pi} < 1.7$ and corrected using PS assumption for the full $K\pi$ mass range.

NODE=S042T77;LINKAGE=CH

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T77;LINKAGE=EP

$\Gamma\big(K^*_0(1430)^0 \phi\big)/\Gamma_{\text{total}}$ Γ_{391}/Γ

NODE=S042Q32
NODE=S042Q32

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
3.9±0.5±0.6	[1] AUBERT	08BG	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
4.6±0.7±0.6	[1] AUBERT	07D	BABR	Repl. by AUBERT 08BG
seen	[2] AUBERT,B	04W	BABR	Repl. by AUBERT 07D

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q32;LINKAGE=EP

[2] Observed 181 ± 17 events with statistical significance greater than 10 σ.

NODE=S042Q32;LINKAGE=AU

$\Gamma\big(K^*_0(1430)^0 K^*(892)^0\big)/\Gamma_{\text{total}}$ Γ_{392}/Γ

NODE=S042T79
NODE=S042T79

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<1.7	90	[1] CHIANG	10	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T79;LINKAGE=EP

$\Gamma\big(K^*_0(1430)^0 K^*_0(1430)^0\big)/\Gamma_{\text{total}}$ Γ_{393}/Γ

NODE=S042T80
NODE=S042T80

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<4.7	90	[1] CHIANG	10	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T80;LINKAGE=EP

$\Gamma\big(K^*(1680)^0 \phi\big)/\Gamma_{\text{total}}$ Γ_{394}/Γ

NODE=S042T26
NODE=S042T26

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<3.5	90	[1] AUBERT	07AO	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T26;LINKAGE=EP

$\Gamma(K^*(1780)^0\phi)/\Gamma_{total}$ Γ_{395}/Γ

NODE=S042T27
NODE=S042T27

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<2.7	90	[1] AUBERT 07AO	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T27;LINKAGE=EP

$\Gamma(K^*(2045)^0\phi)/\Gamma_{total}$ Γ_{396}/Γ

NODE=S042T28
NODE=S042T28

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<15.3	90	[1] AUBERT 07AO	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T28;LINKAGE=EP

$\Gamma(K_2^*(1430)^0\rho^0)/\Gamma_{total}$ Γ_{397}/Γ

NODE=S042R74
NODE=S042R74

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
$<1.1 \times 10^3$	90	ALBRECHT 91B	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

$\Gamma(K_2^*(1430)^0\phi)/\Gamma_{total}$ Γ_{398}/Γ

NODE=S042R76
NODE=S042R76

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
6.8±0.9 OUR AVERAGE		Error includes scale factor of 1.2.		
$5.5^{+0.9}_{-0.7}\pm1.0$		[1] PRIM 13	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$7.5\pm0.9\pm0.5$		[1] AUBERT 08BG	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$7.8\pm1.1\pm0.6$		[1] AUBERT 07D	BABR	Repl. by AUBERT 08BG
seen		[2] AUBERT,B 04W	BABR	Repl. by AUBERT 07D
<1400	90	ALBRECHT 91B	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042R76;LINKAGE=EP

[2] The angular distribution of $B \rightarrow \phi K^*(1430)$ provides evidence with statistical significance of 3.2 σ.

NODE=S042R76;LINKAGE=AU

$\Gamma(K^0\phi\phi)/\Gamma_{total}$ Γ_{399}/Γ

NODE=S042T14
NODE=S042T14

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
3.7 ±0.7 OUR AVERAGE	Error includes scale factor of 1.3.		
$3.02^{+0.75}_{-0.66}\pm0.20$	[1] MOHANTY 21	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$4.5\pm0.8\pm0.3$	[1] LEES 11A	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$4.1^{+1.7}_{-1.4}\pm0.4$	[1] AUBERT,BE 06H	BABR	Repl. by LEES 11A

[1] Assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$ and the $\phi\phi$ invariant mass below 2.85 GeV/c^2.

NODE=S042T14;LINKAGE=AU

$\Gamma(\eta'\eta' K^0)/\Gamma_{total}$ Γ_{400}/Γ

NODE=S042T07
NODE=S042T07

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<31	90	[1] AUBERT,B 06P	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T07;LINKAGE=EP

$\Gamma(\eta K^0\gamma)/\Gamma_{total}$ Γ_{401}/Γ

NODE=S042T01
NODE=S042T01

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
7.6±1.8 OUR AVERAGE			
$7.1^{+2.1}_{-2.0}\pm0.4$	[1,2] AUBERT 09	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$8.7^{+3.1+1.9}_{-2.7-1.6}$	[2,3] NISHIDA 05	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$11.3^{+2.8}_{-1.6}\pm0.6$	[1,2] AUBERT,B 06M	BABR	Repl. by AUBERT 09

[1] $m_{\eta K} < 3.25$ GeV/c^2.

NODE=S042T01;LINKAGE=AR

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T01;LINKAGE=EP

[3] $m_{\eta K} < 2.4$ GeV/c^2

NODE=S042T01;LINKAGE=NI

$\Gamma(\eta' K^0 \gamma)/\Gamma_{total}$ — Γ_{402}/Γ

NODE=S042T06
NODE=S042T06

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<6.4	90	[1,2] WEDD 10	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<6.6	90	[1,3] AUBERT,B 06M	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T06;LINKAGE=EP
[2] $m_{\eta' K} < 3.4$ GeV/c^2. NODE=S042T06;LINKAGE=WE
[3] $m_{\eta' K} < 3.25$ GeV/c^2. NODE=S042T06;LINKAGE=AR

$\Gamma(K^0 \phi \gamma)/\Gamma_{total}$ — Γ_{403}/Γ

NODE=S042RA3
NODE=S042RA3

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
2.74±0.60±0.32		[1] SAHOO 11A	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<2.7	90	[1] AUBERT 07Q	BABR	$e^+e^- \to \Upsilon(4S)$
<8.3	90	[1] DRUTSKOY 04	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at $\Upsilon(4S)$. NODE=S042RA3;LINKAGE=EP

$\Gamma(K^+ \pi^- \gamma)/\Gamma_{total}$ — Γ_{404}/Γ

NODE=S042B34
NODE=S042B34

VALUE	DOCUMENT ID	TECN	COMMENT
$\mathbf{(4.6^{+1.3+0.5}_{-1.2-0.7}) \times 10^{-6}}$	[1,2] NISHIDA 02	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B34;LINKAGE=EP
[2] 1.25 GeV/c^2 $< M_{K\pi} <$ 1.6 GeV/c^2 NODE=S042B34;LINKAGE=NA

$\Gamma(K^*(892)^0 \gamma)/\Gamma_{total}$ — Γ_{405}/Γ

NODE=S042R16
NODE=S042R16

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
41.8± 2.5 OUR AVERAGE		Error includes scale factor of 2.1.		
39.6± 0.7±1.4		[1] HORIGUCHI 17	BELL	$e^+e^- \to \Upsilon(4S)$
44.7± 1.0±1.6		[2] AUBERT 09AO	BABR	$e^+e^- \to \Upsilon(4S)$
$45.5^{+7.2}_{-6.8}\pm3.4$		[3] COAN 00	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
39.2± 2.0±2.4		[4] AUBERT,BE 04A	BABR	Repl. by AUBERT 09AO
40.1± 2.1±1.7		[5] NAKAO 04	BELL	Repl. by HORIGUCHI 17
< 110	90	ACOSTA 02G	CDF	$p\overline{p}$ at 1.8 TeV
42.3± 4.0±2.2		[5] AUBERT 02C	BABR	Repl. by AUBERT,BE 04A
< 210	90	[6] ADAM 96D	DLPH	$e^+e^- \to Z$
40 ±17 ±8		[7] AMMAR 93	CLE2	Repl. by COAN 00
< 420	90	ALBRECHT 89G	ARG	$e^+e^- \to \Upsilon(4S)$
< 240	90	[8] AVERY 89B	CLEO	$e^+e^- \to \Upsilon(4S)$
<2100	90	AVERY 87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Uses B($\Upsilon(4S) \to B^+B^-$) = (51.4 ± 0.6)% and B($\Upsilon(4S) \to B^0\overline{B}^0$) = (48.6 ± 0.6)%. NODE=S042R16;LINKAGE=C
[2] Uses B($\Upsilon(4S) \to B^+B^-$) = (51.6 ± 0.6)% and B($\Upsilon(4S) \to B^0\overline{B}^0$) = (48.4 ± 0.6)%. NODE=S042R16;LINKAGE=AB
[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. No evidence for a nonresonant $K\pi\gamma$ contamination was seen; the central value assumes no contamination. NODE=S042R16;LINKAGE=AP
[4] Uses the production ratio of charged and neutral B from $\Upsilon(4S)$ decays $R^{+/0}$ = 1.006 ± 0.048. NODE=S042R16;LINKAGE=AU
[5] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R16;LINKAGE=EP
[6] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$. NODE=S042R16;LINKAGE=DQ
[7] AMMAR 93 observed 6.6 ± 2.8 events above background. NODE=S042R16;LINKAGE=B
[8] AVERY 89B reports $< 2.8 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R16;LINKAGE=A1

$\Gamma(K^*(1410)\gamma)/\Gamma_{total}$ — Γ_{406}/Γ

NODE=S042B36
NODE=S042B36

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$\mathbf{<1.3 \times 10^{-4}}$	90	[1] NISHIDA 02	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B36;LINKAGE=EP

$\Gamma(K^+ \pi^- \gamma \text{ nonresonant})/\Gamma_{total}$ — Γ_{407}/Γ

NODE=S042B37
NODE=S042B37

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$\mathbf{<2.6 \times 10^{-6}}$	90	[1,2] NISHIDA 02	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B37;LINKAGE=EP
[2] 1.25 GeV/c^2 $< M_{K\pi} <$ 1.6 GeV/c^2 NODE=S042B37;LINKAGE=NA

$\Gamma(K^*(892)^0 X(214),\ X \to \mu^+\mu^-)/\Gamma_{total}$ Γ_{408}/Γ

NODE=S042T81

$X(214)$ is a hypothetical particle of mass 214 MeV/c^2 reported by the HyperCP experiment (PARK 05)

NODE=S042T81

VALUE (units 10^{-8})	CL%	DOCUMENT ID		TECN	COMMENT
<2.26	90	[1,2] HYUN	10	BELL	$e^+e^- \to \Upsilon(4S)$

NODE=S042T81

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Based on scalar nature of X particle. With a vector X assumption, the upper limit is 2.27×10^{-8}.

NODE=S042T81;LINKAGE=EP
NODE=S042T81;LINKAGE=HY

$\Gamma(K^0\pi^+\pi^-\gamma)/\Gamma_{total}$ Γ_{409}/Γ

NODE=S042T02
NODE=S042T02

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
1.99±0.18 OUR AVERAGE				
$2.05\pm0.20{}^{+0.26}_{-0.22}$	[1,2] DEL-AMO-SA...	16	BABR	$e^+e^- \to \Upsilon(4S)$
$1.85\pm0.21\pm0.12$	[1,3] AUBERT	07R	BABR	$e^+e^- \to \Upsilon(4S)$
$2.40\pm0.4\ \pm0.3$	[3,4] YANG	05	BELL	$e^+e^- \to \Upsilon(4S)$

[1] $M_{K\pi\pi} < 1.8$ GeV/c^2.
[2] Uses B($\Upsilon(4S) \to B^+B^-$) = 0.513 ± 0.006.
[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[4] $M_{K\pi\pi} < 2.0$ GeV/c^2.

NODE=S042T02;LINKAGE=AT
NODE=S042T02;LINKAGE=BP
NODE=S042T02;LINKAGE=EP
NODE=S042T02;LINKAGE=YA

$\Gamma(K^+\pi^-\pi^0\gamma)/\Gamma_{total}$ Γ_{410}/Γ

NODE=S042T17
NODE=S042T17

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
4.07±0.22±0.31	[1,2] AUBERT	07R	BABR	$e^+e^- \to \Upsilon(4S)$

[1] $M_{K\pi\pi} < 1.8$ GeV/c^2.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T17;LINKAGE=AT
NODE=S042T17;LINKAGE=EP

$\Gamma(K_1(1270)^0\gamma)/\Gamma_{total}$ Γ_{411}/Γ

NODE=S042R36
NODE=S042R36

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
< 5.8	90	[1] YANG	05	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<700	90	[2] ALBRECHT	89G	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] ALBRECHT 89G reports < 0.0078 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

NODE=S042R36;LINKAGE=EP
NODE=S042R36;LINKAGE=A2

$\Gamma(K_1(1400)^0\gamma)/\Gamma_{total}$ Γ_{412}/Γ

NODE=S042R37
NODE=S042R37

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
< 1.2	90	[1] YANG	05	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<430	90	[2] ALBRECHT	89G	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] ALBRECHT 89G reports < 0.0048 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

NODE=S042R37;LINKAGE=EP
NODE=S042R37;LINKAGE=A2

$\Gamma(K_2^*(1430)^0\gamma)/\Gamma_{total}$ Γ_{413}/Γ

NODE=S042R38
NODE=S042R38

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
1.24±0.24 OUR AVERAGE					
$1.22\pm0.25\pm0.10$		[1] AUBERT,B	04U	BABR	$e^+e^- \to \Upsilon(4S)$
$1.3\ \pm0.5\ \pm0.1$		[1] NISHIDA	02	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<40	90	[2] ALBRECHT	89G	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] ALBRECHT 89G reports $< 4.4 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

NODE=S042R38;LINKAGE=EP
NODE=S042R38;LINKAGE=A2

$\Gamma(K^*(1680)^0\gamma)/\Gamma_{total}$ Γ_{414}/Γ

NODE=S042R39
NODE=S042R39

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0020	90	[1] ALBRECHT	89G	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALBRECHT 89G reports < 0.0022 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

NODE=S042R39;LINKAGE=A2

$\Gamma(K_3^*(1780)^0\gamma)/\Gamma_{total}$ — Γ_{415}/Γ

NODE=S042R40

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 83	90	[1,2] NISHIDA	05	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<10000	90	[3] ALBRECHT	89G	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[2] Uses B($K_3^*(1780) \to \eta K$) = $0.11^{+0.05}_{-0.04}$.

[3] ALBRECHT 89G reports < 0.011 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

NODE=S042R40;LINKAGE=EP
NODE=S042R40;LINKAGE=NS
NODE=S042R40;LINKAGE=A2

$\Gamma(K_4^*(2045)^0\gamma)/\Gamma_{total}$ — Γ_{416}/Γ

NODE=S042R41

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0043	90	[1] ALBRECHT	89G	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALBRECHT 89G reports < 0.0048 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

NODE=S042R41;LINKAGE=A2

$\Gamma(\rho^0\gamma)/\Gamma_{total}$ — Γ_{417}/Γ

NODE=S042S90

NEW

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
0.81±0.11 OUR AVERAGE					
[(0.86 ± 0.15) × 10^{-6} OUR 2025 AVERAGE]					
$0.76\pm0.13^{+0.10}_{-0.08}$		ADACHI	25G	BELL	$e^+e^- \to \Upsilon(4S)$
$0.97^{+0.24}_{-0.22}\pm0.06$		[1] AUBERT	08BH	BABR	$e^+e^- \to \Upsilon(4S)$
$0.78^{+0.17}_{-0.16}{}^{+0.09}_{-0.10}$		[1] TANIGUCHI	08	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.79^{+0.22}_{-0.20}\pm0.06$		[1] AUBERT	07L	BABR	Repl. by AUBERT 08BH
$1.25^{+0.37}_{-0.33}{}^{+0.07}_{-0.06}$		[1] MOHAPATRA	06	BELL	Repl. by TANIGUCHI 08
0.0 ±0.2 ±0.1	90	[1] AUBERT	05	BABR	Repl. by AUBERT 07L
< 0.8	90	[1] MOHAPATRA	05	BELL	$e^+e^- \to \Upsilon(4S)$
< 1.2	90	[1] AUBERT	04C	BABR	$e^+e^- \to \Upsilon(4S)$
<17	90	[1] COAN	00	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S90;LINKAGE=EP

$\Gamma(\rho^0 X(214),\ X \to \mu^+\mu^-)/\Gamma_{total}$ — Γ_{418}/Γ

NODE=S042T82

$X(214)$ is a hypothetical particle of mass 214 MeV/c^2 reported by the HyperCP experiment (PARK 05)

NODE=S042T82

NODE=S042T82

VALUE (units 10^{-8})	CL%	DOCUMENT ID		TECN	COMMENT
<1.73	90	[1,2] HYUN	10	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[2] The result is the same for a scalar or vector X particle.

NODE=S042T82;LINKAGE=EP
NODE=S042T82;LINKAGE=HY

$\Gamma(\rho^0\gamma)/\Gamma(K^*(892)^0\gamma)$ — $\Gamma_{417}/\Gamma_{405}$

NODE=S042RK1

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
$\mathbf{2.06^{+0.45}_{-0.43}{}^{+0.14}_{-0.16}}$	TANIGUCHI	08	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\omega\gamma)/\Gamma_{total}$ — Γ_{419}/Γ

NODE=S042S91

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.44^{+0.18}_{-0.16}}$ **OUR AVERAGE**					
$0.50^{+0.27}_{-0.23}\pm0.09$		[1] AUBERT	08BH	BABR	$e^+e^- \to \Upsilon(4S)$
$0.40^{+0.19}_{-0.17}\pm0.13$		[1] TANIGUCHI	08	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.40^{+0.24}_{-0.20}\pm0.05$		[1] AUBERT	07L	BABR	Repl. by AUBERT 08BH
$0.56^{+0.34}_{-0.27}{}^{+0.05}_{-0.10}$		[1] MOHAPATRA	06	BELL	Repl. by TANIGUCHI 08
<1.0	90	[1] AUBERT	05	BABR	Repl. by AUBERT 07L
<0.8	90	[1] MOHAPATRA	05	BELL	Repl. by MOHAPATRA 06
<1.0	90	[1] AUBERT	04C	BABR	$e^+e^- \to \Upsilon(4S)$
<9.2	90	[1] COAN	00	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S91;LINKAGE=EP

$\Gamma(\phi\gamma)/\Gamma_{total}$ Γ_{420}/Γ

NODE=S042S92

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.0 × 10^{-7}	90	[1] KING	16	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<8.5 \times 10^{-7}$	90	[1] AUBERT,BE	05C	BABR	$e^+e^- \to \Upsilon(4S)$
$<3.3 \times 10^{-6}$	90	[1] COAN	00	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S92;LINKAGE=EP

$\Gamma(f_2(1270)\gamma,\ f_2 \to (KS)^0(KS)^0)/\Gamma_{total}$ Γ_{421}/Γ

NODE=S042P74

VALUE	DOCUMENT ID		TECN	COMMENT
<3.1 × 10^{-7}	JEON	22	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(f_2'(1525)\gamma,\ f_2' \to (KS)^0(KS)^0)/\Gamma_{total}$ Γ_{422}/Γ

NODE=S042P75

VALUE	DOCUMENT ID		TECN	COMMENT
<2.1 × 10^{-7}	JEON	22	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\pi^+\pi^-)/\Gamma_{total}$ Γ_{423}/Γ

NODE=S042R5

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
5.37±0.20 OUR FIT Error includes scale factor of 1.3.					
5.43±0.26 OUR AVERAGE Error includes scale factor of 1.4. See the ideogram below.					
$5.83 \pm 0.22 \pm 0.17$		ADACHI	24	BELL	$e^+e^- \to \Upsilon(4S)$
$5.04 \pm 0.21 \pm 0.18$		[1] DUH	13	BELL	$e^+e^- \to \Upsilon(4S)$
$5.5 \pm 0.4 \pm 0.3$		[1] AUBERT	07B	BABR	$e^+e^- \to \Upsilon(4S)$
$4.5 ^{+1.4}_{-1.2} {}^{+0.5}_{-0.4}$		[1] BORNHEIM	03	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$5.1 \pm 0.2 \pm 0.2$		[1] LIN	07A	BELL	Repl. by DUH 13
$4.4 \pm 0.6 \pm 0.3$		[1] CHAO	04	BELL	Repl. by LIN 07A
$4.7 \pm 0.6 \pm 0.2$		[1] AUBERT	02Q	BABR	Repl. by AUBERT 07B
$5.4 \pm 1.2 \pm 0.5$		[1] CASEY	02	BELL	Repl. by CHAO 04
$5.6 ^{+2.3}_{-2.0} {}^{+0.4}_{-0.5}$		[1] ABE	01H	BELL	Repl. by CASEY 02
$4.1 \pm 1.0 \pm 0.7$		[1] AUBERT	01E	BABR	Repl. by AUBERT 02Q
< 67	90	[2] ABE	00C	SLD	$e^+e^- \to Z$
$4.3 ^{+1.6}_{-1.4} \pm 0.5$		[1] CRONIN-HEN...	00	CLE2	Repl. by BORNHEIM 03
< 15	90	GODANG	98	CLE2	Repl. by CRONIN-HENNESSY 00
< 45	90	[3] ADAM	96D	DLPH	$e^+e^- \to Z$
< 20	90	ASNER	96	CLE2	Repl. by GODANG 98
< 41	90	[4] BUSKULIC	96V	ALEP	$e^+e^- \to Z$
< 55	90	[5] ABREU	95N	DLPH	Sup. by ADAM 96D
< 47	90	[6] AKERS	94L	OPAL	$e^+e^- \to Z$
< 29	90	[1] BATTLE	93	CLE2	$e^+e^- \to \Upsilon(4S)$
<130	90	[1] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$
< 77	90	[7] BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$
<260	90	[7] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$
<500	90	GILES	84	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R5;LINKAGE=EP

[2] ABE 00C assumes B($Z \to b\overline{b}$)=(21.7 ± 0.1)% and the B fractions f_{B^0}=f_{B^+}=($39.7^{+1.8}_{-2.2}$)% and f_{B_s}=($10.5^{+1.8}_{-2.2}$)%. NODE=S042R5;LINKAGE=KQ

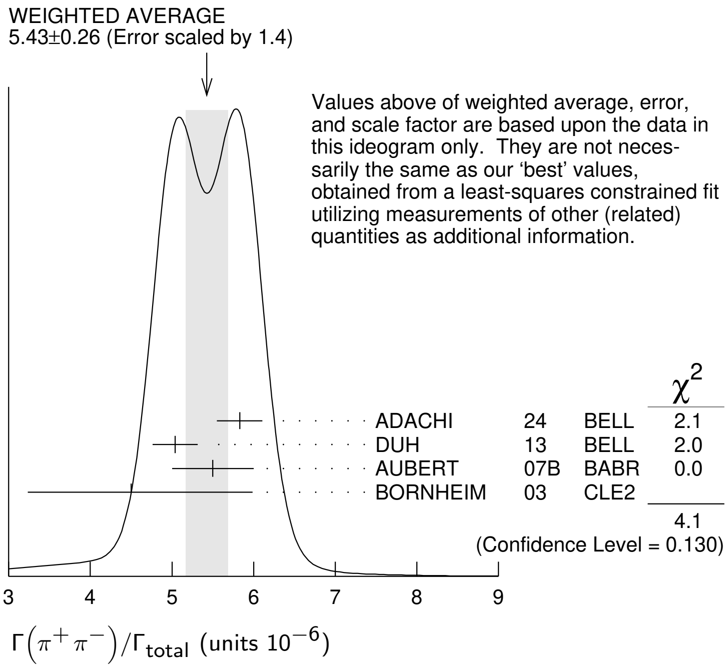
[3] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$. NODE=S042R5;LINKAGE=DQ

[4] BUSKULIC 96V assumes PDG 96 production fractions for B^0, B^+, B_s, b baryons. NODE=S042R5;LINKAGE=BV

[5] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12. NODE=S042R5;LINKAGE=SR

[6] Assumes B($Z \to b\overline{b}$) = 0.217 and B^0_d (B^0_s) fraction 39.5% (12%). NODE=S042R5;LINKAGE=C

[7] Paper assumes the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R5;LINKAGE=A



$\Gamma(\pi^+\pi^-)/\Gamma(K^+\pi^-)$ — $\Gamma_{423}/\Gamma_{288}$

NODE=S042Q94
NODE=S042Q94

VALUE	DOCUMENT ID		TECN	COMMENT
0.268±0.010 OUR FIT Error includes scale factor of 1.2.				
0.261±0.015 OUR AVERAGE				
0.262±0.009±0.017	AAIJ	12AR	LHCB	pp at 7 TeV
0.259±0.017±0.016	AALTONEN	11N	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.21 ±0.05 ±0.03	ABULENCIA,A	06D	CDF	Repl. by AALTONEN 11N

$\Gamma(\pi^0\pi^0)/\Gamma_{total}$ — Γ_{424}/Γ

NODE=S042S37
NODE=S042S37

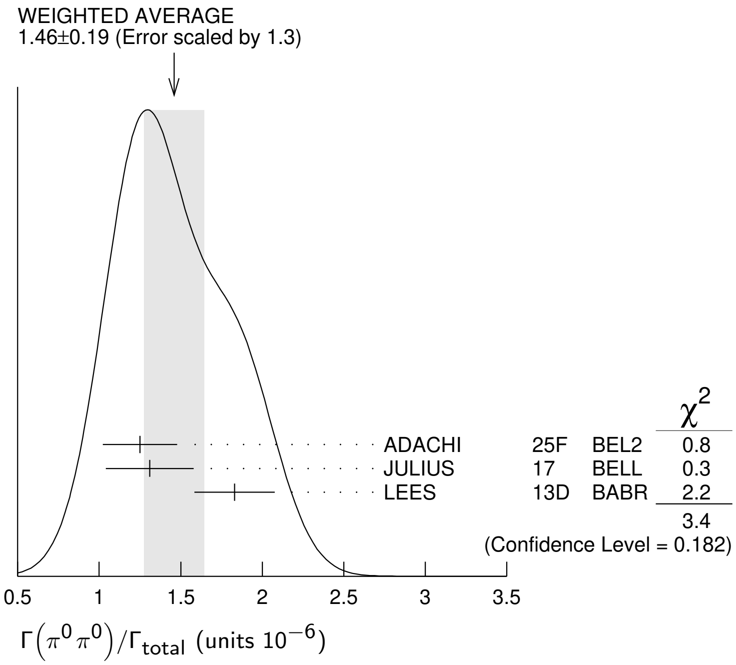
1.46±0.19 OUR AVERAGE Error includes scale factor of 1.3. See the ideogram below. [(1.55 ± 0.17) × 10^{-6} OUR 2025 AVERAGE Scale factor = 1.1]

NEW

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
1.25±0.20±0.11		ADACHI	25F	BEL2	$e^+e^- \to \Upsilon(4S)$
1.31±0.19±0.19		[1] JULIUS	17	BELL	$e^+e^- \to \Upsilon(4S)$
1.83±0.21±0.13		[1] LEES	13D	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.38±0.27±0.22		ABUDINEN	23E	BELL	Repl. by ADACHI 25F
1.47±0.25±0.12		[1] AUBERT	07BC	BABR	Repl. by LEES 13D
1.17±0.32±0.10		[1] AUBERT	05L	BABR	Repl. by AUBERT 07BC
$2.3\ ^{+0.4}_{-0.5}\ ^{+0.2}_{-0.3}$		[1] CHAO	05	BELL	Repl. by JULIUS 17
< 3.6	90	[1] AUBERT	03L	BABR	$e^+e^- \to \Upsilon(4S)$
2.1 ±0.6 ±0.3		[1] AUBERT	03S	BABR	Repl. by AUBERT 05L
< 4.4	90	[1] BORNHEIM	03	CLE2	$e^+e^- \to \Upsilon(4S)$
1.7 ±0.6 ±0.2		[1] LEE	03	BELL	Repl. by CHAO 05
< 5.7	90	[1] ASNER	02	CLE2	$e^+e^- \to \Upsilon(4S)$
< 6.4	90	[1] CASEY	02	BELL	$e^+e^- \to \Upsilon(4S)$
< 9.3	90	GODANG	98	CLE2	Repl. by ASNER 02
< 9.1	90	ASNER	96	CLE2	Repl. by GODANG 98
<60	90	[2] ACCIARRI	95H	L3	$e^+e^- \to Z$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S37;LINKAGE=EP

[2] ACCIARRI 95H assumes f_{B^0} = 39.5 ± 4.0 and f_{B_s} = 12.0 ± 3.0%. NODE=S042S37;LINKAGE=A



$\Gamma(\eta\pi^0)/\Gamma_{total}$ Γ_{425}/Γ

NODE=S042R58
NODE=S042R58

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$0.41^{+0.17+0.05}_{-0.15-0.07}$		[1,2] PAL	15	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<$ 1.5	90	[2] AUBERT	08AH	BABR	$e^+e^- \to \Upsilon(4S)$
$<$ 1.3	90	[2] AUBERT	06W	BABR	Repl. by AUBERT 08AH
$<$ 2.5	90	[2] CHANG	05A	BELL	Repl. by PAL 15
$<$ 2.5	90	[2] AUBERT,B	04D	BABR	Repl. by AUBERT 06W
$<$ 2.9	90	[2] RICHICHI	00	CLE2	$e^+e^- \to \Upsilon(4S)$
$<$ 8	90	BEHRENS	98	CLE2	Repl. by RICHICHI 00
$<$ 250	90	[3] ACCIARRI	95H	L3	$e^+e^- \to Z$
$<$1800	90	[2] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$

[1] PAL 15 signal significance is 3.0 standard deviations. The measurement corresponds to 90% CL upper limit of $< 6.5 \times 10^{-7}$. NODE=S042R58;LINKAGE=B

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R58;LINKAGE=EP

[3] ACCIARRI 95H assumes $f_{B^0} = 39.5 \pm 4.0$ and $f_{B_s} = 12.0 \pm 3.0\%$. NODE=S042R58;LINKAGE=A

$\Gamma(\eta\eta)/\Gamma_{total}$ Γ_{426}/Γ

NODE=S042S38
NODE=S042S38

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$<$ 1.0	90	[1] AUBERT	09AV	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<$ 1.8	90	[1] AUBERT,B	06V	BABR	Repl. by AUBERT 09AV
$<$ 2.0	90	[1] CHANG	05A	BELL	$e^+e^- \to \Upsilon(4S)$
$<$ 2.8	90	[1] AUBERT,B	04X	BABR	$e^+e^- \to \Upsilon(4S)$
$<$ 18	90	BEHRENS	98	CLE2	$e^+e^- \to \Upsilon(4S)$
$<$410	90	[2] ACCIARRI	95H	L3	$e^+e^- \to Z$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S38;LINKAGE=EP

[2] ACCIARRI 95H assumes $f_{B^0} = 39.5 \pm 4.0$ and $f_{B_s} = 12.0 \pm 3.0\%$. NODE=S042S38;LINKAGE=A

$\Gamma(\eta'\pi^0)/\Gamma_{total}$ Γ_{427}/Γ

NODE=S042S65
NODE=S042S65

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
1.2±0.6 OUR AVERAGE	Error includes scale factor of 1.7.				
$0.9 \pm 0.4 \pm 0.1$		[1] AUBERT	08AH	BABR	$e^+e^- \to \Upsilon(4S)$
$2.8 \pm 1.0 \pm 0.3$		[1] SCHUEMANN	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.8^{+0.8}_{-0.6} \pm 0.1$		[1] AUBERT	06W	BABR	Repl. by AUBERT 08AH
$1.0^{+1.4}_{-1.0} \pm 0.8$	90	[1] AUBERT,B	04D	BABR	Repl. by AUBERT 06W
$<$ 5.7	90	[1] RICHICHI	00	CLE2	$e^+e^- \to \Upsilon(4S)$
$<$11	90	BEHRENS	98	CLE2	Repl. by RICHICHI 00

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S65;LINKAGE=EP

$\Gamma(\eta'\eta')/\Gamma_{total}$ — Γ_{428}/Γ

NODE=S042S66

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 1.7	90	[1] AUBERT	09AV	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 6.5	90	[1] SCHUEMANN	07	BELL	$e^+e^- \to \Upsilon(4S)$
< 2.4	90	[1] AUBERT,B	06V	BABR	Repl. by AUBERT 09AV
<10	90	[1] AUBERT,B	04X	BABR	Repl. by AUBERT,B 06V
<47	90	BEHRENS	98	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S66;LINKAGE=EP

$\Gamma(\eta'\eta)/\Gamma_{total}$ — Γ_{429}/Γ

NODE=S042S67

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 1.2	90	[1] AUBERT	08AH	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 4.5	90	[1] SCHUEMANN	07	BELL	$e^+e^- \to \Upsilon(4S)$
< 1.7	90	[1] AUBERT	06W	BABR	Repl. by AUBERT 08AH
< 4.6	90	[1] AUBERT,B	04X	BABR	$e^+e^- \to \Upsilon(4S)$
<27	90	BEHRENS	98	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S67;LINKAGE=EP

$\Gamma(\eta'\rho^0)/\Gamma_{total}$ — Γ_{430}/Γ

NODE=S042S68

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 1.3	90	[1] SCHUEMANN	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 2.8	90	[1] DEL-AMO-SA...	10A	BABR	$e^+e^- \to \Upsilon(4S)$
< 3.7	90	AUBERT	07E	BABR	Repl. by DEL-AMO-SANCHEZ 10A
< 4.3	90	[1] AUBERT,B	04D	BABR	Repl. by AUBERT 07E
<12	90	[1] RICHICHI	00	CLE2	$e^+e^- \to \Upsilon(4S)$
<23	90	BEHRENS	98	CLE2	Repl. by RICHICHI 00

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S68;LINKAGE=EP

$\Gamma(\eta' f_0(980),\ f_0 \to \pi^+\pi^-)/\Gamma_{total}$ — Γ_{431}/Γ

NODE=S042T16

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.9	90	[1] DEL-AMO-SA...	10A	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1.5	90	AUBERT	07E	BABR	Repl. by DEL-AMO-SANCHEZ 10A

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T16;LINKAGE=EP

$\Gamma(\eta\rho^0)/\Gamma_{total}$ — Γ_{432}/Γ

NODE=S042S69

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 1.5	90	[1] AUBERT	07Y	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 1.9	90	[1] WANG	07B	BELL	$e^+e^- \to \Upsilon(4S)$
< 1.5	90	[1] AUBERT,B	04D	BABR	Repl. by AUBERT 07Y
<10	90	[1] RICHICHI	00	CLE2	$e^+e^- \to \Upsilon(4S)$
<13	90	BEHRENS	98	CLE2	Repl. by RICHICHI 00

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S69;LINKAGE=EP

$\Gamma(\eta f_0(980),\ f_0 \to \pi^+\pi^-)/\Gamma_{total}$ — Γ_{433}/Γ

NODE=S042T20

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.4	90	[1] AUBERT	07Y	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T20;LINKAGE=EP

$\Gamma(\omega\eta)/\Gamma_{total}$ — Γ_{434}/Γ

NODE=S042S73

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.94^{+0.35}_{-0.30}\pm0.09}$		[1] AUBERT	09AV	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 1.9	90	[1] AUBERT,B	05K	BABR	Repl. by AUBERT 09AV
$4.0^{+1.3}_{-1.2}\pm0.4$		[1] AUBERT,B	04X	BABR	Repl. by AUBERT,B 05K
<12	90	[1] BERGFELD	98	CLE2	

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S73;LINKAGE=EP

$\Gamma(\omega\eta')/\Gamma_{total}$ Γ_{435}/Γ

NODE=S042S74
NODE=S042S74

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{1.01^{+0.46}_{-0.38}\pm0.09}$		[1] AUBERT	09AV	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<$ 2.2	90	[1] SCHUEMANN	07	BELL	$e^+e^- \to \Upsilon(4S)$
$<$ 2.8	90	[1] AUBERT,B	04X	BABR	$e^+e^- \to \Upsilon(4S)$
$<$60	90	[1] BERGFELD	98	CLE2	

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S74;LINKAGE=EP

$\Gamma(\omega\rho^0)/\Gamma_{total}$ Γ_{436}/Γ

NODE=S042S75
NODE=S042S75

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$<$ 1.6	90	[1] AUBERT	09H	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<$ 1.5	90	[1] AUBERT,B	06T	BABR	Repl. by AUBERT 09H
$<$ 3.3	90	[1] AUBERT	05O	BABR	Repl. by AUBERT,B 06T
$<$11	90	[1] BERGFELD	98	CLE2	

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S75;LINKAGE=EP

$\Gamma(\omega f_0(980),\ f_0 \to \pi^+\pi^-)/\Gamma_{total}$ Γ_{437}/Γ

NODE=S042T09
NODE=S042T09

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$<$1.5	90	[1] AUBERT	09H	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<$1.5	90	[1] AUBERT,B	06T	BABR	Repl. by AUBERT 09H

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T09;LINKAGE=EP

$\Gamma(\omega\omega)/\Gamma_{total}$ Γ_{438}/Γ

NODE=S042S76
NODE=S042S76

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
1.40±0.25 OUR AVERAGE					
1.54±0.34±0.02		[1] GUAN	24	BELL	$e^+e^- \to \Upsilon(4S)$
$1.2 \pm 0.3\ ^{+0.3}_{-0.2}$		[2] LEES	14	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<$ 4.0	90	[2] AUBERT,B	06T	BABR	Repl. by LEES 14
$<$19	90	[2] BERGFELD	98	CLE2	

[1] GUAN 24 reports $(1.53 \pm 0.29 \pm 0.17) \times 10^{-6}$ from a measurement of $[\Gamma(B^0 \to \omega\omega)/\Gamma_{total}]$ / $[B(\Upsilon(4S) \to B^0\overline{B}^0)]$ assuming $B(\Upsilon(4S) \to B^0\overline{B}^0) = (48.4 \pm 1.2) \times 10^{-2}$, which we rescale to our best value $B(\Upsilon(4S) \to B^0\overline{B}^0) = (48.6 \pm 0.6) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042S76;LINKAGE=C

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S76;LINKAGE=EP

$\Gamma(\phi\pi^0)/\Gamma_{total}$ Γ_{439}/Γ

NODE=S042S77
NODE=S042S77

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$<$0.15	90	[1] KIM	12A	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<$0.28	90	[1] AUBERT,B	06C	BABR	$e^+e^- \to \Upsilon(4S)$
$<$1.0	90	[1] AUBERT,B	04D	BABR	Repl. by AUBERT,B 06C
$<$5	90	[1] BERGFELD	98	CLE2	

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S77;LINKAGE=EP

$\Gamma(\phi\eta)/\Gamma_{total}$ Γ_{440}/Γ

NODE=S042S78
NODE=S042S78

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$<$0.5	90	[1] AUBERT	09AV	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<$0.6	90	[1] AUBERT,B	06V	BABR	Repl. by AUBERT 09AV
$<$1.0	90	[1] AUBERT,B	04X	BABR	Repl. by AUBERT,B 06V
$<$9	90	[1] BERGFELD	98	CLE2	

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S78;LINKAGE=EP

$\Gamma(\phi\eta')/\Gamma_{total}$ Γ_{441}/Γ

NODE=S042S79
NODE=S042S79

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 0.5	90	[1] SCHUEMANN	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 1.1	90	[1] AUBERT	09AV	BABR	$e^+e^- \to \Upsilon(4S)$
< 1.0	90	[1] AUBERT,B	06V	BABR	Repl. by AUBERT 09AV
< 4.5	90	[1] AUBERT,B	04X	BABR	Repl. by AUBERT,B 06V
<31	90	[1] BERGFELD	98	CLE2	

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S79;LINKAGE=EP

$\Gamma(\phi\pi^+\pi^-)/\Gamma_{total}$ Γ_{442}/Γ

NODE=S042P17
NODE=S042P17

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
1.82±0.25±0.43	[1] AAIJ	17A	LHCB	pp at 7, 8 TeV

[1] Signal evidence is 4.5 standard deviations.

NODE=S042P17;LINKAGE=A

$\Gamma(\phi\rho^0)/\Gamma_{total}$ Γ_{443}/Γ

NODE=S042S80
NODE=S042S80

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 0.33	90	[1] AUBERT	08BK	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<156	90	[2] ABE	00C	SLD	$e^+e^- \to Z$
< 13	90	[1] BERGFELD	98	CLE2	

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S80;LINKAGE=EP

[2] ABE 00C assumes B($Z \to b\overline{b}$)=(21.7 ± 0.1)% and the B fractions f_{B^0}=f_{B^+}=$(39.7^{+1.8}_{-2.2})$% and f_{B_s}=$(10.5^{+1.8}_{-2.2})$%.

NODE=S042S80;LINKAGE=KQ

$\Gamma(\phi f_0(980),\ f_0 \to \pi^+\pi^-)/\Gamma_{total}$ Γ_{444}/Γ

NODE=S042T54
NODE=S042T54

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.38	90	[1] AUBERT	08BK	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T54;LINKAGE=EP

$\Gamma(\phi\omega)/\Gamma_{total}$ Γ_{445}/Γ

NODE=S042S81
NODE=S042S81

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 0.7	90	[1] LEES	14	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 1.2	90	[1] AUBERT,B	06T	BABR	Repl. by LEES 14
<21	90	[1] BERGFELD	98	CLE2	

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S81;LINKAGE=EP

$\Gamma(\phi\phi)/\Gamma_{total}$ Γ_{446}/Γ

NODE=S042S44
NODE=S042S44

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.7 \times 10^{-8}$	90	AAIJ	19AP	LHCB	pp at 7, 8 and 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<2.8 \times 10^{-8}$	90	AAIJ	15AS	LHCB	Repl. by AAIJ 19AP
$<2 \times 10^{-7}$	90	[1] AUBERT	08BK	BABR	$e^+e^- \to \Upsilon(4S)$
$<1.5 \times 10^{-6}$	90	[1] AUBERT,B	04X	BABR	Repl. by AUBERT 08BK
$<3.21 \times 10^{-4}$	90	[2] ABE	00C	SLD	$e^+e^- \to Z$
$<1.2 \times 10^{-5}$	90	[1] BERGFELD	98	CLE2	
$<3.9 \times 10^{-5}$	90	ASNER	96	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S44;LINKAGE=EP

[2] ABE 00C assumes B($Z \to b\overline{b}$)=(21.7 ± 0.1)% and the B fractions f_{B^0}=f_{B^+}=$(39.7^{+1.8}_{-2.2})$% and f_{B_s}=$(10.5^{+1.8}_{-2.2})$%.

NODE=S042S44;LINKAGE=KQ

$\Gamma(a_0(980)^\pm\pi^\mp,\ a_0^\pm \to \eta\pi^\pm)/\Gamma_{total}$ Γ_{447}/Γ

NODE=S042RA4
NODE=S042RA4

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<3.1	90	[1] AUBERT	07Y	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<5.1	90	[1] AUBERT,BE	04	BABR	Repl. by AUBERT 07Y

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042RA4;LINKAGE=EP

$\Gamma(a_0(1450)^{\pm}\pi^{\mp},\ a_0^{\pm} \to \eta\pi^{\pm})/\Gamma_{total}$ — Γ_{448}/Γ

NODE=S042T18

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<2.3	90	[1] AUBERT	07Y	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T18;LINKAGE=EP

$\Gamma(\pi^+\pi^-\pi^0)/\Gamma_{total}$ — Γ_{449}/Γ

NODE=S042R51

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<7.2 × 10⁻⁴	90	[1] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$. NODE=S042R51;LINKAGE=Q

$\Gamma(\rho^0\pi^0)/\Gamma_{total}$ — Γ_{450}/Γ

NODE=S042R52

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
2.0 ±0.5 OUR AVERAGE					
3.0 ±0.5 ±0.7		[1,2] KUSAKA	08	BELL	$e^+e^- \to \Upsilon(4S)$
1.4 ±0.6 ±0.3		[1] AUBERT	04Z	BABR	$e^+e^- \to \Upsilon(4S)$
$1.6\ ^{+2.0}_{-1.4}\ \pm0.8$		[1] JESSOP	00	CLEO	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$3.12\ ^{+0.88}_{-0.82}\ ^{+0.60}_{-0.76}$		[1] DRAGIC	06	BELL	Repl. by KUSAKA 08
5.1 ±1.6 ±0.9		DRAGIC	04	BELL	Repl. by DRAGIC 06
< 5.3	90	[1] GORDON	02	BELL	Repl. by DRAGIC 04
< 24	90	ASNER	96	CLEO	Repl. by JESSOP 00
<400	90	[1] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R52;LINKAGE=EP

[2] This is the first measurement that excludes contributions from $\rho(1450)$ and $\rho(1570)$ resonances. NODE=S042R52;LINKAGE=KU

$\Gamma(\rho^{\mp}\pi^{\pm})/\Gamma_{total}$ — Γ_{451}/Γ

NODE=S042R24

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
23.0±2.3 OUR AVERAGE					
22.6±1.1±4.4		[1,2] KUSAKA	08	BELL	$e^+e^- \to \Upsilon(4S)$
22.6±1.8±2.2		[1] AUBERT	03T	BABR	$e^+e^- \to \Upsilon(4S)$
$27.6\ ^{+8.4}_{-7.4}\ \pm4.2$		[1] JESSOP	00	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$20.8\ ^{+6.0}_{-6.3}\ ^{+2.8}_{-3.1}$		[1] GORDON	02	BELL	Repl. by KUSAKA 08
< 88	90	ASNER	96	CLE2	Repl. by JESSOP 00
< 520	90	[1] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$
<5200	90	[3] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R24;LINKAGE=EP

[2] This is the first measurement that excludes contributions from $\rho(1450)$ and $\rho(1570)$ resonances. NODE=S042R24;LINKAGE=KU

[3] BEBEK 87 reports $< 6.1 \times 10^{-3}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R24;LINKAGE=A

$\Gamma(\pi^+\pi^-\pi^+\pi^-)/\Gamma_{total}$ — Γ_{452}/Γ

NODE=S042R53

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<11.2 × 10⁻⁶	90	[1] VANHOEFER	14	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<23.1 \times 10^{-6}$	90	[1] AUBERT	08BB	BABR	$e^+e^- \to \Upsilon(4S)$
$<19.3 \times 10^{-6}$	90	[1] CHIANG	08	BELL	Repl. by VANHOEFER 14
$< 2.3 \times 10^{-4}$	90	[2] ADAM	96D	DLPH	$e^+e^- \to Z$
$< 2.8 \times 10^{-4}$	90	[3] ABREU	95N	DLPH	Sup. by ADAM 96D
$< 6.7 \times 10^{-4}$	90	[1] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R53;LINKAGE=EP

[2] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$. NODE=S042R53;LINKAGE=DQ

[3] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12. NODE=S042R53;LINKAGE=SR

$\Gamma(\rho^0\pi^+\pi^-)/\Gamma_{total}$ — Γ_{453}/Γ

NODE=S042T52

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 8.8	90	[1] AUBERT	08BB	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<12.0	90	[1] VANHOEFER	14	BELL	$e^+e^- \to \Upsilon(4S)$
<12.0	90	[1] CHIANG	08	BELL	Repl. by VANHOEFER 14

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T52;LINKAGE=EP

$\Gamma(\rho^0\rho^0)/\Gamma_{total}$ — Γ_{454}/Γ

NODE=S042R26

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
0.96±0.15 OUR FIT					
0.97±0.24 OUR AVERAGE					
1.02±0.30±0.15		[1,2] VANHOEFER	14	BELL	$e^+e^- \to \Upsilon(4S)$
0.92±0.32±0.14		[2] AUBERT	08BB	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.4 \pm 0.4 \ {}^{+0.2}_{-0.3}$		[2] CHIANG	08	BELL	Repl. by VANHOEFER 14
1.07±0.33±0.19		[2] AUBERT	07G	BABR	Repl. by AUBERT 08BB
<1.1	90	[2] AUBERT	05I	BABR	Repl. by AUBERT 07G
<2.1	90	[2] AUBERT	03V	BABR	Repl. by AUBERT 05I
<18	90	[3] GODANG	02	CLE2	$e^+e^- \to \Upsilon(4S)$
<136	90	[4] ABE	00C	SLD	$e^+e^- \to Z$
<280	90	[2] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$
<290	90	[5] BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$
<430	90	[5] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Signal significance 3.4 standard deviations. NODE=S042R26;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R26;LINKAGE=EP

[3] Assumes a helicity 00 configuration. For a helicity 11 configuration, the limit decreases to 1.4×10^{-5}. NODE=S042R26;LINKAGE=Z1

[4] ABE 00C assumes B($Z \to b\overline{b}$)=(21.7 ± 0.1)% and the B fractions $f_{B^0}=f_{B^+}=(39.7^{+1.8}_{-2.2})$% and $f_{B_s}=(10.5^{+1.8}_{-2.2})$%. NODE=S042R26;LINKAGE=KQ

[5] Paper assumes the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R26;LINKAGE=A1

$\Gamma(\rho^0\rho^0)/\Gamma(K^*(892)^0\phi)$ — $\Gamma_{454}/\Gamma_{377}$

NODE=S042C52

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
9.5±1.5 OUR FIT				
9.4±1.7±0.9	AAIJ	15T	LHCB	pp at 7, 8 TeV

$\Gamma(f_0(980)\pi^+\pi^-,\ f_0 \to \pi^+\pi^-)/\Gamma_{total}$ — Γ_{455}/Γ

NODE=S042T9B

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<3.0 × 10^{-6}	90	[1] VANHOEFER	14	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<3.8 × 10^{-6}	90	[1] CHIANG	08	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T9B;LINKAGE=EP

$\Gamma(\rho^0 f_0(980),\ f_0 \to \pi^+\pi^-)/\Gamma_{total}$ — Γ_{456}/Γ

NODE=S042R01

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
7.8±2.2±1.1		[1,2] VANHOEFER	14	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<8.1	90	AAIJ	15T	LHCB	pp at 7, 8 TeV
<4.0	90	[2] AUBERT	08BB	BABR	$e^+e^- \to \Upsilon(4S)$
<3	90	[2] CHIANG	08	BELL	Repl. by VANHOEFER 14
<5.3	90	[2] AUBERT	07G	BABR	Repl. by AUBERT 08BB

[1] Signal significance of 3.1 standard deviations. NODE=S042R01;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R01;LINKAGE=EP

$\Gamma(f_0(980)f_0(980),\ f_0 \to \pi^+\pi^-,\ f_0 \to \pi^+\pi^-)/\Gamma_{total}$ — Γ_{457}/Γ

NODE=S042R02

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.19	90	[1] AUBERT	08BB	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.2	90	[1] VANHOEFER	14	BELL	$e^+e^- \to \Upsilon(4S)$
<0.1	90	[1] CHIANG	08	BELL	Repl. by VANHOEFER 14
<0.16	90	[1] AUBERT	07G	BABR	Repl. by AUBERT 08BB

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R02;LINKAGE=EP

$\Gamma(f_0(980)f_0(980),\ f_0 \to \pi^+\pi^-,\ f_0 \to K^+K^-)/\Gamma_{total}$ — Γ_{458}/Γ

NODE=S042T55

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.23	90	[1] AUBERT	08BK	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T55;LINKAGE=EP

$\Gamma(a_1(1260)^{\mp}\pi^{\pm})/\Gamma_{\text{total}}$ — Γ_{459}/Γ

NODE=S042R27
NODE=S042R27

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
26 ±5 OUR AVERAGE Error includes scale factor of 1.9.					
$22.2\pm2.0\pm2.8$		[1,2] DALSENO	12	BELL	$e^+e^- \to \Upsilon(4S)$
$33.2\pm3.8\pm3.0$		[2,3] AUBERT	06V	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<$ 630	90	[2] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$
$<$ 490	90	[4] BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$
$<$1000	90	[4] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] DALSENO 12 reports B($B^0 \to a_1^{\pm}\pi^{\mp}$) B($a_1^{\pm} \to \pi^{\pm}\pi^{+}\pi^{-}$) = $(11.1 \pm 1.0 \pm 1.4) \times 10^{-6}$ which we rescaled assuming $a_1(1260)$ decays only to 3π and B($a_1^{\pm} \to \pi^{\pm}\pi^{+}\pi^{-}$) = 0.5. NODE=S042R27;LINKAGE=DA

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R27;LINKAGE=EP

[3] Assumes $a_1(1260)$ decays only to 3π and B($a_1^{\pm} \to \pi^{\pm}\pi^{\mp}\pi^{\pm}$) = 0.5. NODE=S042R27;LINKAGE=UA

[4] Paper assumes the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}{}^0$. We rescale to 50%. NODE=S042R27;LINKAGE=A1

$\Gamma(a_2(1320)^{\mp}\pi^{\pm})/\Gamma_{\text{total}}$ — Γ_{460}/Γ

NODE=S042R28
NODE=S042R28

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.3\times10^{-6}$	90	[1] DALSENO	12	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<3.0\times10^{-4}$	90	[2] BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$
$<1.4\times10^{-3}$	90	[2] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] DALSENO 12 reports B($B^0 \to a_2^{\pm}\pi^{\mp}$) B($a_2^{\pm} \to \pi^{\pm}\pi^{+}\pi^{-}$) $< 2.2\times10^{-6}$ which we rescaled using B($a_2^{\pm} \to \pi^{\pm}\pi^{+}\pi^{-}$) = 1/2 B($a_2^{\pm} \to 3\pi$) = 0.35 ± 0.013. NODE=S042R28;LINKAGE=DA

[2] Paper assumes the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}{}^0$. We rescale to 50%. NODE=S042R28;LINKAGE=A1

$\Gamma(\pi^+\pi^-\pi^0\pi^0)/\Gamma_{\text{total}}$ — Γ_{461}/Γ

NODE=S042R54
NODE=S042R54

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.1\times10^{-3}$	90	[1] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}{}^0$ and B^+B^- at $\Upsilon(4S)$. NODE=S042R54;LINKAGE=Q

$\Gamma(\rho^+\rho^-)/\Gamma_{\text{total}}$ — Γ_{462}/Γ

NODE=S042R55
NODE=S042R55
NEW

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
28.0±1.7 OUR AVERAGE					
[$(27.7 \pm 1.9)\times10^{-6}$ OUR 2025 AVERAGE]					
$28.9^{+2.3+2.9}_{-2.2-2.7}$		ADACHI	25H	BELL	$e^+e^- \to \Upsilon(4S)$
$28.3\pm1.5\pm1.5$		[1] VANHOEFER	16	BELL	$e^+e^- \to \Upsilon(4S)$
$25.5\pm2.1^{+3.6}_{-3.9}$		[1] AUBERT	07BF	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$22.8\pm3.8^{+2.3}_{-2.6}$		[1] SOMOV	06	BELL	Repl. by VANHOEFER 16
$25\ ^{+7}_{-6}\ ^{+5}_{-6}$		[1] AUBERT	04G	BABR	Repl. by AUBERT,B 04R
$30\ \pm4\ \pm5$		[1,2] AUBERT,B	04R	BABR	Repl. by AUBERT 07BF
$<$2200	90	[1] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R55;LINKAGE=EP

[2] The quoted result is obtained after combining with AUBERT 04G result by AUBERT 04R alone gives $(33 \pm 4 \pm 5)\times10^{-6}$. NODE=S042R55;LINKAGE=AB

$\Gamma(a_1(1260)^0\pi^0)/\Gamma_{\text{total}}$ — Γ_{463}/Γ

NODE=S042R56
NODE=S042R56

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.1\times10^{-3}$	90	[1] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}{}^0$ and B^+B^- at $\Upsilon(4S)$. NODE=S042R56;LINKAGE=Q

$\Gamma(\omega\pi^0)/\Gamma_{\text{total}}$ — Γ_{464}/Γ

NODE=S042R57
NODE=S042R57

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$<$ 0.5	90	[1] AUBERT	08AH	BABR	$e^+e^- \to \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

< 2.0	90	[1] JEN	06	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
< 1.2	90	[1] AUBERT,B	04D	BABR	Repl. by AUBERT 08AH
< 1.9	90	[1] WANG	04A	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
< 3	90	[1] AUBERT	01G	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
< 5.5	90	[1] JESSOP	00	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
< 14	90	[1] BERGFELD	98	CLE2	Repl. by JESSOP 00
<460	90	[2] ALBRECHT	90B	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

NODE=S042R57;LINKAGE=EP
NODE=S042R57;LINKAGE=Q

$\Gamma(\pi^+\pi^+\pi^-\pi^-\pi^0)/\Gamma_{total}$ Γ_{465}/Γ

NODE=S042R59
NODE=S042R59

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<9.0 × 10⁻³	90	[1] ALBRECHT	90B	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

NODE=S042R59;LINKAGE=Q

$\Gamma(a_1(1260)^+\rho^-)/\Gamma_{total}$ Γ_{466}/Γ

NODE=S042R60
NODE=S042R60

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 61	90	[1,2] AUBERT,B	06O	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<3400	90	[1] ALBRECHT	90B	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Assumes $a_1(1260)$ decays only to 3π and B($a_1^\pm \rightarrow \pi^\pm\pi^\mp\pi^\pm$) = 0.5.

NODE=S042R60;LINKAGE=EP
NODE=S042R60;LINKAGE=UA

$\Gamma(a_1(1260)^0\rho^0)/\Gamma_{total}$ Γ_{467}/Γ

NODE=S042R61
NODE=S042R61

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<2.4 × 10⁻³	90	[1] ALBRECHT	90B	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

NODE=S042R61;LINKAGE=Q

$\Gamma(b_1^\mp\pi^\pm,\ b_1^\mp \rightarrow \omega\pi^\mp)/\Gamma_{total}$ Γ_{468}/Γ

NODE=S042T35
NODE=S042T35

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
10.9±1.2±0.9	[1] AUBERT	07BI	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T35;LINKAGE=EP

$\Gamma(b_1^0\pi^0,\ b_1^0 \rightarrow \omega\pi^0)/\Gamma_{total}$ Γ_{469}/Γ

NODE=S042T51
NODE=S042T51

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<1.9	90	[1] AUBERT	08AG	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T51;LINKAGE=EP

$\Gamma(b_1^-\rho^+,\ b_1^- \rightarrow \omega\pi^-)/\Gamma_{total}$ Γ_{470}/Γ

NODE=S042T69
NODE=S042T69

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.4 × 10⁻⁶	90	[1] AUBERT	09AF	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T69;LINKAGE=EP

$\Gamma(b_1^0\rho^0,\ b_1^0 \rightarrow \omega\pi^0)/\Gamma_{total}$ Γ_{471}/Γ

NODE=S042T70
NODE=S042T70

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<3.4 × 10⁻⁶	90	[1] AUBERT	09AF	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T70;LINKAGE=EP

$\Gamma(\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-)/\Gamma_{total}$ Γ_{472}/Γ

NODE=S042R62
NODE=S042R62

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<3.0 × 10⁻³	90	[1] ALBRECHT	90B	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

NODE=S042R62;LINKAGE=Q

$\Gamma(a_1(1260)^+a_1(1260)^-,\ a_1^+ \rightarrow 2\pi^+\pi^-,\ a_1^- \rightarrow 2\pi^-\pi^+)/\Gamma_{total}$ Γ_{473}/Γ

NODE=S042R44
NODE=S042R44

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
11.8±2.6±1.6		[1] AUBERT	09AL	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<6000	90	[1] ALBRECHT	90B	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
<2800	90	[2] BORTOLETTO	89	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.
[2] BORTOLETTO 89 reports $< 3.2 \times 10^{-3}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

NODE=S042R44;LINKAGE=EP
NODE=S042R44;LINKAGE=A1

$\Gamma(\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-\pi^0)/\Gamma_{total}$ — Γ_{474}/Γ

NODE=S042R63

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.1 × 10^{-2}	90	[1] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$. NODE=S042R63;LINKAGE=Q

$\Gamma(p\overline{p})/\Gamma_{total}$ — Γ_{475}/Γ

NODE=S042R29

VALUE (units 10^{-8})	CL%	DOCUMENT ID		TECN	COMMENT
1.27±0.13±0.06		[1] AAIJ	23T	LHCB	pp at 7, 8 and 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.25±0.27±0.18		[1] AAIJ	17BJ	LHCB	Repl. by AAIJ 23T
$1.47^{+0.62}_{-0.51}{}^{+0.35}_{-0.14}$		[2] AAIJ	13BQ	LHCB	Repl. by AAIJ 17BJ
< 11	90	[3] TSAI	07	BELL	$e^+e^- \to \Upsilon(4S)$
< 41	90	[3] CHANG	05	BELL	$e^+e^- \to \Upsilon(4S)$
< 27	90	[3] AUBERT	04U	BABR	$e^+e^- \to \Upsilon(4S)$
< 140	90	[3] BORNHEIM	03	CLE2	$e^+e^- \to \Upsilon(4S)$
< 120	90	[3] ABE	02O	BELL	$e^+e^- \to \Upsilon(4S)$
< 700	90	[3] COAN	99	CLE2	$e^+e^- \to \Upsilon(4S)$
< 1800	90	[4] BUSKULIC	96V	ALEP	$e^+e^- \to Z$
<35000	90	[5] ABREU	95N	DLPH	Sup. by ADAM 96D
< 3400	90	[6] BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$
<12000	90	[7] ALBRECHT	88F	ARG	$e^+e^- \to \Upsilon(4S)$
<17000	90	[6] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Uses normalization mode B($B^0 \to K^+\pi^-$) = (19.6 ± 0.5) × 10^{-6}. NODE=S042R29;LINKAGE=A
[2] Uses normalization mode B($B^0 \to K^+\pi^-$) = (19.55 ± 0.54) × 10^{-6}. NODE=S042R29;LINKAGE=AA
[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R29;LINKAGE=EP
[4] BUSKULIC 96V assumes PDG 96 production fractions for B^0, B^+, B_s, b baryons. NODE=S042R29;LINKAGE=BV
[5] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12. NODE=S042R29;LINKAGE=SR
[6] Paper assumes the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R29;LINKAGE=A1
[7] ALBRECHT 88F reports < 1.3 × 10^{-4} assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R29;LINKAGE=B

$\Gamma(p\overline{p}\pi^+\pi^-)/\Gamma_{total}$ — Γ_{476}/Γ

NODE=S042R31

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
2.87± 0.15± 0.11		[1,2] AAIJ	17BD	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.83± 0.17± 0.17		[3] CHU	20	BELL	$e^+e^- \to \Upsilon(4S)$
<950	90	[4] ABREU	95N	DLPH	Sup. by ADAM 96D
<250	90	[5] BEBEK	89	CLEO	$e^+e^- \to \Upsilon(4S)$
540 ±180 ±200		[6] ALBRECHT	88F	ARG	$e^+e^- \to \Upsilon(4S)$

[1] AAIJ 17BD reports [$\Gamma(B^0 \to p\overline{p}\pi^+\pi^-)/\Gamma_{total}$] / [B($B^0 \to J/\psi(1S)K^*(892)^0$)] / [B($J/\psi(1S) \to p\overline{p}$)] / [B($K^*(892) \to (K\pi)^\pm$)] = 1.07 ± 0.04 ± 0.04 which we multiply by our best values B($B^0 \to J/\psi(1S)K^*(892)^0$) = (1.27 ± 0.05) × 10^{-3}, B($J/\psi(1S) \to p\overline{p}$) = (2.121 ± 0.029) × 10^{-3}, B($K^*(892) \to (K\pi)^\pm$) = (99.902 ± 0.009) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best values. NODE=S042R31;LINKAGE=C
[2] The branching ratio is given for $m_{p\overline{p}}$ <2.85 GeV. NODE=S042R31;LINKAGE=D
[3] Assumes equal production of B^0 and B^+ from $\Upsilon(4S)$ decays. This measurement is quoted for M($\pi^+\pi^-$) < 1.22 GeV excluding the 0.46 < M($\pi^+\pi^-$) < 0.53 GeV region. NODE=S042R31;LINKAGE=E
[4] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12. NODE=S042R31;LINKAGE=SR
[5] BEBEK 89 reports < 2.9 × 10^{-4} assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R31;LINKAGE=A1
[6] ALBRECHT 88F reports 6.0 ± 2.0 ± 2.2 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R31;LINKAGE=B

$\Gamma(p\overline{p}\pi^+\pi^-)/\Gamma(p\overline{p}K^+\pi^-)$ — $\Gamma_{476}/\Gamma_{477}$

NODE=S042P24

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.46±0.02±0.02	[1] AAIJ	17BD	LHCB	pp at 7, 8 TeV

[1] The ratio is given for $m_{p\overline{p}}$ <2.85 GeV. NODE=S042P24;LINKAGE=A

$\Gamma(p\overline{p}K^0)/\Gamma_{total}$ Γ_{478}/Γ

NODE=S042B23

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
2.79±0.16 OUR AVERAGE					
[(2.66 ± 0.32) × 10^{-6} OUR 2025 AVERAGE]					
$2.82\pm0.08\pm0.16$		[1] AAIJ	25X	LHCB	pp at 7, 8 and 13 TeV
$2.51^{+0.35}_{-0.29}\pm0.21$		[2,3] CHEN	08C	BELL	$e^+e^- \to \Upsilon(4S)$
$3.0\pm0.5\pm0.3$		[3] AUBERT	07AV	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$2.40^{+0.64}_{-0.44}\pm0.28$		[3,4,5] WANG	05A	BELL	Repl. by CHEN 08C
$1.88^{+0.77}_{-0.60}\pm0.23$		[3,4,6] WANG	04	BELL	Repl. by WANG 05A
<7.2	90	[3,4] ABE	02K	BELL	Repl. by WANG 04

NEW

[1] The last uncertainty includes the systematic uncertainties due to the uncertainty of the branching fraction of the normalisation channel. NODE=S042B23;LINKAGE=A

[2] Explicitly vetoes resonant production of $p\overline{p}$ from charmonium states. NODE=S042B23;LINKAGE=CH

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B23;LINKAGE=EP

[4] Explicitly vetoes resonant production of $p\overline{p}$ from charmonium states and pK^0 production from Λ_c. NODE=S042B23;LINKAGE=EZ

[5] Provides also results with $M_{p\overline{p}} < 2.85$ GeV/c^2 and angular asymmetry of $p\overline{p}$ system. NODE=S042B23;LINKAGE=WA

[6] The branching fraction for $M_{p\overline{p}} < 2.85$ is also reported. NODE=S042B23;LINKAGE=WN

$\Gamma(\Theta(1540)^+\overline{p},\ \Theta^+ \to pK^0_S)/\Gamma_{total}$ Γ_{479}/Γ

NODE=S042Q34

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.05	90	[1] AUBERT	07AV	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.23	90	[1] WANG	05A	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q34;LINKAGE=EP

$\Gamma(f_J(2220)K^0,\ f_J \to p\overline{p})/\Gamma_{total}$ Γ_{480}/Γ

NODE=S042T42

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.45	90	[1] AUBERT	07AV	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T42;LINKAGE=EP

$\Gamma(p\overline{p}K^+\pi^-)/\Gamma_{total}$ Γ_{477}/Γ

NODE=S042P22

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
6.3±0.5±0.2	[1,2] AAIJ	17BD	LHCB	pp at 7, 8 TeV

[1] AAIJ 17BD reports $[\Gamma(B^0 \to p\overline{p}K^+\pi^-)/\Gamma_{total}]$ / $[B(B^0 \to J/\psi(1S)K^*(892)^0)]$ / $[B(J/\psi(1S) \to p\overline{p})]$ / $[B(K^*(892) \to (K\pi)^\pm)] = 2.34\pm0.12\pm0.12$ which we multiply by our best values $B(B^0 \to J/\psi(1S)K^*(892)^0) = (1.27\pm0.05)\times10^{-3}$, $B(J/\psi(1S) \to p\overline{p}) = (2.121\pm0.029)\times10^{-3}$, $B(K^*(892) \to (K\pi)^\pm) = (99.902\pm0.009)\times10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best values. NODE=S042P22;LINKAGE=B

[2] The branching ratio is given for $m_{p\overline{p}} < 2.85$ GeV. NODE=S042P22;LINKAGE=C

$\Gamma(p\overline{p}K^*(892)^0)/\Gamma_{total}$ Γ_{481}/Γ

NODE=S042Q02

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$1.24^{+0.28}_{-0.25}$ OUR AVERAGE					
$1.18^{+0.29}_{-0.25}\pm0.11$		[1,2] CHEN	08C	BELL	$e^+e^- \to \Upsilon(4S)$
$1.47\pm0.45\pm0.40$		[2] AUBERT	07AV	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<7.6	90	[2] WANG	04	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Explicitly vetoes resonant production of $p\overline{p}$ from charmonium states. NODE=S042Q02;LINKAGE=CH

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q02;LINKAGE=EP

$\Gamma(p\overline{p}\pi^0)/\Gamma_{total}$ Γ_{484}/Γ

NODE=S042P49

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
5.0±1.8±0.6	PAL	19	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(f_J(2220)K^*_0,\ f_J \to p\overline{p})/\Gamma_{\rm total}$ — Γ_{482}/Γ

NODE=S042T43

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.15	90	[1] AUBERT	07AV	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T43;LINKAGE=EP

$\Gamma(p\overline{p}K^+K^-)/\Gamma_{\rm total}$ — Γ_{483}/Γ

NODE=S042P23

VALUE (units 10^{-8})	DOCUMENT ID		TECN	COMMENT
12.1±3.1±0.5	[1,2] AAIJ	17BD	LHCB	pp at 7, 8 TeV

[1] AAIJ 17BD reports $[\Gamma(B^0 \to p\overline{p}K^+K^-)/\Gamma_{\rm total}]$ / $[B(B^0 \to J/\psi(1S)K^*(892)^0)]$ / $[B(J/\psi(1S) \to p\overline{p})]$ / $[B(K^*(892) \to (K\pi)^\pm)] = 0.045 \pm 0.011 \pm 0.004$ which we multiply by our best values $B(B^0 \to J/\psi(1S)K^*(892)^0) = (1.27 \pm 0.05) \times 10^{-3}$, $B(J/\psi(1S) \to p\overline{p}) = (2.121 \pm 0.029) \times 10^{-3}$, $B(K^*(892) \to (K\pi)^\pm) = (99.902 \pm 0.009) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

NODE=S042P23;LINKAGE=A

[2] The branching ratio is given for $m_{p\overline{p}} < 2.85$ GeV.

NODE=S042P23;LINKAGE=B

$\Gamma(p\overline{p}K^+K^-)/\Gamma(p\overline{p}K^+\pi^-)$ — $\Gamma_{483}/\Gamma_{477}$

NODE=S042P25

VALUE (%)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.9±0.5±0.2	[1] AAIJ	17BD	LHCB	pp at 7, 8 TeV

[1] The ratio is given for $m_{p\overline{p}} < 2.85$ GeV.

NODE=S042P25;LINKAGE=A

$\Gamma(p\overline{p}p\overline{p})/\Gamma_{\rm total}$ — Γ_{485}/Γ

NODE=S042P27

VALUE (units 10^{-8})	CL%	DOCUMENT ID		TECN	COMMENT
2.2±0.4±0.1		[1] AAIJ	23AD	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<20	90	[2] LEES	18C	BABR	$e^+e^- \to \Upsilon(4S)$

[1] AAIJ 23AD reports $(2.2 \pm 0.4 \pm 0.1 \pm 0.1) \times 10^{-8}$ from a measurement of $[\Gamma(B^0 \to p\overline{p}p\overline{p})/\Gamma_{\rm total}]$ / $[B(B^0 \to J/\psi(1S)K^*(892)^0)]$ / $[B(J/\psi(1S) \to p\overline{p})]$ assuming $B(B^0 \to J/\psi(1S)K^*(892)^0) = (1.27 \pm 0.05) \times 10^{-3}$, $B(J/\psi(1S) \to p\overline{p}) = (2.120 \pm 0.029) \times 10^{-3}$, which we rescale to our best values $B(B^0 \to J/\psi(1S)K^*(892)^0) = (1.27 \pm 0.05) \times 10^{-3}$, $B(J/\psi(1S) \to p\overline{p}) = (2.121 \pm 0.029) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best values. It also includes $B(K^*(892)^0 \to K^+\pi^-) = 2/3$.

NODE=S042P27;LINKAGE=C

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042P27;LINKAGE=A

$\Gamma(p\overline{\Lambda}\pi^-)/\Gamma_{\rm total}$ — Γ_{486}/Γ

NODE=S042R32

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
3.16±0.24 OUR AVERAGE					
$3.21^{+0.28}_{-0.25} \pm 0.16$		[1] CHANG	23	BELL	$e^+e^- \to \Upsilon(4S)$
3.07±0.31±0.23		[1] AUBERT	09AC	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$3.23^{+0.33}_{-0.29} \pm 0.29$		[1] WANG	07C	BELL	$e^+e^- \to \Upsilon(4S)$
$2.62^{+0.44}_{-0.40} \pm 0.31$		[1,2] WANG	05A	BELL	Repl. by WANG 07C
$3.97^{+1.00}_{-0.80} \pm 0.56$		[1] WANG	03	BELL	Repl. by WANG 05A
< 13	90	[1] COAN	99	CLE2	$e^+e^- \to \Upsilon(4S)$
<180	90	[3] ALBRECHT	88F	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042R32;LINKAGE=EP

[2] Provides also results with $M_{p\overline{p}} < 2.85$ GeV/c^2 and angular asymmetry of $p\overline{\Lambda}$ system.

NODE=S042R32;LINKAGE=WA

[3] ALBRECHT 88F reports $< 2.0 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

NODE=S042R32;LINKAGE=B

$\Gamma(p\overline{\Lambda}\pi^-\gamma)/\Gamma_{\rm total}$ — Γ_{487}/Γ

NODE=S042RB5

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.5 \times 10^{-7}$	90	[1] LAI	14	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042RB5;LINKAGE=EP

$\Gamma(p\overline{\Sigma}(1385)^-)/\Gamma_{\rm total}$ — Γ_{488}/Γ

NODE=S042T40

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.26	90	[1] WANG	07C	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T40;LINKAGE=EP

$\left[\Gamma(\Delta(1232)^+\overline{p}) + \Gamma(\Delta(1232)^- p)\right]/\Gamma_{total}$ Γ_{489}/Γ

NODE=S042P50

VALUE	DOCUMENT ID		TECN	COMMENT
$<1.6 \times 10^{-6}$	PAL	19	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\Delta^0\overline{\Lambda})/\Gamma_{total}$ Γ_{490}/Γ

NODE=S042T41

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.93	90	[1] WANG	07C	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T41;LINKAGE=EP

$\Gamma(p\overline{\Lambda}K^-)/\Gamma_{total}$ Γ_{491}/Γ

NODE=S042B55

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.82	90	[1] WANG	03	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B55;LINKAGE=EP

$\Gamma(p\overline{\Lambda}D^-)/\Gamma_{total}$ Γ_{492}/Γ

NODE=S042C34

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$25.1 \pm 2.6 \pm 3.5$	[1] CHANG	15	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042C34;LINKAGE=A

$\Gamma(p\overline{\Lambda}D^{*-})/\Gamma_{total}$ Γ_{493}/Γ

NODE=S042C35

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$33.6 \pm 6.3 \pm 4.4$	[1] CHANG	15	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042C35;LINKAGE=A

$\Gamma(p\overline{\Sigma}^0\pi^-)/\Gamma_{total}$ Γ_{494}/Γ

NODE=S042B56

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$1.17^{+0.43}_{-0.40} \pm 0.07$		[1] CHANG	23	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<3.8	90	[1] WANG	03	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B56;LINKAGE=EP

$\Gamma(\overline{\Lambda}\Lambda)/\Gamma_{total}$ Γ_{495}/Γ

NODE=S042S85

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.32	90	[1] TSAI	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.69	90	[1] CHANG	05	BELL	Repl. by TSAI 07
<1.2	90	[1] BORNHEIM	03	CLE2	$e^+e^- \to \Upsilon(4S)$
<1.0	90	[1] ABE	02O	BELL	Repl. by CHANG 05
<3.9	90	[1] COAN	99	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S85;LINKAGE=EP

$\Gamma(\overline{\Lambda}\Lambda K^0)/\Gamma_{total}$ Γ_{496}/Γ

NODE=S042Q85

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$4.76^{+0.84}_{-0.68} \pm 0.61$	[1,2] CHANG	09	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Excluding charmonium events in $2.85 < m_{\Lambda\overline{\Lambda}} < 3.128$ GeV/c^2 and $3.315 < m_{\Lambda\overline{\Lambda}} <$ 3.735 GeV/c^2. Measurements in various $m_{\Lambda\overline{\Lambda}}$ bins are also reported.

NODE=S042Q85;LINKAGE=CH

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q85;LINKAGE=EP

$\Gamma(\overline{\Lambda}\Lambda K^{*0})/\Gamma_{total}$ Γ_{497}/Γ

NODE=S042Q86

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$2.46^{+0.87}_{-0.72} \pm 0.34$	[1,2] CHANG	09	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Excluding charmonium events in $2.85 < m_{\Lambda\overline{\Lambda}} < 3.128$ GeV/c^2 and $3.315 < m_{\Lambda\overline{\Lambda}} <$ 3.735 GeV/c^2. Measurements in various $m_{\Lambda\overline{\Lambda}}$ bins are also reported.

NODE=S042Q86;LINKAGE=CH

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q86;LINKAGE=EP

$\Gamma(\overline{\Lambda}\Lambda D^0)/\Gamma_{total}$ Γ_{498}/Γ

NODE=S042Q87

VALUE (units 10^{-5})	DOCUMENT ID	TECN	COMMENT
$1.00^{+0.30}_{-0.26}$ OUR AVERAGE			
$0.98^{+0.29}_{-0.26}\pm0.19$	[1,2] LEES 14B	BABR	$e^+e^- \to \Upsilon(4S)$
$1.05^{+0.57}_{-0.44}\pm0.14$	[2] CHANG 09	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Evidence for 3.4 st. dev. signal significance.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042Q87;LINKAGE=A
NODE=S042Q87;LINKAGE=EP

$\Gamma(D^0\Sigma^0\overline{\Lambda}+\text{c.c.})/\Gamma_{total}$ Γ_{499}/Γ

NODE=S042RB2

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<3.1\times10^{-5}$	90	[1,2] LEES 14B	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Here $\Sigma^0 \to \Lambda\gamma$.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042RB2;LINKAGE=A
NODE=S042RB2;LINKAGE=EP

$\Gamma(\Delta^0\overline{\Delta}^0)/\Gamma_{total}$ Γ_{500}/Γ

NODE=S042R45

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0015	90	[1] BORTOLETTO89	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] BORTOLETTO 89 reports <0.0018 assuming $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

NODE=S042R45;LINKAGE=A1

$\Gamma(\Delta^{++}\overline{\Delta}^{--})/\Gamma_{total}$ Γ_{501}/Γ

NODE=S042R46

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<1.1\times10^{-4}$	90	[1] BORTOLETTO89	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] BORTOLETTO 89 reports $<1.3\times10^{-4}$ assuming $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

NODE=S042R46;LINKAGE=A1

$\Gamma(\overline{D}^0 p\overline{p})/\Gamma_{total}$ Γ_{502}/Γ

NODE=S042B29

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
1.04 ± 0.07 OUR AVERAGE			
$1.02\pm0.04\pm0.06$	[1,2] DEL-AMO-SA..12	BABR	$e^+e^- \to \Upsilon(4S)$
$1.18\pm0.15\pm0.16$	[2] ABE 02W	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$1.13\pm0.06\pm0.08$	[2] AUBERT,B 06S	BABR	Repl. by DEL-AMO-SANCHEZ 12

[1] Uses the values of D and D^* branching fractions from PDG 08.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B29;LINKAGE=DA
NODE=S042B29;LINKAGE=EP

$\Gamma(D_s^-\overline{\Lambda}p)/\Gamma_{total}$ Γ_{503}/Γ

NODE=S042B08

VALUE (units 10^{-5})	DOCUMENT ID	TECN	COMMENT
$2.8\pm0.8\pm0.3$	[1,2] MEDVEDEVA 07	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] MEDVEDEVA 07 reports $(2.9\pm0.7\pm0.5\pm0.4)\times10^{-5}$ from a measurement of $[\Gamma(B^0 \to D_s^-\overline{\Lambda}p)/\Gamma_{total}]\times[B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = (4.4\pm0.6)\times10^{-2}$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = (4.5\pm0.4)\times10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042B08;LINKAGE=EP
NODE=S042B08;LINKAGE=ME

$\Gamma(\overline{D}^*(2007)^0 p\overline{p})/\Gamma_{total}$ Γ_{504}/Γ

NODE=S042B30

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
0.99 ± 0.11 OUR AVERAGE			
$0.97\pm0.07\pm0.09$	[1,2] DEL-AMO-SA..12	BABR	$e^+e^- \to \Upsilon(4S)$
$1.20^{+0.33}_{-0.29}\pm0.21$	[2] ABE 02W	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$1.01\pm0.10\pm0.09$	[2] AUBERT,B 06S	BABR	Repl. by DEL-AMO-SANCHEZ 12

[1] Uses the values of D and D^* branching fractions from PDG 08.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B30;LINKAGE=DA
NODE=S042B30;LINKAGE=EP

$\Gamma(D^*(2010)^- p\overline{n})/\Gamma_{total}$ Γ_{505}/Γ

NODE=S042S99

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
$14.5^{+3.4}_{-3.0}\pm2.7$	[1] ANDERSON 01	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S99;LINKAGE=EP

$\Gamma(D^- p\overline{p}\pi^+)/\Gamma_{total}$ — Γ_{506}/Γ

NODE=S042B76
NODE=S042B76

VALUE (units 10^{-4})		DOCUMENT ID		TECN	COMMENT
3.32±0.10±0.29	[1,2]	DEL-AMO-SA..12		BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
3.38±0.14±0.29	[2]	AUBERT,B	06S	BABR	Repl. by DEL-AMO-SANCHEZ 12

[1] Uses the values of D and D^* branching fractions from PDG 08.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B76;LINKAGE=DA
NODE=S042B76;LINKAGE=EP

$\Gamma(D^*(2010)^- p\overline{p}\pi^+)/\Gamma_{total}$ — Γ_{507}/Γ

NODE=S042S98
NODE=S042S98

VALUE (units 10^{-4})		DOCUMENT ID		TECN	COMMENT
4.7 ±0.5 OUR AVERAGE	Error includes scale factor of 1.2.				
4.55±0.16±0.39	[1,2]	DEL-AMO-SA..12		BABR	$e^+ e^- \to \Upsilon(4S)$
$6.5\ ^{+1.3}_{-1.2}\ \pm1.0$	[2]	ANDERSON	01	CLE2	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
4.81±0.22±0.44	[2]	AUBERT,B	06S	BABR	Repl. by DEL-AMO-SANCHEZ 12

[1] Uses the values of D and D^* branching fractions from PDG 08.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S98;LINKAGE=DA
NODE=S042S98;LINKAGE=EP

$\Gamma(\overline{D}^0 p\overline{p}\pi^+\pi^-)/\Gamma_{total}$ — Γ_{508}/Γ

NODE=S042C07
NODE=S042C07

VALUE (units 10^{-4})		DOCUMENT ID	TECN	COMMENT
2.99±0.21±0.45	[1,2]	DEL-AMO-SA..12	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Uses the values of D and D^* branching fractions from PDG 08.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042C07;LINKAGE=DA
NODE=S042C07;LINKAGE=EP

$\Gamma(\overline{D}^{*0} p\overline{p}\pi^+\pi^-)/\Gamma_{total}$ — Γ_{509}/Γ

NODE=S042C08
NODE=S042C08

VALUE (units 10^{-4})		DOCUMENT ID	TECN	COMMENT
1.91±0.36±0.29	[1,2]	DEL-AMO-SA..12	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Uses the values of D and D^* branching fractions from PDG 08.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042C08;LINKAGE=DA
NODE=S042C08;LINKAGE=EP

$\Gamma(\Theta_c \overline{p}\pi^+,\ \Theta_c \to D^- p)/\Gamma_{total}$ — Γ_{510}/Γ

NODE=S042BP1
NODE=S042BP1

VALUE (units 10^{-6})	CL%		DOCUMENT ID		TECN	COMMENT
<9	90	[1]	AUBERT,B	06S	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042BP1;LINKAGE=EP

$\Gamma(\Theta_c \overline{p}\pi^+,\ \Theta_c \to D^{*-} p)/\Gamma_{total}$ — Γ_{511}/Γ

NODE=S042BP2
NODE=S042BP2

VALUE (units 10^{-6})	CL%		DOCUMENT ID		TECN	COMMENT
<14	90	[1]	AUBERT,B	06S	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042BP2;LINKAGE=EP

$\Gamma(\overline{\Sigma}_c^{--} \Delta^{++})/\Gamma_{total}$ — Γ_{512}/Γ

NODE=S042S21
NODE=S042S21

VALUE	CL%		DOCUMENT ID		TECN	COMMENT
$<8 \times 10^{-4}$	90	[1]	PROCARIO	94	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] PROCARIO 94 reports < 0.0012 from a measurement of $[\Gamma(B^0 \to \overline{\Sigma}_c^{--} \Delta^{++})/\Gamma_{total}] \times [B(\Lambda_c^+ \to pK^-\pi^+)]$ assuming $B(\Lambda_c^+ \to pK^-\pi^+) = 0.043$, which we rescale to our best value $B(\Lambda_c^+ \to pK^-\pi^+) = 6.32 \times 10^{-2}$.

NODE=S042S21;LINKAGE=A

$\Gamma(\overline{\Lambda}_c^- p\pi^+\pi^-)/\Gamma_{total}$ — Γ_{513}/Γ

NODE=S042S59
NODE=S042S59

VALUE (units 10^{-3})		DOCUMENT ID		TECN	COMMENT
1.01±0.14 OUR AVERAGE	Error includes scale factor of 1.3. See the ideogram below.				
1.23±0.05±0.33	[1,2]	LEES	13H	BABR	$e^+ e^- \to \Upsilon(4S)$
0.89±0.11±0.03	[1,3]	PARK	07	BELL	$e^+ e^- \to \Upsilon(4S)$
$1.32^{+0.21}_{-0.20}\pm0.05$	[4]	DYTMAN	02	CLE2	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.87±0.16±0.03	[5]	GABYSHEV	02	BELL	Repl. by PARK 07
$1.33^{+0.46}_{-0.42}\pm0.37$	[6]	FU	97	CLE2	Repl. by DYTMAN 02

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S59;LINKAGE=EP

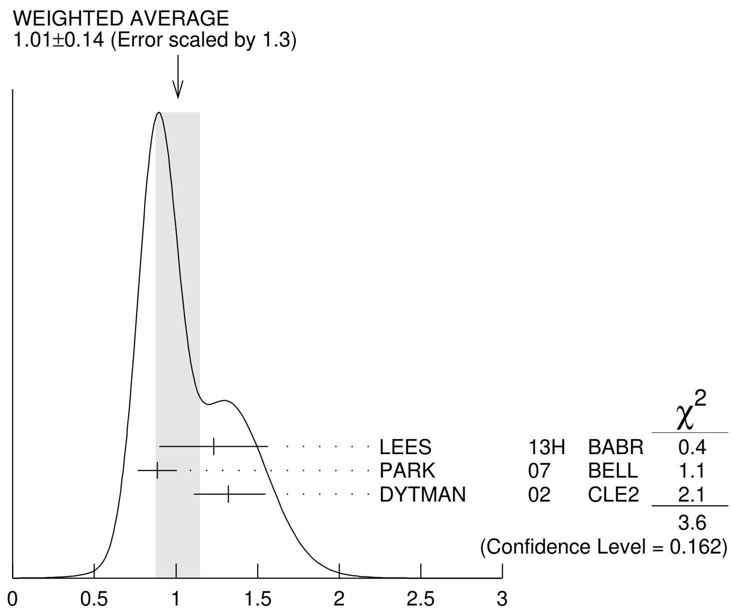
[2] Uses $\Lambda_c^+ \to pK^-\pi^+$ mode. The second error includes the uncertainty of the branching fraction of the Λ_c decay, B($\Lambda_c^+ \to pK^-\pi^+$) = (5.0 ± 1.3)%. NODE=S042S59;LINKAGE=LE

[3] PARK 07 reports $(11.2 \pm 0.5 \pm 3.2) \times 10^{-4}$ from a measurement of [$\Gamma(B^0 \to \overline{\Lambda}_c^- p\pi^+\pi^-)/\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = $(5.0 \pm 1.3) \times 10^{-2}$, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = $(6.32 \pm 0.24) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042S59;LINKAGE=PA

[4] DYTMAN 02 reports $(1.67^{+0.27}_{-0.25}) \times 10^{-3}$ from a measurement of [$\Gamma(B^0 \to \overline{\Lambda}_c^- p\pi^+\pi^-)/\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = 0.05, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = $(6.32 \pm 0.24) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042S59;LINKAGE=B9

[5] GABYSHEV 02 reports $(1.1 \pm 0.2) \times 10^{-3}$ from a measurement of [$\Gamma(B^0 \to \overline{\Lambda}_c^- p\pi^+\pi^-)/\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = 0.05, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = $(6.32 \pm 0.24) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042S59;LINKAGE=G9

[6] FU 97 uses PDG 96 values of Λ_c branching fraction. NODE=S042S59;LINKAGE=A



$\Gamma(\overline{\Lambda}_c^- p\pi^+\pi^-)/\Gamma_{total}$ (units 10^{-3})

$\Gamma(\overline{\Lambda}_c^- p)/\Gamma_{total}$ — Γ_{514}/Γ

NODE=S042S55

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
1.52±0.17 OUR AVERAGE					
1.49±0.16±0.06		[1,2] AUBERT	08BN	BABR	$e^+e^- \to \Upsilon(4S)$
$2.19^{+0.56}_{-0.49}$±0.65		[1,3] GABYSHEV	03	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$2.10^{+0.67}_{-0.55}{}^{+0.77}_{-0.46}$		[1,4] AUBERT	07AV	BABR	Repl. by AUBERT 08BN
< 9	90	[1,5] DYTMAN	02	CLE2	$e^+e^- \to \Upsilon(4S)$
< 3.1	90	[1,4] GABYSHEV	02	BELL	$e^+e^- \to \Upsilon(4S)$
<21	90	[6] FU	97	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S55;LINKAGE=EP

[2] AUBERT 08BN reports $(1.89 \pm 0.21 \pm 0.49) \times 10^{-5}$ from a measurement of [$\Gamma(B^0 \to \overline{\Lambda}_c^- p)/\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = $(5.0 \pm 1.3) \times 10^{-2}$, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = $(6.32 \pm 0.24) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042S55;LINKAGE=UB

[3] The second error for GABYSHEV 03 includes the systematic and the error of $\Lambda_c \to \overline{p}K^+\pi^-$ decay branching fraction. NODE=S042S55;LINKAGE=GA

[4] Uses the value for $\Lambda_c \to pK^-\pi^+$ branching ratio (5.0 ± 1.3)%. NODE=S042S55;LINKAGE=GB

[5] DYTMAN 02 measurement uses B($\Lambda_c^- \to \overline{p}K^+\pi^-$) = 5.0 ± 1.3%. The second error includes the systematic and the uncertainty of the branching ratio. NODE=S042S55;LINKAGE=FP

[6] FU 97 uses PDG 96 values of Λ_c branching ratio. NODE=S042S55;LINKAGE=A

$\Gamma(\overline{\Lambda}_c^- p\pi^0)/\Gamma_{total}$ Γ_{515}/Γ

NODE=S042S56
NODE=S042S56

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
1.53±0.17±0.06		[1,2] AUBERT	10H	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<5.9	90	[3] FU	97	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] AUBERT 10H reports (1.94 ± 0.17 ± 0.52) × 10^{-4} from a measurement of [$\Gamma(B^0 \to \overline{\Lambda}_c^- p\pi^0)/\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = (5.0 ± 1.3) × 10^{-2}, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = (6.32 ± 0.24) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042S56;LINKAGE=AU

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S56;LINKAGE=EP

[3] FU 97 uses PDG 96 values of Λ_c branching ratio. NODE=S042S56;LINKAGE=A

$\Gamma(\Lambda_c^- pK^+K^-)/\Gamma_{total}$ Γ_{528}/Γ

NODE=S042C31
NODE=S042C31

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
1.98±0.35±0.08	[1,2] LEES	15B	BABR	$e^+e^- \to \Upsilon(4S)$

[1] LEES 15B reports [$\Gamma(B^0 \to \Lambda_c^- pK^+K^-)/\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] = (12.5 ± 2.0 ± 1.0) × 10^{-7} which we divide by our best value B($\Lambda_c^+ \to pK^-\pi^+$) = (6.32 ± 0.24) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042C31;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042C31;LINKAGE=EP

$\Gamma(\Lambda_c^- p\phi)/\Gamma_{total}$ Γ_{529}/Γ

NODE=S042C32
NODE=S042C32

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<9 × 10^{-6}	90	[1,2] LEES	15B	BABR	$e^+e^- \to \Upsilon(4S)$

[1] LEES 15B reports < 1.2 × 10^{-5} from a measurement of [$\Gamma(B^0 \to \Lambda_c^- p\phi)/\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = (5.0 ± 1.3) × 10^{-2}, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = 6.32 × 10^{-2}. NODE=S042C32;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042C32;LINKAGE=EP

$\Gamma(\Sigma_c(2455)^- p)/\Gamma_{total}$ Γ_{516}/Γ

NODE=S042Q91
NODE=S042Q91

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
<24	[1,2] AUBERT	10H	BABR	$e^+e^- \to \Upsilon(4S)$

[1] AUBERT 10H reports [$\Gamma(B^0 \to \Sigma_c(2455)^- p)/\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] < 1.5 × 10^{-6} which we divide by our best value B($\Lambda_c^+ \to pK^-\pi^+$) = 6.32 × 10^{-2}. NODE=S042Q91;LINKAGE=AU

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q91;LINKAGE=EP

$\Gamma(\overline{\Lambda}_c^- p\pi^+\pi^-\pi^0)/\Gamma_{total}$ Γ_{517}/Γ

NODE=S042S57
NODE=S042S57

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<5.07 × 10^{-3}	90	[1] FU	97	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] FU 97 uses PDG 96 values of Λ_c branching ratio. NODE=S042S57;LINKAGE=A

$\Gamma(\overline{\Lambda}_c^- p\pi^+\pi^-\pi^+\pi^-)/\Gamma_{total}$ Γ_{518}/Γ

NODE=S042S58
NODE=S042S58

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<2.74 × 10^{-3}	90	[1] FU	97	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] FU 97 uses PDG 96 values of Λ_c branching ratio. NODE=S042S58;LINKAGE=A

$\Gamma(\overline{\Lambda}_c^- p\pi^+\pi^-(\text{nonresonant}))/\Gamma_{total}$ Γ_{519}/Γ

NODE=S042R83
NODE=S042R83

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
5.5±1.0 OUR AVERAGE Error includes scale factor of 1.3. [(5.4 ± 1.0) × 10^{-4} OUR 2025 AVERAGE Scale factor = 1.3]				
7.9±0.4±2.0	[1,2] LEES	13H	BABR	$e^+e^- \to \Upsilon(4S)$
5.1±0.8±0.2	[1,3] PARK	07	BELL	$e^+e^- \to \Upsilon(4S)$

NEW

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R83;LINKAGE=EP

[2] Uses $\Lambda_c^+ \to pK^-\pi^+$ mode. The second error includes the uncertainty of the branching fraction of the Λ_c decay, B($\Lambda_c^+ \to pK^-\pi^+$) = (5.0 ± 1.3)%. NODE=S042R83;LINKAGE=LE

[3] PARK 07 reports (6.4 ± 0.4 ± 1.9) × 10^{-4} from a measurement of [Γ($B^0 \to \overline{\Lambda}_c^- p\pi^+\pi^-$ (nonresonant))/Γ_{total}] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = (5.0 ± 1.3) × 10^{-2}, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = (6.32 ± 0.24) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R83;LINKAGE=PA

$\Gamma(\overline{\Sigma}_c(2520)^{--} p\pi^+)/\Gamma_{total}$ — Γ_{520}/Γ

NODE=S042B39
NODE=S042B39

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
1.01±0.18 OUR AVERAGE				
1.15±0.10±0.30	[1,2] LEES	13H	BABR	$e^+e^- \to \Upsilon(4S)$
0.95±0.21±0.04	[1,3] PARK	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.29^{+0.51}_{-0.46}$±0.05	[4] GABYSHEV	02	BELL	Repl. by PARK 07

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B39;LINKAGE=EP

[2] Uses $\Lambda_c^+ \to pK^-\pi^+$ mode. The second error includes the uncertainty of the branching fraction of the Λ_c decay, B($\Lambda_c^+ \to pK^-\pi^+$) = (5.0 ± 1.3)%. NODE=S042B39;LINKAGE=LE

[3] PARK 07 reports (1.2 ± 0.1 ± 0.4) × 10^{-4} from a measurement of [Γ($B^0 \to \overline{\Sigma}_c(2520)^{--} p\pi^+$)/$\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = (5.0 ± 1.3) × 10^{-2}, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = (6.32 ± 0.24) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042B39;LINKAGE=PA

[4] GABYSHEV 02 reports ($1.63^{+0.64}_{-0.58}$) × 10^{-4} from a measurement of [Γ($B^0 \to \overline{\Sigma}_c(2520)^{--} p\pi^+$)/$\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = 0.05, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = (6.32 ± 0.24) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042B39;LINKAGE=G9

$\Gamma(\overline{\Sigma}_c(2520)^0 p\pi^-)/\Gamma_{total}$ — Γ_{521}/Γ

NODE=S042B41
NODE=S042B41

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.31 × 10^{-4}	90	[1,2] LEES	13H	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.38 × 10^{-4}	90	[1] PARK	07	BELL	$e^+e^- \to \Upsilon(4S)$
<1.21 × 10^{-4}	90	[1,2] GABYSHEV	02	BELL	Repl. by PARK 07

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B41;LINKAGE=EP

[2] Uses the value for $\Lambda_c \to pK^-\pi^+$ branching ratio (5.0 ± 1.3)%. NODE=S042B41;LINKAGE=GB

$\Gamma(\overline{\Sigma}_c(2455)^0 N^0,\ N^0 \to p\pi^-)/\Gamma_{total}$ — Γ_{523}/Γ

NODE=S042Q84

N^0 is the $N(1440)$ P_{11} or $N(1535)$ S_{11} or an admixture of the two baryonic states. NODE=S042Q84

NODE=S042Q84

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
0.63±0.16±0.02	[1,2] KIM	08	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q84;LINKAGE=EP

[2] KIM 08 reports (0.80 ± 0.15 ± 0.25) × 10^{-4} from a measurement of [Γ($B^0 \to \overline{\Sigma}_c(2455)^0 N^0,\ N^0 \to p\pi^-$)/$\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = (5.0 ± 1.3) × 10^{-2}, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = (6.32 ± 0.24) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042Q84;LINKAGE=KI

$\Gamma(\overline{\Sigma}_c(2455)^0 p\pi^-)/\Gamma_{total}$ — Γ_{522}/Γ

NODE=S042B26
NODE=S042B26

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
1.08±0.09 OUR AVERAGE					
1.09±0.06±0.07		LI	23E	BELL	$e^+e^- \to \Upsilon(4S)$
0.91±0.07±0.24		[1,2] LEES	13H	BABR	$e^+e^- \to \Upsilon(4S)$
1.7 ±0.6 ±0.1		[3] DYTMAN	02	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.11±0.21±0.04		[1,4] PARK	07	BELL	Repl. by LI 23E.
$0.38^{+0.36}_{-0.32}$±0.01	90	[5] GABYSHEV	02	BELL	Repl. by PARK 07

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B26;LINKAGE=EP

[2] Uses $\Lambda_c^+ \to pK^-\pi^+$ mode. The second error includes the uncertainty of the branching fraction of the Λ_c decay, B($\Lambda_c^+ \to pK^-\pi^+$) = (5.0 ± 1.3)%. NODE=S042B26;LINKAGE=LE

[3] DYTMAN 02 reports (2.2 ± 0.7) × 10^{-4} from a measurement of [$\Gamma(B^0 \to \overline{\Sigma}_c(2455)^0 p\pi^-)/\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = 0.05, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = (6.32 ± 0.24) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042B26;LINKAGE=B9

[4] PARK 07 reports (1.4 ± 0.2 ± 0.4) × 10^{-4} from a measurement of [$\Gamma(B^0 \to \overline{\Sigma}_c(2455)^0 p\pi^-)/\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = (5.0 ± 1.3) × 10^{-2}, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = (6.32 ± 0.24) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042B26;LINKAGE=PA

[5] GABYSHEV 02 reports ($0.48^{+0.46}_{-0.41}$) × 10^{-4} from a measurement of [$\Gamma(B^0 \to \overline{\Sigma}_c(2455)^0 p\pi^-)/\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = 0.05, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = (6.32 ± 0.24) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042B26;LINKAGE=G9

$\Gamma(\overline{\Sigma}_c(2455)^{--} p\pi^+)/\Gamma_{total}$ Γ_{524}/Γ

NODE=S042B27
NODE=S042B27

VALUE (units 10^{-4})		DOCUMENT ID		TECN	COMMENT
1.89±0.15 OUR AVERAGE					
1.84±0.11±0.12		LI	23E	BELL	$e^+e^- \to \Upsilon(4S)$
2.13±0.10±0.56	1,2	LEES	13H	BABR	$e^+e^- \to \Upsilon(4S)$
2.9 ±0.9 ±0.1	3	DYTMAN	02	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.66±0.25$^{+0.07}_{-0.06}$	1,4	PARK	07	BELL	Repl. by LI 23E.
1.9 $^{+0.6}_{-0.5}$ ±0.1	5	GABYSHEV	02	BELL	Repl. by PARK 07

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B27;LINKAGE=EP

[2] Uses $\Lambda_c^+ \to pK^-\pi^+$ mode. The second error includes the uncertainty of the branching fraction of the Λ_c decay, B($\Lambda_c^+ \to pK^-\pi^+$) = (5.0 ± 1.3)%. NODE=S042B27;LINKAGE=LE

[3] DYTMAN 02 reports (3.7 ± 1.1) × 10^{-4} from a measurement of [$\Gamma(B^0 \to \overline{\Sigma}_c(2455)^{--} p\pi^+)/\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = 0.05, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = (6.32 ± 0.24) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042B27;LINKAGE=B9

[4] PARK 07 reports (2.1 ± 0.2 ± 0.6) × 10^{-4} from a measurement of [$\Gamma(B^0 \to \overline{\Sigma}_c(2455)^{--} p\pi^+)/\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = (5.0 ± 1.3) × 10^{-2}, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = (6.32 ± 0.24) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042B27;LINKAGE=PA

[5] GABYSHEV 02 reports ($2.38^{+0.75}_{-0.69}$) × 10^{-4} from a measurement of [$\Gamma(B^0 \to \overline{\Sigma}_c(2455)^{--} p\pi^+)/\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = 0.05, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = (6.32 ± 0.24) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042B27;LINKAGE=G9

$\Gamma(\Lambda_c^- pK^+\pi^-)/\Gamma_{total}$ Γ_{525}/Γ

NODE=S042Q88
NODE=S042Q88

VALUE (units 10^{-5})		DOCUMENT ID		TECN	COMMENT
3.4±0.7±0.1	1,2	AUBERT	09AG	BABR	$e^+e^- \to \Upsilon(4S)$

[1] AUBERT 09AG reports (4.33 ± 0.82 ± 0.33 ± 1.13) × 10^{-5} from a measurement of [$\Gamma(B^0 \to \Lambda_c^- pK^+\pi^-)/\Gamma_{total}$] × [B($\Lambda_c^+ \to pK^-\pi^+$)] assuming B($\Lambda_c^+ \to pK^-\pi^+$) = (5.0 ± 1.3) × 10^{-2}, which we rescale to our best value B($\Lambda_c^+ \to pK^-\pi^+$) = (6.32 ± 0.24) × 10^{-2}. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042Q88;LINKAGE=AU

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q88;LINKAGE=EP

$\Gamma(\overline{\Sigma}_c(2455)^{--} p K^+,\ \overline{\Sigma}_c^{--} \to \overline{\Lambda}_c^- \pi^-)/\Gamma_{\rm total}$ — Γ_{526}/Γ

NODE=S042Q89

VALUE (units 10^{-5})	DOCUMENT ID	TECN	COMMENT
0.88±0.25 OUR AVERAGE [$(0.87 \pm 0.25) \times 10^{-5}$ OUR 2025 AVERAGE]			
0.88±0.25±0.03	[1,2] AUBERT 09AG	BABR	$e^+ e^- \to \Upsilon(4S)$

NEW

[1] AUBERT 09AG reports $(1.11 \pm 0.30 \pm 0.09 \pm 0.29) \times 10^{-5}$ from a measurement of $[\Gamma(B^0 \to \overline{\Sigma}_c(2455)^{--} p K^+,\ \overline{\Sigma}_c^{--} \to \overline{\Lambda}_c^- \pi^-)/\Gamma_{\rm total}] \times [B(\Lambda_c^+ \to p K^- \pi^+)]$ assuming $B(\Lambda_c^+ \to p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$, which we rescale to our best value $B(\Lambda_c^+ \to p K^- \pi^+) = (6.32 \pm 0.24) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042Q89;LINKAGE=AU

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q89;LINKAGE=EP

$\Gamma(\Lambda_c^- p K^*(892)^0)/\Gamma_{\rm total}$ — Γ_{527}/Γ

NODE=S042Q90

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
<2.42	90	[1] AUBERT 09AG	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042Q90;LINKAGE=EP

$\Gamma(\Lambda_c^- p \overline{p} p)/\Gamma_{\rm total}$ — Γ_{530}/Γ

NODE=S042C20

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
<2.8	[1] LEES 14C	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and $B(\Lambda_c^+ \to p K^- \pi^+) = 0.050 \pm 0.013$. NODE=S042C20;LINKAGE=A

$\Gamma(\overline{\Lambda}_c^- \Lambda K^+)/\Gamma_{\rm total}$ — Γ_{531}/Γ

NODE=S042Q96

VALUE (units 10^{-5})	DOCUMENT ID	TECN	COMMENT
4.8±1.1±0.2	[1,2] LEES 11F	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^0 and B^+ from Upsilon(4S) decays. NODE=S042Q96;LINKAGE=EP

[2] LEES 11F reports $(3.8 \pm 0.8 \pm 0.2 \pm 1.0) \times 10^{-5}$ from a measurement of $[\Gamma(B^0 \to \overline{\Lambda}_c^- \Lambda K^+)/\Gamma_{\rm total}]$ / $[B(\Lambda_c^+ \to p K^- \pi^+)]$ / $[B(\Lambda \to p \pi^-)]$ assuming $B(\Lambda_c^+ \to p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$, $B(\Lambda \to p \pi^-) = (63.9 \pm 0.5) \times 10^{-2}$, which we rescale to our best values $B(\Lambda_c^+ \to p K^- \pi^+) = (6.32 \pm 0.24) \times 10^{-2}$, $B(\Lambda \to p \pi^-) = (64.1 \pm 0.5) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best values. The reported uncertainties are statistical, systematic, and $\overline{\Lambda}_c^-$ branching fraction uncertainty. NODE=S042Q96;LINKAGE=LE

$\Gamma(\overline{\Lambda}_c^- \Lambda_c^+)/\Gamma_{\rm total}$ — Γ_{532}/Γ

NODE=S042S02

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
<1.6	95	[1] AAIJ 14AA	LHCB	pp at 7 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<6.2	90	[2] UCHIDA 08	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Uses $B(\overline{B}^0 \to D^+ D_s^-) = (7.2 \pm 0.8) \times 10^{-3}$. NODE=S042S02;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S02;LINKAGE=EP

$\Gamma(\overline{\Lambda}_c(2593)^- / \overline{\Lambda}_c(2625)^- p)/\Gamma_{\rm total}$ — Γ_{533}/Γ

NODE=S042B28

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<1.1 × 10^{-4}	90	[1,2] DYTMAN 02	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B28;LINKAGE=EP

[2] DYTMAN 02 measurement uses $B(\Lambda_c^- \to \overline{p} K^+ \pi^-) = 5.0 \pm 1.3\%$. The second error includes the systematic and the uncertainty of the branching ratio. NODE=S042B28;LINKAGE=FP

$\Gamma(\Xi_c^- \Lambda_c^+)/\Gamma_{\rm total}$ — Γ_{534}/Γ

NODE=S042P54

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
1.2 ±0.8 OUR AVERAGE [$(1.1 \pm 0.8) \times 10^{-3}$ OUR 2025 AVERAGE]			
1.15±0.80$^{+0.05}_{-0.04}$	[1,2] LI 19C	BELL	$e^+ e^- \to \Upsilon(4S)$

NEW

[1] Uses fully reconstructed B^0 on tag side with recoil against Λ_c^+. NODE=S042P54;LINKAGE=A

[2] LI 19C reports $(1.16 \pm 0.74 \pm 0.33) \times 10^{-3}$ from a measurement of $[\Gamma(B^0 \to \Xi_c^- \Lambda_c^+)/\Gamma_{\rm total}] \times [B(\Lambda_c^+ \to p K^- \pi^+)]$ assuming $B(\Lambda_c^+ \to p K^- \pi^+) = (6.28 \pm 0.32) \times 10^{-2}$, which we rescale to our best value $B(\Lambda_c^+ \to p K^- \pi^+) = (6.32 \pm 0.24) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042P54;LINKAGE=B

$\Gamma(\Xi_c^- \Lambda_c^+,\ \Xi_c^- \to \Xi^+ \pi^- \pi^-)/\Gamma_{total}$ Γ_{535}/Γ

NODE=S042R78
NODE=S042R78

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
2.3 ±1.1 OUR AVERAGE Error includes scale factor of 1.8. [$(2.3 \pm 1.0) \times 10^{-5}$ OUR 2025 AVERAGE Scale factor = 1.8]				
3.3 ±0.8 ±0.1	[1] LI	19C	BELL	$e^+ e^- \to \Upsilon(4S)$
1.19±0.86±0.05	[2,3] AUBERT	08H	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
7.4 $^{+3.3}_{-2.7}$ ±0.3	[3,4] CHISTOV	06A	BELL	Repl. by LI 19C

NEW

[1] LI 19C reports $(3.32 \pm 0.74 \pm 0.33) \times 10^{-5}$ from a measurement of $[\Gamma(B^0 \to \Xi_c^- \Lambda_c^+,\ \Xi_c^- \to \Xi^+ \pi^- \pi^-)/\Gamma_{total}] \times [B(\Lambda_c^+ \to pK^- \pi^+)]$ assuming $B(\Lambda_c^+ \to pK^- \pi^+) = (6.28 \pm 0.32) \times 10^{-2}$, which we rescale to our best value $B(\Lambda_c^+ \to pK^- \pi^+) = (6.32 \pm 0.24) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R78;LINKAGE=A

[2] AUBERT 08H reports $(1.5 \pm 1.07 \pm 0.44) \times 10^{-5}$ from a measurement of $[\Gamma(B^0 \to \Xi_c^- \Lambda_c^+,\ \Xi_c^- \to \Xi^+ \pi^- \pi^-)/\Gamma_{total}] \times [B(\Lambda_c^+ \to pK^- \pi^+)]$ assuming $B(\Lambda_c^+ \to pK^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$, which we rescale to our best value $B(\Lambda_c^+ \to pK^- \pi^+) = (6.32 \pm 0.24) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R78;LINKAGE=AU

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R78;LINKAGE=EP

[4] CHISTOV 06A reports $(9.3^{+3.7}_{-2.8} \pm 3.1) \times 10^{-5}$ from a measurement of $[\Gamma(B^0 \to \Xi_c^- \Lambda_c^+,\ \Xi_c^- \to \Xi^+ \pi^- \pi^-)/\Gamma_{total}] \times [B(\Lambda_c^+ \to pK^- \pi^+)]$ assuming $B(\Lambda_c^+ \to pK^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$, which we rescale to our best value $B(\Lambda_c^+ \to pK^- \pi^+) = (6.32 \pm 0.24) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042R78;LINKAGE=CH

$\Gamma(\Xi_c^- \Lambda_c^+,\ \Xi_c^- \to \overline{p} K^+ \pi^-)/\Gamma_{total}$ Γ_{536}/Γ

NODE=S042P55
NODE=S042P55

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
5.2±1.6±0.2	[1] LI	19C	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] LI 19C reports $(5.27 \pm 1.51 \pm 0.69) \times 10^{-6}$ from a measurement of $[\Gamma(B^0 \to \Xi_c^- \Lambda_c^+,\ \Xi_c^- \to \overline{p} K^+ \pi^-)/\Gamma_{total}] \times [B(\Lambda_c^+ \to pK^- \pi^+)]$ assuming $B(\Lambda_c^+ \to pK^- \pi^+) = (6.28 \pm 0.32) \times 10^{-2}$, which we rescale to our best value $B(\Lambda_c^+ \to pK^- \pi^+) = (6.32 \pm 0.24) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S042P55;LINKAGE=A

$\Gamma(\Lambda_c^+ \Lambda_c^- K^0)/\Gamma_{total}$ Γ_{537}/Γ

NODE=S042R09
NODE=S042R09

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
4.0 ±0.9 OUR AVERAGE				
3.99±0.76±0.51	[1] LI	18D	BELL	$e^+ e^- \to \Upsilon(4S)$
3.8 ±3.1 ±2.1	[2,3] AUBERT	08H	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
7.9 $^{+2.9}_{-2.3}$ ±4.3	[2,3] GABYSHEV	06	BELL	Repl. by LI 18D

[1] Assumes $B(\Upsilon(4S) \to B^0 \overline{B}^0) = 48.6 \pm 0.6\%$ and $B(\Lambda_c^+ \to pK^- \pi^+) = 6.23 \pm 0.33\%$. NODE=S042R09;LINKAGE=A

[2] Assumes $B(\Lambda_c^+ \to pK^- \pi^+) = 5.0 \pm 1.3\%$. NODE=S042R09;LINKAGE=AG

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R09;LINKAGE=EP

$\Gamma(\overline{\Lambda}_c(2910)^- p,\ \overline{\Lambda}_c^- \to \overline{\Sigma}_c(2455)^{--} \pi^+)/\Gamma_{total}$ Γ_{538}/Γ

NODE=S042P79
NODE=S042P79

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
1.24±0.35±0.10	LI	23E	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(\overline{\Lambda}_c(2910)^- p,\ \overline{\Lambda}_c^- \to \overline{\Sigma}_c(2455)^0 \pi^-)/\Gamma_{total}$ Γ_{539}/Γ

NODE=S042P80
NODE=S042P80

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
9.5±3.6±1.6	LI	23E	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(\Xi_c(2930)^- \Lambda_c^+,\ \Xi_c^- \to \Lambda_c^- K^0)/\Gamma_{total}$ Γ_{540}/Γ

NODE=S042P31
NODE=S042P31

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
2.37±0.51±0.31	[1] LI	18D	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes $B(\Upsilon(4S) \to B^0 \overline{B}^0) = 48.6 \pm 0.6\%$ and $B(\Lambda_c^+ \to pK^- \pi^+) = 6.23 \pm 0.33\%$. NODE=S042P31;LINKAGE=A

$\Gamma(\Omega_c^0 \overline{\Lambda},\ \Omega_c^0 \to \Omega^- \pi^+)/\Gamma_{total}$ Γ_{541}/Γ

NODE=S042A55
NODE=S042A55

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<9.7 × 10⁻⁸	95	[1] SAVINOV	24	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Uses B($\Upsilon(4S) \to B^0 \overline{B}^0$) based on the CHOUDHURY 23 to estimate N($B^0 \overline{B}^0$) pairs.

NODE=S042A55;LINKAGE=A

$\Gamma(\Omega_c(2770)^0 \overline{\Lambda},\ \Omega_c^0 \to \Omega^- \pi^+)/\Gamma_{total}$ Γ_{542}/Γ

NODE=S042A56
NODE=S042A56

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<3.12 × 10⁻⁷	95	[1] SAVINOV	24	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Uses B($\Upsilon(4S) \to B^0 \overline{B}^0$) based on the CHOUDHURY 23 to estimate N($B^0 \overline{B}^0$) pairs. $\Omega_c(2770)^0$ is partially reconstructed and assumed to exclusively decay to final states containing Ω_c^0.

NODE=S042A56;LINKAGE=A

$\Gamma(\Omega_c^0 \Lambda,\ \Omega_c^0 \to \Omega^- \pi^+)/\Gamma_{total}$ Γ_{543}/Γ

NODE=S042A57
NODE=S042A57

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<9.5 × 10⁻⁸	95	[1] SAVINOV	24	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Uses B($\Upsilon(4S) \to B^0 \overline{B}^0$) based on the CHOUDHURY 23 to estimate N($B^0 \overline{B}^0$) pairs.

NODE=S042A57;LINKAGE=A

$\Gamma(\Omega_c(2770)^0 \Lambda,\ \Omega_c^0 \to \Omega^- \pi^+)/\Gamma_{total}$ Γ_{544}/Γ

NODE=S042A59
NODE=S042A59

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.00 × 10⁻⁷	95	[1] SAVINOV	24	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Uses B($\Upsilon(4S) \to B^0 \overline{B}^0$) based on the CHOUDHURY 23 to estimate N($B^0 \overline{B}^0$) pairs. $\Omega_c(2770)^0$ is partially reconstructed and assumed to exclusively decay to final states containing Ω_c^0.

NODE=S042A59;LINKAGE=A

$\Gamma(\Lambda \psi_{DS})/\Gamma_{total}$ Γ_{545}/Γ

NODE=S042P77
NODE=S042P77

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
< 0.13–5.2 × 10⁻⁵	90	[1] LEES	23B	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<2.1 \times 10^{-5}$	90	[2] HADJIVASILIOU	22	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] LEES 23B searched for ψ_{DS} in the recoil mass against Λ and the fully reconstructed accompanying B meson. The cited upper limit is for m(ψ_{DS}) between 1 and 4.1 GeV/c^2.

NODE=S042P77;LINKAGE=B

[2] HADJIVASILIOU 22 searched for ψ_{DS}, in the mass range 1–3.9 GeV/c^2, in the recoil mass against Λ and the accompanying B meson. The cited upper limit is for m(ψ_{DS}) $= 2.0$ GeV/c^2 and is the most stringent. The least stringent limit is $< 3.8 \times 10^{-5}$ at m(ψ_{DS}) $= 3.9$ GeV/c^2.

NODE=S042P77;LINKAGE=A

$\Gamma(\gamma\gamma)/\Gamma_{total}$ Γ_{546}/Γ

NODE=S042S36

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

NODE=S042S36
NODE=S042S36

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<6.4 × 10⁻⁸	90	[1] ADACHI	24J	BEL2	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<3.2 \times 10^{-7}$	90	[2] DEL-AMO-SA...	11A	BABR	$e^+ e^- \to \Upsilon(4S)$
$<6.2 \times 10^{-7}$	90	[2] VILLA	06	BELL	Repl. by ADACHI 24J
$<1.7 \times 10^{-6}$	90	[2] AUBERT	01I	BABR	$e^+ e^- \to \Upsilon(4S)$
$<3.9 \times 10^{-5}$	90	[3] ACCIARRI	95I	L3	$e^+ e^- \to Z$

[1] Used combined Belle and Belle II data and B($\Upsilon(4S) \to B^0 \overline{B}^0$) $= (48.4 \pm 1.2)$%. A signal with 2.5σ significance, including systematic uncertainties, is observed, corresponding to a branching fraction $(3.7^{+2.2}_{-1.8} \pm 0.5) \times 10^{-8}$.

NODE=S042S36;LINKAGE=B

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S36;LINKAGE=EP

[3] ACCIARRI 95I assumes $f_{B^0} = 39.5 \pm 4.0$ and $f_{B_s} = 12.0 \pm 3.0$%.

NODE=S042S36;LINKAGE=A

$\Gamma(e^+ e^-)/\Gamma_{total}$ Γ_{547}/Γ

NODE=S042R6

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

NODE=S042R6
NODE=S042R6

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
< 2.5 × 10⁻⁹	90	[1] AAIJ	20W	LHCB	pp at 7, 8, 13 TeV

• • • We do not use the following data for averages, fits, limits, etc. • • •

$< 8.3 \times 10^{-8}$	90	AALTONEN	09P	CDF	$p\overline{p}$ at 1.96 TeV
$<11.3 \times 10^{-8}$	90	[2] AUBERT	08P	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$< 6.1 \times 10^{-8}$	90	[2] AUBERT	05W	BABR	Repl. by AUBERT 08P
$< 1.9 \times 10^{-7}$	90	[2] CHANG	03	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$< 8.3 \times 10^{-7}$	90	[2] BERGFELD	00B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
$< 1.4 \times 10^{-5}$	90	[3] ACCIARRI	97B	L3	$e^+e^- \rightarrow Z$
$< 5.9 \times 10^{-6}$	90	AMMAR	94	CLE2	Repl. by BERGFELD 00B
$< 2.6 \times 10^{-5}$	90	[4] AVERY	89B	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
$< 7.6 \times 10^{-5}$	90	[5] ALBRECHT	87D	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
$< 6.4 \times 10^{-5}$	90	[6] AVERY	87	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
$< 3 \times 10^{-4}$	90	GILES	84	CLEO	Repl. by AVERY 87

[1] Assumes no contribution from $B_s^0 \rightarrow e^+e^-$ decays. NODE=S042R6;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R6;LINKAGE=EP

[3] ACCIARRI 97B assume PDG 96 production fractions for B^+, B^0, B_s, and Λ_b. NODE=S042R6;LINKAGE=BQ

[4] AVERY 89B reports $< 3 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R6;LINKAGE=A1

[5] ALBRECHT 87D reports $< 8.5 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R6;LINKAGE=W

[6] AVERY 87 reports $< 8 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 40% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R6;LINKAGE=Y

$\Gamma(e^+e^-\gamma)/\Gamma_{\text{total}}$ Γ_{548}/Γ

NODE=S042T32

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

NODE=S042T32
NODE=S042T32

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.2 \times 10^{-7}$	90	AUBERT	08C	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

$\Gamma(\mu^+\mu^-)/\Gamma_{\text{total}}$ Γ_{549}/Γ

NODE=S042R7

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

NODE=S042R7
NODE=S042R7

VALUE (units 10^{-10})	CL%	DOCUMENT ID		TECN	COMMENT
< 1.5	90	[1,2] TUMASYAN	23A	CMS	pp at 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$1.2^{+0.8}_{-0.7} \pm 0.1$		[3] AAIJ	22	LHCB	pp at 7, 8, 13 TeV
$<$ 3.6	95	[4] SIRUNYAN	20AG		pp at 7, 8, 13 TeV
$-$ 1.9$\pm$1.6		[5,6] AABOUD	19L	ATLS	pp at 7, 8, 13 TeV
$1.5^{+1.2}_{-1.0}{}^{+0.2}_{-0.1}$		[7] AAIJ	17AI	LHCB	Repl. by AAIJ 22
$-$ 2.5$\pm$2.0		[8] AABOUD	16L	ATLS	Repl. by AABOUD 19L
$3.9^{+1.6}_{-1.4}$		[9] KHACHATRY...	15BE	LHC	pp at 7, 8 TeV
$<$ 8.0	90	[10] AAIJ	13B	LHCB	Repl. by AAIJ 13BA
$<$ 6.3	90	[11] AAIJ	13BA	LHCB	Repl. by KHACHATRYAN 15BE
$<$ 38	90	[12] AALTONEN	13F	CDF	$p\overline{p}$ at 1.96 TeV
$3.5^{+2.1}_{-1.8}$		[13] CHATRCHYAN	13AW	CMS	Repl. by SIRUNYAN 20AG
$<$ 26	90	[10] AAIJ	12A	LHCB	Repl. by AAIJ 12W
$<$ 8.1	90	[14] AAIJ	12W	LHCB	Repl. by AAIJ 13B
$<$ 14	90	[14] CHATRCHYAN	12A	CMS	pp at 7 TeV
$<$ 120	90	[15] AAIJ	11B	LHCB	Repl. by AAIJ 12A
$<$ 50	90	[14] AALTONEN	11AG	CDF	$p\overline{p}$ at 1.96 TeV
$<$ 37	90	[14] CHATRCHYAN	11T	CMS	Repl. by CHATRCHYAN 12A

OCCUR=2

[1] Corresponds to a 95% CL upper limit of $< 1.9 \times 10^{-10}$. NODE=S042R7;LINKAGE=J

[2] Uses normalization mode B($B^+ \rightarrow J/\psi K^+$) = (1.020 $\pm$ 0.019) $\times 10^{-3}$, B($J/\psi \rightarrow \mu^+\mu^-$) = (5.961 $\pm$ 0.033) $\times 10^{-2}$. NODE=S042R7;LINKAGE=K

[3] Corresponds to a 95% CL upper limit of $< 2.6 \times 10^{-10}$. NODE=S042R7;LINKAGE=H

[4] Uses normalization mode B($B^+ \rightarrow J/\psi K^+$) = (1.01 $\pm$ 0.03) $\times 10^{-3}$. NODE=S042R7;LINKAGE=G

[5] Corresponds to a 95% CL upper limit of $< 2.1 \times 10^{-10}$. NODE=S042R7;LINKAGE=F

[6] Uses normalization mode B($B^+ \rightarrow J/\psi K^+$) = (1.010 $\pm$ 0.029) $\times 10^{-3}$ and B production ratio f($b \rightarrow B_s^0$)/f($b \rightarrow B^0$) = 0.256 $\pm$ 0.013. NODE=S042R7;LINKAGE=I

[7] Corresponds to a 95% CL upper limit of $< 3.4 \times 10^{-10}$. NODE=S042R7;LINKAGE=E

[8] This value is obtained from a profile-likelihood fit, see Fig. 9. It corresponds to an uppper limit of $< 0.42 \times 10^{-9}$ at 95% C.L. NODE=S042R7;LINKAGE=AB

[9] Derived from the combined fit to CMS and LHCb data. Uncertainty includes both statistical and systematic component. Also reports B($B^0 \rightarrow \mu^+\mu^-$)/B($B_s \rightarrow \mu^+\mu^-$) = $0.14^{+0.08}_{-0.06}$. NODE=S042R7;LINKAGE=D

[10] Uses B($B^+ \to J/\psi K^+ \to \mu^+\mu^- K^+$) = $(6.01 \pm 0.21) \times 10^{-5}$ and B($B^0 \to K^+\pi^-$) = $(1.94 \pm 0.06) \times 10^{-5}$ for normalization. NODE=S042R7;LINKAGE=AJ
[11] Reports also a limit of $< 7.4 \times 10^{-10}$ at 95% CL. Uses normalization modes $B^+ \to J/\psi K^+ \to \mu^+\mu^- K^+$ and $B^0 \to K^+\pi^-$. NODE=S042R7;LINKAGE=IA
[12] Uses normalization mode B($B^+ \to J/\psi K^+$) = $(10.22 \pm 0.35) \times 10^{-4}$. NODE=S042R7;LINKAGE=AN
[13] Reports also a limit of $< 9.2 \times 10^{-10}$ at 90% CL. and uses B($B^+ \to J/\psi K^+ \to \mu^+\mu^- K^+$) = $(6.0 \pm 0.2) \times 10^{-5}$ for normalization. NODE=S042R7;LINKAGE=CT
[14] Uses B($B^+ \to J/\psi K^+ \to \mu^+\mu^- K^+$) = $(6.01 \pm 0.21) \times 10^{-5}$. NODE=S042R7;LINKAGE=AT
[15] Uses B production ratio f($\overline{b} \to B^+$)/f($\overline{b} \to B_s^0$) = 3.71 ± 0.47 and three normalization modes. NODE=S042R7;LINKAGE=AI

$\Gamma(\mu^+\mu^-\gamma)/\Gamma_{total}$ Γ_{550}/Γ

NODE=S042T33

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

NODE=S042T33
NODE=S042T33

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.6 \times 10^{-7}$	90	AUBERT	08C	BABR	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\tau^+\tau^-)/\Gamma_{total}$ Γ_{554}/Γ

NODE=S042T05

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

NODE=S042T05
NODE=S042T05

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.1 \times 10^{-3}$	95	[1] AAIJ	17AJ	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<4.1 \times 10^{-3}$	90	[2] AUBERT	06S	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assuming no contribution from $B_s^0 \to \tau^+\tau^-$. NODE=S042T05;LINKAGE=A
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T05;LINKAGE=EP

$\Gamma(\mu^+\mu^-\mu^+\mu^-)/\Gamma_{total}$ Γ_{551}/Γ

NODE=S042T99
NODE=S042T99

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.8 \times 10^{-10}$	95	AAIJ	22Q	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<6.9 \times 10^{-10}$	95	AAIJ	17N	LHCB	pp at 7, 8 TeV
$<6.6 \times 10^{-9}$	95	[1] AAIJ	13AW	LHCB	Repl. by AAIJ 17N

[1] Also reports a limit of $< 5.3 \times 10^{-9}$ at 90% CL. NODE=S042T99;LINKAGE=AA

$\Gamma(SP,\ S \to \mu^+\mu^-,\ P \to \mu^+\mu^-)/\Gamma_{total}$ Γ_{552}/Γ

NODE=S042T9A

Here S and P are the hypothetical scalar and pseudoscalar particles with masses of 2.5 GeV/c^2 and 214.3 MeV/c^2, respectively.

NODE=S042T9A
NODE=S042T9A

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.0 \times 10^{-10}$	95	AAIJ	17N	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<5.1 \times 10^{-9}$	90	[1] AAIJ	13AW	LHCB	Repl. by AAIJ 17N

[1] Also reports a limit of $< 6.3 \times 10^{-9}$ at 95% CL. NODE=S042T9A;LINKAGE=AA

$\Gamma(aa,\ a \to \mu^+\mu^-)/\Gamma_{total}$ Γ_{553}/Γ

NODE=S042P76

Here particle a is a scalar with a mass of 1 GeV/c^2.

NODE=S042P76
NODE=S042P76

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.3 \times 10^{-10}$	95	AAIJ	22Q	LHCB	pp at 7, 8, 13 TeV

$\Gamma(\pi^0\ell^+\ell^-)/\Gamma_{total}$ Γ_{555}/Γ

NODE=S042T23
NODE=S042T23

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.8 \times 10^{-8}$	90	[1] ADACHI	24N	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<5.3 \times 10^{-8}$	90	[2] LEES	13M	BABR	$e^+e^- \to \Upsilon(4S)$
$<1.5 \times 10^{-7}$	90	[2] WEI	08A	BELL	$e^+e^- \to \Upsilon(4S)$
$<1.2 \times 10^{-7}$	90	[2] AUBERT	07AG	BABR	Repl. by LEES 13M

[1] Where $\ell = e,\ \mu$. NODE=S042T23;LINKAGE=A
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T23;LINKAGE=EP

$\Gamma(\pi^0\nu\overline{\nu})/\Gamma_{total}$ Γ_{565}/Γ

NODE=S042T36

Test for $\Delta B = 1$ weak neutral current. Allowed by higher-order electroweak interaction.

NODE=S042T36
NODE=S042T36

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<0.9 \times 10^{-5}$	90	[1] GRYGIER	17	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<6.9 \times 10^{-5}$	90	[1] LUTZ	13	BELL	$e^+e^- \to \Upsilon(4S)$
$<2.2 \times 10^{-4}$	90	[1] CHEN	07D	BELL	Repl. by LUTZ 13

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T36;LINKAGE=EP

$\Gamma(\pi^0 e^+ e^-)/\Gamma_{total}$ Γ_{556}/Γ

NODE=S042T21
NODE=S042T21

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<7.9 × 10^{-8}	90	ADACHI	24N	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<8.4 \times 10^{-8}$	90	[1] LEES	13M	BABR	$e^+ e^- \to \Upsilon(4S)$
$<2.3 \times 10^{-7}$	90	[1] WEI	08A	BELL	$e^+ e^- \to \Upsilon(4S)$
$<1.4 \times 10^{-7}$	90	[1] AUBERT	07AG	BABR	Repl. by LEES 13M

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T21;LINKAGE=EP

$\Gamma(\pi^0 \mu^+ \mu^-)/\Gamma_{total}$ Γ_{557}/Γ

NODE=S042T22
NODE=S042T22

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<5.9 × 10^{-8}	90	ADACHI	24N	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<6.9 \times 10^{-8}$	90	[1] LEES	13M	BABR	$e^+ e^- \to \Upsilon(4S)$
$<1.8 \times 10^{-7}$	90	[1] WEI	08A	BELL	$e^+ e^- \to \Upsilon(4S)$
$<5.1 \times 10^{-7}$	90	[1] AUBERT	07AG	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042T22;LINKAGE=EP

$\Gamma(\eta \ell^+ \ell^-)/\Gamma_{total}$ Γ_{558}/Γ

NODE=S042U01
NODE=S042U01

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<4.8 × 10^{-8}	90	[1] ADACHI	24N	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<6.4 \times 10^{-8}$	90	[2] LEES	13M	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Where $\ell = e, \mu$.

NODE=S042U01;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042U01;LINKAGE=EP

$\Gamma(\eta e^+ e^-)/\Gamma_{total}$ Γ_{559}/Γ

NODE=S042U02
NODE=S042U02

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<10.5 × 10^{-8}	90	ADACHI	24N	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<10.8 \times 10^{-8}$	90	[1] LEES	13M	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042U02;LINKAGE=EP

$\Gamma(\eta \mu^+ \mu^-)/\Gamma_{total}$ Γ_{560}/Γ

NODE=S042U03
NODE=S042U03

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
< 9.4 × 10^{-8}	90	ADACHI	24N	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<11.2 \times 10^{-8}$	90	[1] LEES	13M	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042U03;LINKAGE=EP

$\Gamma(\rho(770)^0 e^+ e^-)/\Gamma_{total}$ Γ_{561}/Γ

NODE=S042A62
NODE=S042A62

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<45.5 × 10^{-8}	90	ADACHI	24N	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(\omega e^+ e^-)/\Gamma_{total}$ Γ_{562}/Γ

NODE=S042A63
NODE=S042A63

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<30.7 × 10^{-8}	90	ADACHI	24N	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(\omega \mu^+ \mu^-)/\Gamma_{total}$ Γ_{563}/Γ

NODE=S042A64
NODE=S042A64

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<24.9 × 10^{-8}	90	ADACHI	24N	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(\omega \ell^+ \ell^-)/\Gamma_{total}$ Γ_{564}/Γ

NODE=S042A65
NODE=S042A65

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<22.0 × 10^{-8}	90	[1] ADACHI	24N	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Where $\ell = e, \mu$.

NODE=S042A65;LINKAGE=A

$\Gamma(K^0 \ell^+ \ell^-)/\Gamma_{total}$ Γ_{566}/Γ NODE=S042RA1

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
3.3 ±0.6 OUR AVERAGE					
$3.51^{+0.69}_{-0.60}\pm0.10$		CHOUDHURY	21	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$2.1\ ^{+1.5}_{-1.3}\ \pm0.2$		[1] AUBERT	09T	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$3.4\ ^{+0.9}_{-0.8}\ \pm0.2$		[1,2] WEI	09A	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$2.9\ ^{+1.6}_{-1.3}\ \pm0.3$		[1] AUBERT,B	06J	BABR	Repl. by AUBERT 09T
<6.8	90	[1] ISHIKAWA	03	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$. NODE=S042RA1;LINKAGE=EP
[2] Superseded by CHOUDHURY 21. NODE=S042RA1;LINKAGE=A

$\Gamma(K^0 e^+ e^-)/\Gamma_{total}$ Γ_{567}/Γ NODE=S042R18

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions. NODE=S042R18

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{2.5^{+1.1}_{-0.9}}$ **OUR AVERAGE** Error includes scale factor of 1.3.					
$3.1^{+1.0}_{-0.9}\pm0.08$		CHOUDHURY	21	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$0.8^{+1.5}_{-1.2}\pm0.1$		[1] AUBERT	09T	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$2.0^{+1.4}_{-1.0}\pm0.1$		[1,2] WEI	09A	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$1.3^{+1.6}_{-1.1}\pm0.2$		[1] AUBERT,B	06J	BABR	Repl. by AUBERT 09T
$-2.1^{+2.3}_{-1.6}\pm0.8$		[1] AUBERT	03U	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
< 5.4	90	[3] ISHIKAWA	03	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
< 27	90	[1] ABE	02	BELL	Repl. by ISHIKAWA 03
< 38	90	[1] AUBERT	02L	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
< 84.5	90	[4] ANDERSON	01B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
< 3000	90	ALBRECHT	91E	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
< 5200	90	[5] AVERY	87	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R18;LINKAGE=EP
[2] Superseded by CHOUDHURY 21. NODE=S042R18;LINKAGE=A
[3] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$. NODE=S042R18;LINKAGE=IS
[4] The result is for di-lepton masses above 0.5 GeV. NODE=S042R18;LINKAGE=DL
[5] AVERY 87 reports $< 6.5 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 40% to $B^0 \overline{B}^0$. We rescale to 50%. NODE=S042R18;LINKAGE=A3

$\Gamma(K^0 \nu\overline{\nu})/\Gamma_{total}$ Γ_{569}/Γ NODE=S042T37

Test for $\Delta B = 1$ weak neutral current. Allowed by higher-order electroweak interaction. NODE=S042T37

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{< 2.6 \times 10^{-5}}$	90	[1] GRYGIER	17	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$< 4.9 \times 10^{-5}$	90	[1,2] LEES	13I	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<19.4 \times 10^{-5}$	90	[1] LUTZ	13	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$< 5.6 \times 10^{-5}$	90	[1] DEL-AMO-SA...	10Q	BABR	Repl. by LEES 13I
$< 1.6 \times 10^{-4}$	90	[1] CHEN	07D	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T37;LINKAGE=EP
[2] Also reported a limit $< 8.1 \times 10^{-5}$ at 90% CL obtained using a fully reconstructed hadronic B-tag evnets. NODE=S042T37;LINKAGE=LE

$\Gamma(\rho^0 \nu\overline{\nu})/\Gamma_{total}$ Γ_{570}/Γ NODE=S042T38

Test for $\Delta B = 1$ weak neutral current. Allowed by higher-order electroweak interaction. NODE=S042T38

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{<4.0 \times 10^{-5}}$	90	[1] GRYGIER	17	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<2.08 \times 10^{-4}$	90	[1] LUTZ	13	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$<4.4 \times 10^{-4}$	90	[1] CHEN	07D	BELL	Repl. by LUTZ 13

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T38;LINKAGE=EP

$\Gamma(K^0\mu^+\mu^-)/\Gamma_{total}$ Γ_{568}/Γ

NODE=S042R17

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

NODE=S042R17
NODE=S042R17

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
3.39±0.35 OUR FIT Error includes scale factor of 1.1.					
3.39±0.35 OUR AVERAGE					
$3.9\ ^{+1.0}_{-0.8}\ \pm0.3$		CHOUDHURY	21	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$3.27\pm0.34\pm0.17$		[1] AAIJ	14M	LHCB	pp at 7, 8 TeV
$4.9\ ^{+2.9}_{-2.5}\ \pm0.3$		[2] AUBERT	09T	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$3.1\ ^{+0.7}_{-0.6}$		AAIJ	12AH	LHCB	Repl. by AAIJ 14M
$4.4\ ^{+1.3}_{-1.1}\ \pm0.3$		[2,3] WEI	09A	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$5.9\ ^{+3.3}_{-2.6}\ \pm0.7$		[2] AUBERT,B	06J	BABR	Repl. by AUBERT 09T
$1.63^{+0.82}_{-0.63}\pm0.14$		[2] AUBERT	03U	BABR	Repl. by AUBERT,B 06J
$5.6\ ^{+2.9}_{-2.3}\ \pm0.5$		[4] ISHIKAWA	03	BELL	Repl. by WEI 09A
<33	90	[2] ABE	02	BELL	Repl. by ISHIKAWA 03
<36	90	AUBERT	02L	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
<66.4	90	[5] ANDERSON	01B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
<5200	90	ALBRECHT	91E	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
<3600	90	[6] AVERY	87	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Uses B($B^0 \rightarrow J/\psi(1S)K^0$) = $(0.928 \pm 0.013 \pm 0.037) \times 10^{-3}$ for normalization. NODE=S042R17;LINKAGE=A

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R17;LINKAGE=EP

[3] Superseded by CHOUDHURY 21. NODE=S042R17;LINKAGE=B

[4] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$. The second error is a total of systematic uncertainties including model dependence. NODE=S042R17;LINKAGE=IS

[5] The result is for di-lepton masses above 0.5 GeV. NODE=S042R17;LINKAGE=DL

[6] AVERY 87 reports $< 4.5 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 40% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R17;LINKAGE=A3

$\Gamma(K^0\mu^+\mu^-)/\Gamma(J/\psi(1S)K^0)$ $\Gamma_{568}/\Gamma_{214}$

NODE=S042Q99
NODE=S042Q99

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
0.38±0.04 OUR FIT Error includes scale factor of 1.1.				
0.37±0.12±0.02	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

$\Gamma(K^*(892)^0\ell^+\ell^-)/\Gamma_{total}$ Γ_{571}/Γ

NODE=S042RA2

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

NODE=S042RA2
NODE=S042RA2

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$\mathbf{9.9^{+1.2}_{-1.1}}$ **OUR AVERAGE**				
$10.3^{+2.2}_{-2.1}\pm0.7$	[1] AUBERT	09T	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$9.7^{+1.3}_{-1.1}\pm0.7$	[1] WEI	09A	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$8.1^{+2.1}_{-1.9}\pm0.9$	[1] AUBERT,B	06J	BABR	Repl. by AUBERT 09T
$11.7^{+3.0}_{-2.7}\pm0.9$	[1] ISHIKAWA	03	BELL	Repl. by WEI 09A

[1] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$. NODE=S042RA2;LINKAGE=EP

$\Gamma(K^*(892)^0e^+e^-)/\Gamma_{total}$ Γ_{572}/Γ

NODE=S042R82

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

NODE=S042R82
NODE=S042R82

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{10.3^{+1.9}_{-1.7}}$ **OUR AVERAGE**					
$8.6^{+2.6}_{-2.4}\pm0.5$		[1] AUBERT	09T	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$11.8^{+2.7}_{-2.2}\pm0.9$		[1] WEI	09A	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$10.4^{+3.3}_{-2.9}\pm1.1$		[1] AUBERT,B	06J	BABR	Repl. by AUBERT 09T
$11.1^{+5.6}_{-4.7}\pm1.1$		[1] AUBERT	03U	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<$ 24	90	[2] ISHIKAWA	03	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$<$ 64	90	[1] ABE	02	BELL	Repl. by ISHIKAWA 03
$<$ 67	90	[1] AUBERT	02L	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<$2900	90	ALBRECHT	91E	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R82;LINKAGE=EP

[2] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$. NODE=S042R82;LINKAGE=IS

$\Gamma(K^*(892)^0\mu^+\mu^-)/\Gamma_{total}$ Γ_{573}/Γ

NODE=S042R69

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

NODE=S042R69
NODE=S042R69

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
9.4 ±0.5 OUR FIT					
9.4 ±0.6 OUR AVERAGE					
$9.04^{+0.16}_{-0.15}\pm0.62$		[1] AAIJ	17Q	LHCB	pp at 7, 8 TeV
$13.5\ ^{+4.0}_{-3.7}\ \pm1.0$		[2] AUBERT	09T	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$10.6\ ^{+1.9}_{-1.4}\ \pm0.7$		[2] WEI	09A	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

$10.36^{+0.18}_{-0.17}\pm0.71$		[1] AAIJ	16AO	LHCB	Repl. by AAIJ 17Q
$8.7\ ^{+3.8}_{-3.3}\ \pm1.2$		[2] AUBERT,B	06J	BABR	Repl. by AUBERT 09T
$8.6\ ^{+7.9}_{-5.8}\ \pm1.1$		[2] AUBERT	03U	BABR	Repl. by AUBERT,B 06J
$13.3\ ^{+4.2}_{-3.7}\ \pm1.1$		[3] ISHIKAWA	03	BELL	Repl. by WEI 09A
<42	90	[2] ABE	02	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
<33	90	AUBERT	02L	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
<40	90	[4] AFFOLDER	99B	CDF	$p\overline{p}$ at 1.8 TeV

OCCUR=2

[1] Uses B($B^0 \rightarrow J/\psi K^*(892)^0$) = $(1.19 \pm 0.01 \pm 0.08) \times 10^{-3}$. The second error is the total systematic uncertainty. NODE=S042R69;LINKAGE=C

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R69;LINKAGE=EP

[3] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$. The second error is a total of systematic uncertainties including model dependence. NODE=S042R69;LINKAGE=IS

[4] AFFOLDER 99B measured relative to $B^0 \rightarrow J/\psi(1S)K^*(892)^0$. NODE=S042R69;LINKAGE=N2

$\Gamma(K^*(892)^0\mu^+\mu^-)/\Gamma(J/\psi(1S)K^*(892)^0)$ $\Gamma_{573}/\Gamma_{216}$

NODE=S042Q95
NODE=S042Q95

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
0.75±0.05 OUR FIT				
0.77±0.08±0.03	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

• • • We do not use the following data for averages, fits, limits, etc. • • •

0.80±0.10±0.06	AALTONEN	11L	CDF	Repl. by AALTONEN 11AI
0.61±0.23±0.07	AALTONEN	09B	CDF	Repl. by AALTONEN 11L

$\Gamma(K^*(892)^0\chi,\ \chi\rightarrow\mu^+\mu^-)/\Gamma_{total}$ Γ_{574}/Γ

NODE=S042C49
NODE=S042C49

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<\sim 10^{-9}$	95	[1] AAIJ	15AZ	LHCB	pp at 7, 8 TeV

[1] The limt is obtained as a function of di-muon mass. A normalizing mode branching fraction value of B($B^0 \rightarrow K^{*0}\mu^+\mu^-$) = $(1.6 \pm 0.3) \times 10^{-7}$ is used. NODE=S042C49;LINKAGE=A

$\Gamma(K^*(892)^0\tau^+\tau^-)/\Gamma_{total}$ Γ_{575}/Γ

NODE=S042P89
NODE=S042P89

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.1 \times 10^{-3}$	90	[1] DONG	23	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Uses full reconstruction of companion neutral B. NODE=S042P89;LINKAGE=A

$\Gamma(\overline{D}^0\mu^+\mu^-)/\Gamma_{total}$ Γ_{576}/Γ

NODE=S042A60
NODE=S042A60

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<4.0 \times 10^{-8}$	90	AAIJ	24F	LHCB	pp at 7, 8, 13 TeV

$\Gamma(\pi^+\pi^-\mu^+\mu^-)/\Gamma_{total}$ — Γ_{577}/Γ

NODE=S042C36

VALUE (units 10^{-8})	DOCUMENT ID	TECN	COMMENT
2.1±0.5±0.1	[1] AAIJ 15S	LHCB	pp at 7, 8 TeV

[1] AAIJ 15S reports $(2.11 \pm 0.51 \pm 0.15 \pm 0.16) \times 10^{-8}$ from a measurement of $[\Gamma(B^0 \to \pi^+\pi^-\mu^+\mu^-)/\Gamma_{total}]$ / $[B(B^0 \to J/\psi(1S) K^*(892)^0)]$ assuming $B(B^0 \to J/\psi(1S) K^*(892)^0) = (1.3 \pm 0.1) \times 10^{-3}$, which we rescale to our best value $B(B^0 \to J/\psi(1S) K^*(892)^0) = (1.27 \pm 0.05) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S042C36;LINKAGE=A

$\Gamma(K^*(892)^0 \nu\overline{\nu})/\Gamma_{total}$ — Γ_{578}/Γ

NODE=S042S50

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<1.8 × 10^{-5}	90	[1] GRYGIER 17	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$<1.2 \times 10^{-4}$	90	[1,2] LEES 13I	BABR	$e^+e^- \to \Upsilon(4S)$
$<5.5 \times 10^{-5}$	90	[1] LUTZ 13	BELL	$e^+e^- \to \Upsilon(4S)$
$<1.2 \times 10^{-4}$	90	AUBERT 08BC	BABR	Repl. by LEES 13I
$<3.4 \times 10^{-4}$	90	[1] CHEN 07D	BELL	$e^+e^- \to \Upsilon(4S)$
$<1.0 \times 10^{-3}$	90	[3] ADAM 96D	DLPH	$e^+e^- \to Z$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042S50;LINKAGE=EP

[2] Also reported a limit $< 9.3 \times 10^{-5}$ at 90% CL obtained using a fully reconstructed hadronic B-tag evnets. NODE=S042S50;LINKAGE=LE

[3] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$. NODE=S042S50;LINKAGE=DQ

$\Gamma(\text{invisible})/\Gamma_{total}$ — Γ_{579}/Γ

NODE=S042SN1

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
< 2.4 × 10^{-5}	90	[1] LEES 12T	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$< 1.4 \times 10^{-4}$	90	[2] ALONSO-ALV..24	THEO	$e^+e^- \to Z$
$< 7.8 \times 10^{-5}$	90	[3] KU 20	BELL	$e^+e^- \to \Upsilon(4S)$
$<13 \times 10^{-5}$	90	[4] HSU 12	BELL	$e^+e^- \to \Upsilon(4S)$
$<22 \times 10^{-5}$	90	[1] AUBERT,B 04J	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses the fully reconstructed $B^0 \to D^{(*)-}\ell^+\nu_\ell$ events as a tag. NODE=S042SN1;LINKAGE=AU

[2] A reinterpretation of an old inclusive ALEPH search for b-hadron decays with large missing energy reported in BARATE 01E. NODE=S042SN1;LINKAGE=B

[3] Identified by fully reconstructing a hadronic decay of the accompanying B meson. NODE=S042SN1;LINKAGE=A

[4] Identified by fully reconstructing a hadronic decay of the accompanying B meson and requiring no other particles in the event. NODE=S042SN1;LINKAGE=HS

$\Gamma(\nu\overline{\nu}\gamma)/\Gamma_{total}$ — Γ_{580}/Γ

NODE=S042SN2

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
<1.6	90	[1] KU 20	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<1.7	90	[2] LEES 12T	BABR	$e^+e^- \to \Upsilon(4S)$
<4.7	90	[2] AUBERT,B 04J	BABR	Repl. by LEES 12T

[1] Identified by fully reconstructing a hadronic decay of the accompanying B meson. NODE=S042SN2;LINKAGE=A

[2] Uses the fully reconstructed $B^0 \to D^{(*)-}\ell^+\nu_\ell$ events as a tag. NODE=S042SN2;LINKAGE=AU

$\Gamma(\phi\mu^+\mu^-)/\Gamma_{total}$ — Γ_{581}/Γ

NODE=S042P71

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<3.2 × 10^{-9}	90	[1] AAIJ 22S	LHCB	pp at 7, 8, 13 TeV

[1] Using $B(B_s^0 \to \phi\mu^+\mu^-)$ as normalization. The limit is set for the full q^2 phase space. NODE=S042P71;LINKAGE=A

$\Gamma(\phi\nu\overline{\nu})/\Gamma_{total}$ — Γ_{582}/Γ

NODE=S042T39

Test for $\Delta B = 1$ weak neutral current. Allowed by higher-order electroweak interaction.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<1.27 × 10^{-4}	90	[1] LUTZ 13	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$<5.8 \times 10^{-5}$	90	[1] CHEN 07D	BELL	Repl. by LUTZ 13

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T39;LINKAGE=EP

$\Gamma(e^{\pm}\mu^{\mp})/\Gamma_{total}$ Γ_{583}/Γ

NODE=S042R8

Test of lepton family number conservation. Allowed by higher-order electroweak interactions.

NODE=S042R8

NODE=S042R8

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.0 \times 10^{-9}$	90	[1] AAIJ	18T	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<2.8 \times 10^{-9}$	90	[2] AAIJ	13BM	LHCB	Repl. by AAIJ 18T
$<6.4 \times 10^{-8}$	90	AALTONEN	09P	CDF	$p\overline{p}$ at 1.96 TeV
$<9.2 \times 10^{-8}$	90	[3] AUBERT	08P	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<1.8 \times 10^{-7}$	90	[3] AUBERT	05W	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<1.7 \times 10^{-7}$	90	[3] CHANG	03	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$<15 \times 10^{-7}$	90	[3] BERGFELD	00B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
$<3.5 \times 10^{-6}$	90	ABE	98V	CDF	$p\overline{p}$ at 1.8 TeV
$<1.6 \times 10^{-5}$	90	[4] ACCIARRI	97B	L3	$e^+e^- \rightarrow Z$
$<5.9 \times 10^{-6}$	90	AMMAR	94	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
$<3.4 \times 10^{-5}$	90	[5] AVERY	89B	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
$<4.5 \times 10^{-5}$	90	[6] ALBRECHT	87D	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
$<7.7 \times 10^{-5}$	90	[7] AVERY	87	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
$<3 \times 10^{-4}$	90	GILES	84	CLEO	Repl. by AVERY 87

[1] AAIJ 18T uses normalization modes $B(B^0 \rightarrow K^+\pi^-) = (19.6 \pm 0.5) \times 10^{-6}$ and $B(B^+ \rightarrow J/\psi K^+) = (1.026 \pm 0.031) \times 10^{-3}$. NODE=S042R8;LINKAGE=A

[2] Uses normalization mode $B(B^0 \rightarrow K^+\pi^-) = (19.4 \pm 0.6) \times 10^{-6}$. NODE=S042R8;LINKAGE=AA

[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042R8;LINKAGE=EP

[4] ACCIARRI 97B assume PDG 96 production fractions for B^+, B^0, B_s, and Λ_b. NODE=S042R8;LINKAGE=BQ

[5] Paper assumes the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R8;LINKAGE=A1

[6] ALBRECHT 87D reports $< 5 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R8;LINKAGE=W

[7] AVERY 87 reports $< 9 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 40% to $B^0\overline{B}^0$. We rescale to 50%. NODE=S042R8;LINKAGE=Y

$\Gamma(\pi^0 e^{\pm}\mu^{\mp})/\Gamma_{total}$ Γ_{584}/Γ

NODE=S042T24
NODE=S042T24

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.4 \times 10^{-7}$	90	[1] AUBERT	07AG	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042T24;LINKAGE=EP

$\Gamma(K^0 e^{\pm}\mu^{\mp})/\Gamma_{total}$ Γ_{585}/Γ

NODE=S042B24

Test of lepton family number conservation.

NODE=S042B24
NODE=S042B24

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.8 \times 10^{-8}$	90	CHOUDHURY	21	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<2.7 \times 10^{-7}$	90	[1] AUBERT,B	06J	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<40 \times 10^{-7}$	90	[1] AUBERT	02L	BABR	Repl. by AUBERT,B 06J

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. NODE=S042B24;LINKAGE=EP

$\Gamma(K_S^0 \tau^+ e^-)/\Gamma_{total}$ Γ_{586}/Γ

NODE=S042A71
NODE=S042A71

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.5 \times 10^{-5}$	90	[1] ADACHI	25B	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Uses tagging of the companion B meson in fully hadronic decay modes NODE=S042A71;LINKAGE=A

$\Gamma(K_S^0 \tau^- e^+)/\Gamma_{total}$ Γ_{587}/Γ

NODE=S042A72
NODE=S042A72

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<0.8 \times 10^{-5}$	90	[1] ADACHI	25B	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Uses the tagging of the companion B meson in hadronic decays modes NODE=S042A72;LINKAGE=A

$\Gamma(K_S^0 \tau^+ \mu^-)/\Gamma_{total}$ Γ_{588}/Γ

NODE=S042A73
NODE=S042A73

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.1 \times 10^{-5}$	90	[1] ADACHI	25B	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Uses the tagging of the companion B meson in hadronic decays modes NODE=S042A73;LINKAGE=A

$\Gamma(K_S^0 \tau^- \mu^+)/\Gamma_{total}$ Γ_{589}/Γ

NODE=S042A74
NODE=S042A74

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.6 \times 10^{-5}$	90	[1] ADACHI	25B	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Uses the tagging of the companion B meson in hadronic decays modes NODE=S042A74;LINKAGE=A

$\Gamma(K^*(892)^0 e^+ \mu^-)/\Gamma_{total}$ Γ_{590}/Γ

NODE=S042T03

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.8 \times 10^{-9}$	90	[1] AAIJ	23G	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.6 \times 10^{-7}$	90	[2] SANDILYA	18	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$<5.3 \times 10^{-7}$	90	[3] AUBERT,B	06J	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Uses the uniform phase space model for the signal decays.
[2] Uses B($\Upsilon(4S) \rightarrow B^0 \overline{B}^0$) = 0.486 ± 0.006.
[3] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$.

NODE=S042T03;LINKAGE=C NODE=S042T03;LINKAGE=A NODE=S042T03;LINKAGE=EP

$\Gamma(K^*(892)^0 e^- \mu^+)/\Gamma_{total}$ Γ_{591}/Γ

NODE=S042T04

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<5.7 \times 10^{-9}$	90	[1] AAIJ	23G	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.2 \times 10^{-7}$	90	[2] SANDILYA	18	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$<3.4 \times 10^{-7}$	90	[3] AUBERT,B	06J	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Uses the uniform phase space model for the signal decays.
[2] Uses B($\Upsilon(4S) \rightarrow B^0 \overline{B}^0$) = 0.486 ± 0.006.
[3] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$.

NODE=S042T04;LINKAGE=C NODE=S042T04;LINKAGE=A NODE=S042T04;LINKAGE=EP

$\Gamma(K^*(892)^0 e^\pm \mu^\mp)/\Gamma_{total}$ Γ_{592}/Γ

NODE=S042B25

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 1.01 \times 10^{-8}$	90	[1] AAIJ	23G	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$< 1.8 \times 10^{-7}$	90	[2] SANDILYA	18	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$< 5.8 \times 10^{-7}$	90	[3] AUBERT,B	06J	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<34 \times 10^{-7}$	90	[3] AUBERT	02L	BABR	Repl. by AUBERT,B 06J

[1] Uses the uniform phase space model for the signal decays.
[2] Uses B($\Upsilon(4S) \rightarrow B^0 \overline{B}^0$) = 0.486 ± 0.006.
[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042B25;LINKAGE=C NODE=S042B25;LINKAGE=A NODE=S042B25;LINKAGE=EP

$\Gamma(K^*(892)^0 \tau^+ e^-)/\Gamma_{total}$ Γ_{593}/Γ

NODE=S042A69

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.9 \times 10^{-5}$	90	[1] ADACHI	25S	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Uses B($\Upsilon(4S) \rightarrow B^0 \overline{B}^0$) = 0.4861 ± 0.0080.

NODE=S042A69;LINKAGE=A

$\Gamma(K^*(892)^0 \tau^- e^+)/\Gamma_{total}$ Γ_{594}/Γ

NODE=S042A70

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.4 \times 10^{-5}$	90	[1] ADACHI	25S	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Uses B($\Upsilon(4S) \rightarrow B^0 \overline{B}^0$) = 0.4861 ± 0.0080.

NODE=S042A70;LINKAGE=A

$\Gamma(K^*(892)^0 \tau^+ \mu^-)/\Gamma_{total}$ Γ_{595}/Γ

NODE=S042P86

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.0 \times 10^{-5}$	90	[1] AAIJ	23F	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<4.2 \times 10^{-5}$	90	[2] ADACHI	25S	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Using $B^0 \rightarrow D^- D_s^+$ as normalisation decay.
[2] Uses B($\Upsilon(4S) \rightarrow B^0 \overline{B}^0$) = 0.4861 ± 0.0080.

NODE=S042P86;LINKAGE=A NODE=S042P86;LINKAGE=B

$\Gamma(K^*(892)^0 \tau^- \mu^+)/\Gamma_{total}$ Γ_{596}/Γ

NODE=S042P88

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<8.2 \times 10^{-6}$	90	[1] AAIJ	23F	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<5.6 \times 10^{-5}$	90	[2] ADACHI	25S	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Using $B^0 \rightarrow D^- D_s^+$ as normalisation decay.
[2] Uses B($\Upsilon(4S) \rightarrow B^0 \overline{B}^0$) = 0.4861 ± 0.0080.

NODE=S042P88;LINKAGE=A NODE=S042P88;LINKAGE=B

$\Gamma(e^{\pm}\tau^{\mp})/\Gamma_{\text{total}}$ — Γ_{597}/Γ

NODE=S042S19

Test of lepton family number conservation. Allowed by higher-order electroweak interactions.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.6 \times 10^{-5}$	90	[1] ATMACAN	21	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<2.8 \times 10^{-5}$	90	[2] AUBERT	08AD	BABR	$e^+e^- \to \Upsilon(4S)$
$<1.1 \times 10^{-4}$	90	BORNHEIM	04	CLE2	$e^+e^- \to \Upsilon(4S)$
$<5.3 \times 10^{-4}$	90	AMMAR	94	CLE2	Repl. by BORNHEIM 04

[1] Uses events in which one B meson is fully reconstructed in a hadronic decay mode.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S19;LINKAGE=A NODE=S042S19;LINKAGE=EP

$\Gamma(\mu^{\pm}\tau^{\mp})/\Gamma_{\text{total}}$ — Γ_{598}/Γ

NODE=S042S20

Test of lepton family number conservation. Allowed by higher-order electroweak interactions.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.4 \times 10^{-5}$	95	[1] AAIJ	19AK	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.5 \times 10^{-5}$	90	[2] ATMACAN	21	BELL	$e^+e^- \to \Upsilon(4S)$
$<2.2 \times 10^{-5}$	90	[3] AUBERT	08AD	BABR	$e^+e^- \to \Upsilon(4S)$
$<3.8 \times 10^{-5}$	90	BORNHEIM	04	CLE2	$e^+e^- \to \Upsilon(4S)$
$<8.3 \times 10^{-4}$	90	AMMAR	94	CLE2	Repl. by BORNHEIM 04

[1] Assuming no contribution from $B_s^0 \to \mu^{\pm}\tau^{\mp}$.
[2] Uses events in which one B meson is fully reconstructed in a hadronic decay mode.
[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042S20;LINKAGE=A NODE=S042S20;LINKAGE=B NODE=S042S20;LINKAGE=EP

$\Gamma(p\mu^-)/\Gamma_{\text{total}}$ — Γ_{599}/Γ

NODE=S042P84

VALUE	CL%	DOCUMENT ID		COMMENT
$<2.6 \times 10^{-9}$	90	[1] AAIJ	23Y	pp at 7, 8, 13 TeV

[1] Assumes that B^0 decay branching fractions to $p\mu^-$ and $\overline{p}\mu^+$ are the same.

NODE=S042P84;LINKAGE=A

$\Gamma(\Lambda_c^+\mu^-)/\Gamma_{\text{total}}$ — Γ_{600}/Γ

NODE=S042Q92

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.4 \times 10^{-6}$	90	[1,2] DEL-AMO-SA..	11K	BABR	$e^+e^- \to \Upsilon(4S)$

[1] DEL-AMO-SANCHEZ 11K reports $< 180 \times 10^{-8}$ from a measurement of $[\Gamma(B^0 \to \Lambda_c^+\mu^-)/\Gamma_{\text{total}}] \times [B(\Lambda_c^+ \to pK^-\pi^+)]$ assuming $B(\Lambda_c^+ \to pK^-\pi^+) = (5.0 \pm 1.3) \times 10^{-2}$, which we rescale to our best value $B(\Lambda_c^+ \to pK^-\pi^+) = 6.32 \times 10^{-2}$.
[2] Uses $B(\Upsilon(4S) \to B^0\overline{B}^0) = (51.6 \pm 0.6)\%$ and $B(\Upsilon(4S) \to B^+B^-) = (48.4 \pm 0.6)\%$.

NODE=S042Q92;LINKAGE=DE NODE=S042Q92;LINKAGE=NP

$\Gamma(\Lambda_c^+e^-)/\Gamma_{\text{total}}$ — Γ_{601}/Γ

NODE=S042Q93

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<4 \times 10^{-6}$	90	[1,2] DEL-AMO-SA..	11K	BABR	$e^+e^- \to \Upsilon(4S)$

[1] DEL-AMO-SANCHEZ 11K reports $< 520 \times 10^{-8}$ from a measurement of $[\Gamma(B^0 \to \Lambda_c^+e^-)/\Gamma_{\text{total}}] \times [B(\Lambda_c^+ \to pK^-\pi^+)]$ assuming $B(\Lambda_c^+ \to pK^-\pi^+) = (5.0 \pm 1.3) \times 10^{-2}$, which we rescale to our best value $B(\Lambda_c^+ \to pK^-\pi^+) = 6.32 \times 10^{-2}$.
[2] Uses $B(\Upsilon(4S) \to B^0\overline{B}^0) = (51.6 \pm 0.6)\%$ and $B(\Upsilon(4S) \to B^+B^-) = (48.4 \pm 0.6)\%$.

NODE=S042Q93;LINKAGE=DE NODE=S042Q93;LINKAGE=NP

B_s^0 CROSS-PARTICLE BRANCHING RATIOS

NODE=S042260

$\Gamma([K^+K^-]_D K^*(892)^0)/\Gamma_{\text{total}} \times B(B_s^0 \to [K^+K^-]_D K^*(892)^0)$ — $\Gamma_{155}/\Gamma \times B$

NODE=S042C25

VALUE	DOCUMENT ID		TECN	COMMENT
0.10±0.02±0.01	AAIJ	14BN	LHCB	pp at 7, 8 TeV

$\Gamma([\pi^+\pi^-]_D K^*(892)^0)/\Gamma_{\text{total}} \times B(B_s^0 \to [\pi^+\pi^-]_D K^*(892)^0)$ — $\Gamma_{156}/\Gamma \times B$

NODE=S042C26

VALUE	DOCUMENT ID		TECN	COMMENT
0.15±0.04±0.01	AAIJ	14BN	LHCB	pp at 7, 8 TeV

See the related review(s):

Polarization in B Decays

POLARIZATION IN B^0 DECAY

NODE=S042223

In decays involving two vector mesons, one can distinguish among the states in which meson polarizations are both longitudinal (L) or both are transverse and parallel ($\|$) or perpendicular ($\perp$) to each other with the parameters Γ_L/Γ, $\Gamma_\perp/\Gamma$, and the relative phases $\phi_\|$ and $\phi_\perp$. See the definitions in the note on "Polarization in B Decays" review in the B^0 Particle Listings.

NODE=S042223

Γ_L/Γ in $B^0 \to J/\psi(1S) K^*(892)^0$

NODE=S042P1

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.571±0.007 OUR AVERAGE					
0.572±0.006±0.014		[1] AAIJ	13AT	LHCB	pp at 7 TeV
0.587±0.011±0.013		[2] ABAZOV	09E	D0	$p\overline{p}$ at 1.96 TeV
0.556±0.009±0.010		[3] AUBERT	07AD	BABR	$e^+e^- \to \Upsilon(4S)$
0.562±0.026±0.018		ACOSTA	05	CDF	$p\overline{p}$ at 1.96 TeV
0.574±0.012±0.009		ITOH	05	BELL	$e^+e^- \to \Upsilon(4S)$
0.59 ±0.06 ±0.01		[4] AFFOLDER	00N	CDF	$p\overline{p}$ at 1.8 TeV
0.52 ±0.07 ±0.04		[5] JESSOP	97	CLE2	$e^+e^- \to \Upsilon(4S)$
0.65 ±0.10 ±0.04	65	ABE	95Z	CDF	$p\overline{p}$ at 1.8 TeV
0.97 ±0.16 ±0.15	13	[6] ALBRECHT	94G	ARG	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.566±0.012±0.005		[3] AUBERT	05P	BABR	Repl. by AUBERT 07AD
0.62 ±0.02 ±0.03		[7] ABE	02N	BELL	Repl. by ITOH 05
0.597±0.028±0.024		[8] AUBERT	01H	BABR	Repl. by AUBERT 07AD
0.80 ±0.08 ±0.05	42	[6] ALAM	94	CLE2	Sup. by JESSOP 97

NODE=S042P1

[1] AAIJ 13AT obtains $\Gamma_\|/\Gamma = 0.227 \pm 0.004 \pm 0.011$. The relation $1 = (\Gamma_L + \Gamma_\perp + \Gamma_\|)/\Gamma$ is used to obtain Γ_L/Γ. NODE=S042P1;LINKAGE=B

[2] Measured the angular and lifetime parameters for the time-dependent angular untagged decays $B^0_d \to J/\psi K^{*0}$ and $B^0_s \to J/\psi\phi$. NODE=S042P1;LINKAGE=AB

[3] Obtained by combining the B^0 and B^+ modes. NODE=S042P1;LINKAGE=AU

[4] AFFOLDER 00N measurements are based on 190 B^0 candidates obtained from a data sample of 89 pb^{-1}. The P-wave fraction is found to be $0.13^{+0.12}_{-0.09} \pm 0.06$. NODE=S042P1;LINKAGE=P1

[5] JESSOP 97 is the average over a mixture of B^0 and B^+ decays. The P-wave fraction is found to be $0.16 \pm 0.08 \pm 0.04$. NODE=S042P1;LINKAGE=JJ

[6] Averaged over an admixture of B^0 and B^+ decays. NODE=S042P1;LINKAGE=A

[7] Averaged over an admixture of B^0 and B^+ decays and the P wave fraction is $(19 \pm 2 \pm 3)\%$. NODE=S042P1;LINKAGE=PE

[8] Averaged over an admixture of B^0 and B^- decays and the P wave fraction is $(16.0 \pm 3.2 \pm 1.4) \times 10^{-2}$. NODE=S042P1;LINKAGE=BZ

$\Gamma_\perp/\Gamma$ in $B^0 \to J/\psi K^{*0}$

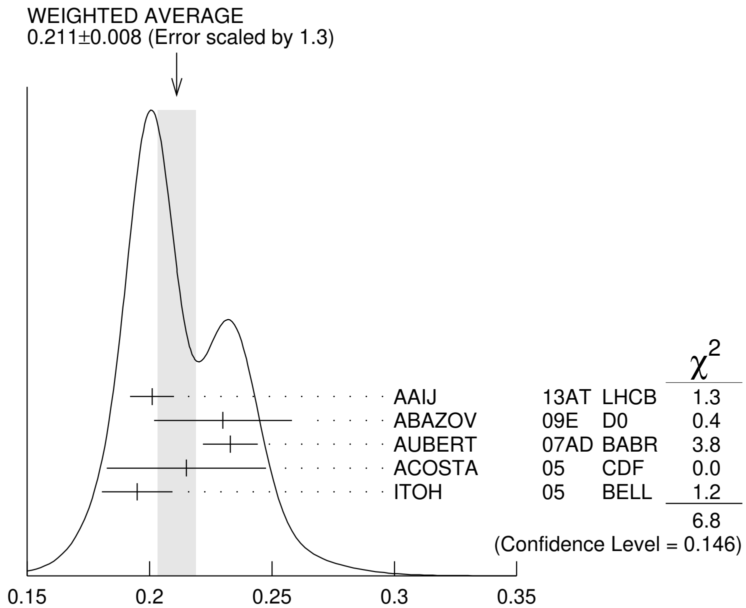
NODE=S042PP0

VALUE	DOCUMENT ID		TECN	COMMENT
0.211±0.008 OUR AVERAGE	Error includes scale factor of 1.3. See the ideogram below.			
0.201±0.004±0.008	AAIJ	13AT	LHCB	pp at 7 TeV
0.230±0.013±0.025	[1] ABAZOV	09E	D0	$p\overline{p}$ at 1.96 TeV
0.233±0.010±0.005	[2] AUBERT	07AD	BABR	$e^+e^- \to \Upsilon(4S)$
0.215±0.032±0.006	ACOSTA	05	CDF	$p\overline{p}$ at 1.96 TeV
0.195±0.012±0.008	ITOH	05	BELL	$e^+e^- \to \Upsilon(4S)$

NODE=S042PP0

[1] Measured the angular and lifetime parameters for the time-dependent angular untagged decays $B^0_d \to J/\psi K^{*0}$ and $B^0_s \to J/\psi\phi$. NODE=S042PP0;LINKAGE=AB

[2] Obtained by combining the B^0 and B^+ modes. NODE=S042PP0;LINKAGE=AU



$\Gamma_{\perp}/\Gamma$ in $B^0 \rightarrow J/\psi K^{*0}$

$\phi_{\parallel}$ in $B^0 \rightarrow J/\psi K^{*0}$

NODE=S042PP1
NODE=S042PP1

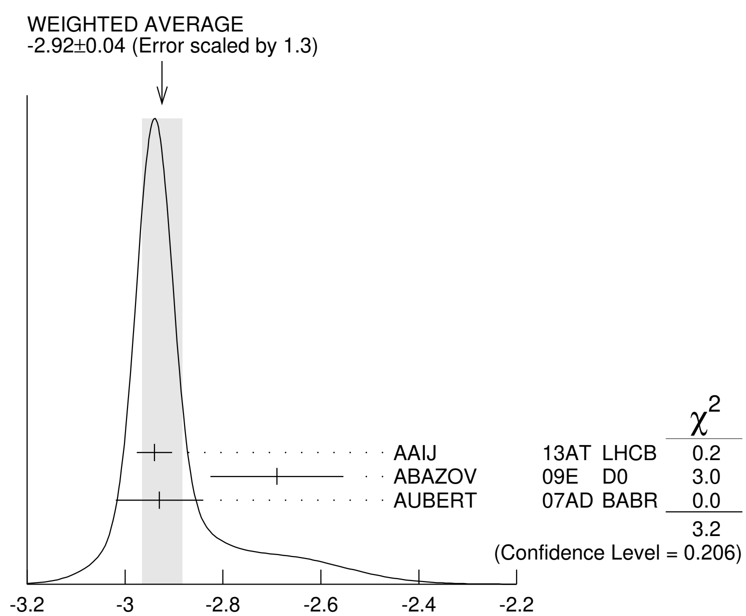
VALUE (rad)	DOCUMENT ID		TECN	COMMENT
−2.92±0.04 OUR AVERAGE	Error includes scale factor of 1.3. See the ideogram below.			
$-2.94 \pm 0.02 \pm 0.03$	AAIJ	13AT	LHCB	pp at 7 TeV
$-2.69 \pm 0.08 \pm 0.11$	[1] ABAZOV	09E	D0	$p\overline{p}$ at 1.96 TeV
$-2.93 \pm 0.08 \pm 0.04$	[2] AUBERT	07AD	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Obtained $\phi_{\parallel}$ as $\delta_2 - \delta_1$, assuming they are uncorrelated.

NODE=S042PP1;LINKAGE=AB

[2] Obtained by combining the B^0 and B^+ modes.

NODE=S042PP1;LINKAGE=AU



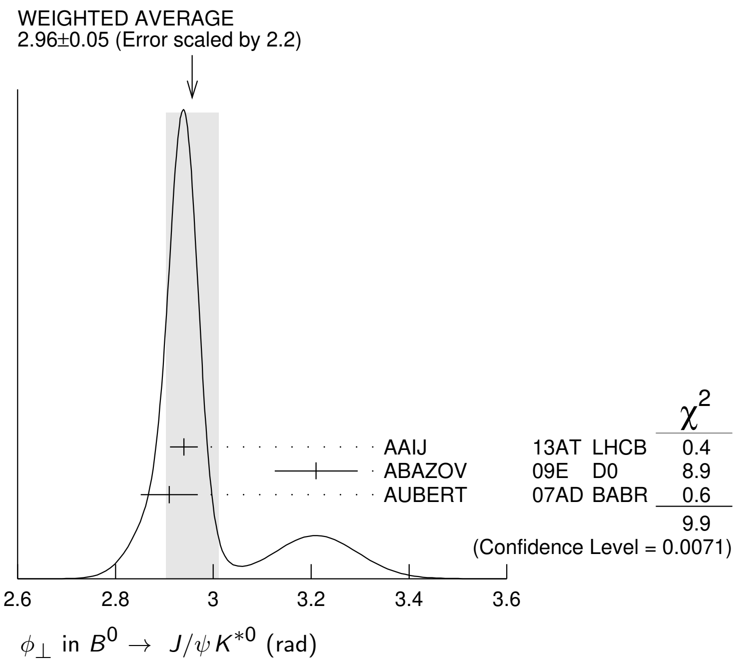
$\phi_{\parallel}$ in $B^0 \rightarrow J/\psi K^{*0}$ (rad)

$\phi_{\perp}$ in $B^0 \rightarrow J/\psi K^{*0}$

NODE=S042PP2
NODE=S042PP2

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
2.96±0.05 OUR AVERAGE	Error includes scale factor of 2.2. See the ideogram below.			
$2.94 \pm 0.02 \pm 0.02$	AAIJ	13AT	LHCB	pp at 7 TeV
$3.21 \pm 0.06 \pm 0.06$	ABAZOV	09E	D0	$p\overline{p}$ at 1.96 TeV
$2.91 \pm 0.05 \pm 0.03$	[1] AUBERT	07AD	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Obtained by combining the B^0 and B^+ modes. NODE=S042PP2;LINKAGE=AU



Γ_L/Γ in $B^0 \to \psi(2S) K^*(892)^0$

NODE=S042P4

VALUE	DOCUMENT ID		TECN	COMMENT
$0.463^{+0.028}_{-0.040}$ OUR AVERAGE				
$0.455^{+0.031}_{-0.029}{}^{+0.014}_{-0.049}$	CHILIKIN	13	BELL	$e^+e^- \to \Upsilon(4S)$
$0.48 \pm 0.05 \pm 0.02$	[1] AUBERT	07AD	BABR	$e^+e^- \to \Upsilon(4S)$
$0.45 \pm 0.11 \pm 0.04$	[2] RICHICHI	01	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.448^{+0.040}_{-0.027}{}^{+0.040}_{-0.053}$	MIZUK	09	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Obtained by combining the B^0 and B^+ modes. NODE=S042P4;LINKAGE=AU
[2] Averages between charged and neutral B mesons. NODE=S042P4;LINKAGE=AB

$\Gamma_\perp/\Gamma$ in $B^0 \to \psi(2S) K^{*0}$

NODE=S042GP0

VALUE	DOCUMENT ID		TECN	COMMENT
$0.30 \pm 0.06 \pm 0.02$	[1] AUBERT	07AD	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Obtained by combining the B^0 and B^+ modes. NODE=S042GP0;LINKAGE=AU

$\phi_\parallel$ in $B^0 \to \psi(2S) K^{*0}$

NODE=S042PP3

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
$-2.8 \pm 0.4 \pm 0.1$	[1] AUBERT	07AD	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Obtained by combining the B^0 and B^+ modes. NODE=S042PP3;LINKAGE=AU

$\phi_\perp$ in $B^0 \to \psi(2S) K^{*0}$

NODE=S042PP4

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
$2.8 \pm 0.3 \pm 0.1$	[1] AUBERT	07AD	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Obtained by combining the B^0 and B^+ modes. NODE=S042PP4;LINKAGE=AU

Γ_L/Γ in $B^0 \to \chi_{c1} K^*(892)^0$

NODE=S042GP1

VALUE	DOCUMENT ID		TECN	COMMENT
$0.83\ ^{+0.06}_{-0.08}$ OUR AVERAGE Error includes scale factor of 1.3.				
$0.947^{+0.038}_{-0.048}{}^{+0.046}_{-0.099}$	MIZUK	08	BELL	$e^+e^- \to \Upsilon(4S)$
$0.77 \pm 0.07 \pm 0.04$	[1] AUBERT	07AD	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Obtained by combining the B^0 and B^+ modes. NODE=S042GP1;LINKAGE=AU

$\Gamma_\perp/\Gamma$ in $B^0 \to \chi_{c1} K^*(892)^0$

NODE=S042GP2

VALUE	DOCUMENT ID		TECN	COMMENT
$0.03 \pm 0.04 \pm 0.02$	[1] AUBERT	07AD	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Obtained by combining the B^0 and B^+ modes. NODE=S042GP2;LINKAGE=AU

$\phi_{\parallel}$ in $B^0 \to \chi_{c1} K^*(892)^0$ NODE=S042PP5

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
0.0±0.3±0.1	[1] AUBERT	07AD	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Obtained by combining the B^0 and B^+ modes. NODE=S042PP5;LINKAGE=AU

Γ_L/Γ in $B^0 \to D^{*-} \ell^+ \nu_\ell$ NODE=S042A46

VALUE	DOCUMENT ID		TECN	COMMENT
0.487±0.017±0.005	PRIM	23	BELL	$e^+ e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^0 \to D^{*-} e^+ \nu_e$ NODE=S042A47

VALUE	DOCUMENT ID		TECN	COMMENT
0.516±0.013 OUR AVERAGE	Error includes scale factor of 1.9.			
0.520±0.005±0.005	ADACHI	23J	BELL	$e^+ e^- \to \Upsilon(4S)$
0.471±0.024±0.007	PRIM	23	BELL	$e^+ e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^0 \to D^{*-} \mu^+ \nu_\mu$ NODE=S042A48

VALUE	DOCUMENT ID		TECN	COMMENT
0.525±0.007 OUR AVERAGE				
0.527±0.005±0.005	ADACHI	23J	BELL	$e^+ e^- \to \Upsilon(4S)$
0.504±0.023±0.007	PRIM	23	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Delta(\Gamma_L/\Gamma)$ in $B^0 \to D^{*-} \ell^+ \nu_\ell$ NODE=S042A49

$\Delta(\Gamma_L/\Gamma) = (\Gamma_L/\Gamma)^\mu - (\Gamma_L/\Gamma)^e$ NODE=S042A49

VALUE	DOCUMENT ID		TECN	COMMENT
0.008±0.008 OUR AVERAGE				
0.006±0.007±0.005	ADACHI	23J	BELL	$e^+ e^- \to \Upsilon(4S)$
0.033±0.033±0.010	PRIM	23	BELL	$e^+ e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^0 \to D^{*-} \tau^+ \nu_\tau$ NODE=S042A66

VALUE	DOCUMENT ID		TECN	COMMENT
0.41±0.06±0.03	AAIJ	24AN	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.52±0.07±0.04	[1] AAIJ	24AN	LHCB	pp at 7, 8, 13 TeV OCCUR=2
0.34±0.08±0.02	[2] AAIJ	24AN	LHCB	pp at 7, 8, 13 TeV OCCUR=3

[1] AAIJ 24AN value restricted to $q^2 < 7.0$ GeV^2/c^4. Reports correlation of −0.18 with the measurement in the region $q^2 > 7.0$ GeV^2/c^4. NODE=S042A66;LINKAGE=A

[2] AAIJ 24AN value restricted to $q^2 > 7.0$ GeV^2/c^4. Reports correlation of −0.18 with the measurement in the region $q^2 < 7.0$ GeV^2/c^4. NODE=S042A66;LINKAGE=B

Γ_L/Γ in $B^0 \to D_s^{*+} D^{*-}$ NODE=S042P3

VALUE	DOCUMENT ID		TECN	COMMENT
0.574±0.014 OUR AVERAGE				
0.578±0.010±0.011	[1] AAIJ	21S	LHCB	pp at 13 TeV
0.519±0.050±0.028	[2] AUBERT	03I	BABR	$e^+ e^- \to \Upsilon(4S)$
0.506±0.139±0.036	AHMED	00B	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] AAIJ 21S uses $D_s^{*+} \to D_s^+ \gamma$ decays. NODE=S042P3;LINKAGE=A

[2] Measurement performed using partial reconstruction of D^{*-} decay. NODE=S042P3;LINKAGE=AI

$|H_+|$ in $B^0 \to D_s^{*+} D^{*-}$ NODE=S042A39

H_+, H_- define parity-even ($\parallel$) and parity-odd ($\perp$) polarization transversity amplitudes $A_{\parallel,\perp} = (H_+ \pm H_-)/\sqrt{2}$. NODE=S042A39

VALUE	DOCUMENT ID		TECN	COMMENT
0.195±0.022±0.032	[1] AAIJ	21S	BELL	pp at 13 TeV

[1] AAIJ 21S uses $D_s^{*+} \to D_s^+ \gamma$ decays. NODE=S042A39;LINKAGE=A

$|H_-|$ in $B^0 \to D_s^{*+} D^{*-}$ NODE=S042A40

H_+, H_- define parity-even ($\parallel$) and parity-odd ($\perp$) polarization transversity amplitudes $A_{\parallel,\perp} = (H_+ \pm H_-)/\sqrt{2}$. NODE=S042A40

VALUE	DOCUMENT ID		TECN	COMMENT
0.620±0.011±0.013	[1] AAIJ	21S	LHCB	pp at 13 TeV

[1] AAIJ 21S uses $D_s^{*+} \to D_s^+ \gamma$ decays. NODE=S042A40;LINKAGE=A

ϕ_+ in $B^0 \to D_s^{*+} D^{*-}$

NODE=S042A37

VALUE	DOCUMENT ID		TECN	COMMENT
−0.046±0.102±0.020	[1] AAIJ	21S	LHCB	pp at 13 TeV

[1] AAIJ 21S uses $D_s^{*+} \to D_s^+ \gamma$ decays.

NODE=S042A37;LINKAGE=A

ϕ_- in $B^0 \to D_s^{*+} D^{*-}$

NODE=S042A38

VALUE	DOCUMENT ID		TECN	COMMENT
0.108±0.170±0.051	[1] AAIJ	21S	LHCB	pp at 13 TeV

[1] AAIJ 21S uses $D_s^{*+} \to D_s^+ \gamma$ decays.

NODE=S042A38;LINKAGE=A

Γ_L/Γ in $B^0 \to D^{*-} \rho^+$

NODE=S042P2

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.885±0.016±0.012		CSORNA	03	CLE2	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.93 ±0.05 ±0.05	76	ALAM	94	CLE2	$e^+ e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^0 \to D_s^{*+} \rho^-$

NODE=S042P02

VALUE	DOCUMENT ID		TECN	COMMENT
$0.84^{+0.26}_{-0.28}$±0.13	[1] AUBERT	08AJ	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042P02;LINKAGE=EP

Γ_L/Γ in $B^0 \to D_s^{*+} K^{*-}$

NODE=S042P03

VALUE	DOCUMENT ID		TECN	COMMENT
$0.92^{+0.37}_{-0.31}$±0.07	[1] AUBERT	08AJ	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

NODE=S042P03;LINKAGE=EP

Γ_L/Γ in $B^0 \to D^{*+} D^{*-}$

NODE=S042P7

VALUE	DOCUMENT ID		TECN	COMMENT
0.624±0.029±0.011	KRONENBIT...	12	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.57 ±0.08 ±0.02	MIYAKE	05	BELL	Repl. by KRONENBITTER 12

$\Gamma_\perp/\Gamma$ in $B^0 \to D^{*+} D^{*-}$

NODE=S042DD

VALUE	DOCUMENT ID		TECN	COMMENT
0.147±0.019 OUR AVERAGE				
0.138±0.024±0.006	KRONENBIT...	12	BELL	$e^+ e^- \to \Upsilon(4S)$
0.158±0.028±0.006	AUBERT	09C	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.125±0.043±0.023	VERVINK	09	BELL	Repl. by KRONENBITTER 12
0.143±0.034±0.008	AUBERT	07BO	BABR	Repl. by AUBERT 09C
0.125±0.044±0.007	AUBERT,BE	05A	BABR	Repl. by AUBERT 07BO
0.19 ±0.08 ±0.01	MIYAKE	05	BELL	Repl. by VERVINK 09
0.063±0.055±0.009	AUBERT	03Q	BABR	Repl. by AUBERT,BE 05A

Γ_L/Γ in $B^0 \to \overline{D}^{*0} \omega$

NODE=S042DE0

VALUE	DOCUMENT ID		TECN	COMMENT
0.665±0.047±0.015	LEES	11M	BABR	$e^+ e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^0 \to \overline{D}_1(2430)^0 \omega$

NODE=S042DE1

VALUE (%)	DOCUMENT ID		TECN	COMMENT
63.0±9.1$^{+6.5}_{-6.0}$	[1,2] MATVIENKO	15	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Obtained by amplitude analysis of $\overline{B}^0 \to D^{*-} \omega \pi^+$. The second uncertainty combines in qudrature experimental systematic and model uncertainties.

NODE=S042DE1;LINKAGE=A

[2] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$.

NODE=S042DE1;LINKAGE=EP

Γ_L/Γ in $B^0 \to \overline{D}_1(2420)^0 \omega$

NODE=S042DE2

VALUE (%)	DOCUMENT ID		TECN	COMMENT
67.1±11.7$^{+2.3}_{-5.0}$	[1,2] MATVIENKO	15	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Obtained by amplitude analysis of $\overline{B}^0 \to D^{*-} \omega \pi^+$. The second uncertainty combines in qudrature experimental systematic and model uncertainties.

NODE=S042DE2;LINKAGE=A

[2] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$.

NODE=S042DE2;LINKAGE=EP

Γ_L/Γ in $B^0 \to \overline{D}_2^*(2460)^0 \omega$

NODE=S042DE3

VALUE (%)	DOCUMENT ID		TECN	COMMENT
$76.0^{+18.3+3.5}_{-\ 8.5-2.8}$	[1,2] MATVIENKO	15	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Obtained by amplitude analysis of $\overline{B}^0 \to D^{*-} \omega \pi^+$. The second uncertainty combines in qudrature experimental systematic and model uncertainties. NODE=S042DE3;LINKAGE=A

[2] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$. NODE=S042DE3;LINKAGE=EP

Γ_L/Γ in $B^0 \to D^{*-} \omega \pi^+$

NODE=S042P9

VALUE	DOCUMENT ID		TECN	COMMENT
0.654±0.042±0.016	[1] AUBERT	06L	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Invariant mass of the $[\omega\pi]$ system is restricted in the region 1.1 and 1.9 GeV. NODE=S042P9;LINKAGE=AU

Γ_L/Γ in $B^0 \to \omega K^{*0}$

NODE=S042P12

VALUE	DOCUMENT ID		TECN	COMMENT
0.69±0.11 OUR AVERAGE				
0.68±0.17±0.16	AAIJ	19J	LHCB	pp at 7, 8 TeV
0.72±0.14±0.02	AUBERT	09H	BABR	$e^+ e^- \to \Upsilon(4S)$
$0.56\pm0.29^{+0.18}_{-0.08}$	GOLDENZWE..08		BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma_\perp/\Gamma$ in $B^0 \to \omega K^*(892)^0$

NODE=S042A15

VALUE	DOCUMENT ID		TECN	COMMENT
0.10±0.09±0.09	AAIJ	19J	LHCB	pp at 7, 8 TeV

A^0_{CP} in $B^0 \to \omega K^*(892)^0$

NODE=S042A16

VALUE	DOCUMENT ID		TECN	COMMENT
−0.13±0.27±0.13	AAIJ	19J	LHCB	pp at 7, 8 TeV

$A^\perp_{CP}$ in $B^0 \to \omega K^*(892)^0$

NODE=S042A17

VALUE	DOCUMENT ID		TECN	COMMENT
0.3±0.8±0.4	AAIJ	19J	LHCB	pp at 7, 8 TeV

$A^\parallel_{CP}$ in $B^0 \to \omega K^*(892)^0$

NODE=S042A18

VALUE	DOCUMENT ID		TECN	COMMENT
0.26±0.55±0.22	AAIJ	19J	LHCB	pp at 7, 8 TeV

ϕ_0 in $B^0 \to \omega K^*(892)^0$

NODE=S042A22

VALUE	DOCUMENT ID		TECN	COMMENT
−0.86±0.29±0.71	AAIJ	19J	LHCB	pp at 7, 8 TeV

$\phi_\perp$ in $B^0 \to \omega K^*(892)^0$

NODE=S042A23

VALUE	DOCUMENT ID		TECN	COMMENT
1.6±0.4±0.6	AAIJ	19J	LHCB	pp at 7, 8 TeV

$\phi_\parallel$ in $B^0 \to \omega K^*(892)^0$

NODE=S042A24

VALUE	DOCUMENT ID		TECN	COMMENT
−1.83±0.29±0.32	AAIJ	19J	LHCB	pp at 7, 8 TeV

Γ_L/Γ in $B^0 \to \omega K_2^*(1430)^0$

NODE=S042P13

VALUE	DOCUMENT ID		TECN	COMMENT
0.45±0.12±0.02	AUBERT	09H	BABR	$e^+ e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^0 \to K^{*0} \overline{K}^{*0}$

NODE=S042PP6

VALUE	DOCUMENT ID		TECN	COMMENT
0.74 ±0.05 OUR AVERAGE				
0.724±0.051±0.016	[1] AAIJ	19L	LHCB	pp at 7 and 8 TeV
$0.80\ ^{+0.10}_{-0.12}\ \pm0.06$	AUBERT	08I	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Untagged and time-integrated analysis within 150 MeV of the K^{*0} mass. NODE=S042PP6;LINKAGE=A

Γ_L/Γ in $B^0 \to \phi K^*(892)^0$

NODE=S042P5

VALUE	DOCUMENT ID		TECN	COMMENT
0.497±0.017 OUR AVERAGE				
0.497±0.019±0.015	AAIJ	14AM	LHCB	pp at 7 TeV
0.499±0.030±0.018	PRIM	13	BELL	$e^+ e^- \to \Upsilon(4S)$
0.494±0.034±0.013	AUBERT	08BG	BABR	$e^+ e^- \to \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

0.506 ± 0.040 ± 0.015	AUBERT	07D	BABR	Repl. by AUBERT 08BG
0.45 ± 0.05 ± 0.02	CHEN	05A	BELL	Repl. by PRIM 13
0.52 ± 0.05 ± 0.02	[1] AUBERT,B	04W	BABR	Repl. by AUBERT 07D
0.65 ± 0.07 ± 0.02	AUBERT	03V	BABR	Repl. by AUBERT,B 04W
0.41 ± 0.10 ± 0.04	CHEN	03B	BELL	Repl. by CHEN 05A

[1] AUBERT,B 04W also measures the fraction of parity-odd transverse contribution $f_{\perp} = 0.22 \pm 0.05 \pm 0.02$ and the phases of the parity-even and parity-odd transverse amplitudes relative to the longitudinal amplitude. NODE=S042P5;LINKAGE=AU

$\Gamma_{\perp}/\Gamma$ in $B^0 \to \phi K^*(892)^0$

NODE=S042Q41
NODE=S042Q41

VALUE	DOCUMENT ID		TECN	COMMENT
0.224 ± 0.015 OUR AVERAGE				
0.221 ± 0.016 ± 0.013	AAIJ	14AM	LHCB	pp at 7 TeV
0.238 ± 0.026 ± 0.008	PRIM	13	BELL	$e^+e^- \to \Upsilon(4S)$
0.212 ± 0.032 ± 0.013	AUBERT	08BG	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.227 ± 0.038 ± 0.013	AUBERT	07D	BABR	Repl. by AUBERT 08BG
0.31 $^{+0.06}_{-0.05}$ ± 0.02	[1] CHEN	05A	BELL	Repl. by PRIM 13
0.22 ± 0.05 ± 0.02	AUBERT,B	04W	BABR	Repl. by AUBERT 07D

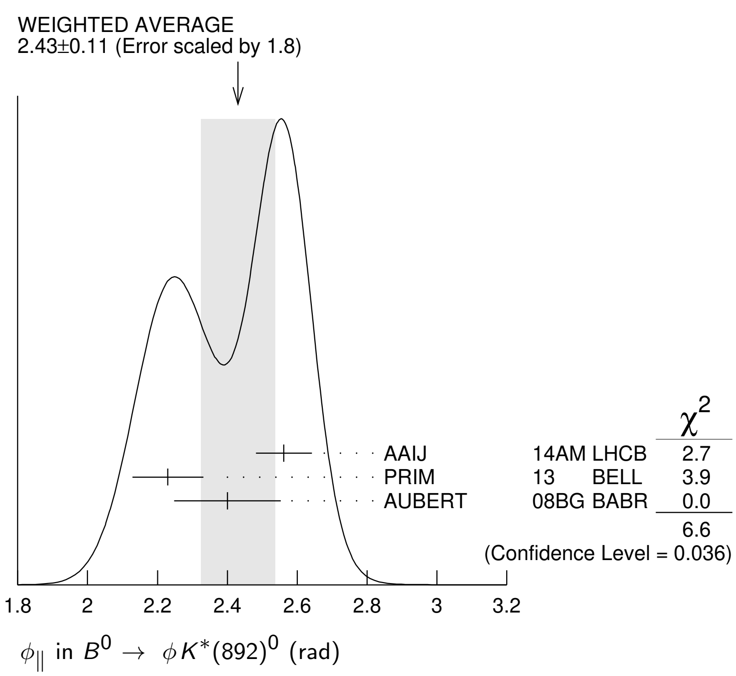
[1] This quantity was recalculated by the BELLE authors from numbers in the original paper. NODE=S042Q41;LINKAGE=CH

$\phi_{\parallel}$ in $B^0 \to \phi K^*(892)^0$

NODE=S042Q42
NODE=S042Q42

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
2.43 ± 0.11 OUR AVERAGE	Error includes scale factor of 1.8. See the ideogram below.			
2.562 ± 0.069 ± 0.040	AAIJ	14AM	LHCB	pp at 7 TeV
2.23 ± 0.10 ± 0.02	PRIM	13	BELL	$e^+e^- \to \Upsilon(4S)$
2.40 ± 0.13 ± 0.08	AUBERT	08BG	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2.31 ± 0.14 ± 0.08	AUBERT	07D	BABR	Repl. by AUBERT 08BG
2.40 $^{+0.28}_{-0.24}$ ± 0.07	[1] CHEN	05A	BELL	Repl. by PRIM 13
2.34 $^{+0.23}_{-0.20}$ ± 0.05	AUBERT,B	04W	BABR	Repl. by AUBERT 07D

[1] This quantity was recalculated by the BELLE authors from numbers in the original paper. NODE=S042Q42;LINKAGE=CH



$\phi_{\perp}$ in $B^0 \to \phi K^*(892)^0$

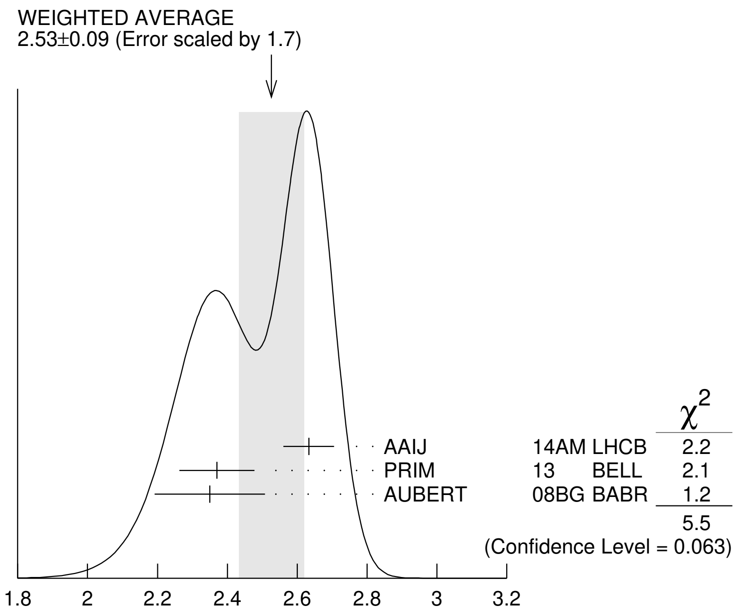
NODE=S042Q43
NODE=S042Q43

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
2.53 ± 0.09 OUR AVERAGE	Error includes scale factor of 1.7. See the ideogram below.			
2.633 ± 0.062 ± 0.037	AAIJ	14AM	LHCB	pp at 7 TeV
2.37 ± 0.10 ± 0.04	PRIM	13	BELL	$e^+e^- \to \Upsilon(4S)$
2.35 ± 0.13 ± 0.09	AUBERT	08BG	BABR	$e^+e^- \to \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

2.24 ±0.15 ±0.09	AUBERT	07D	BABR	Repl. by AUBERT 08BG
2.51 ±0.25 ±0.06	[1] CHEN	05A	BELL	Repl. by PRIM 13
2.47 ±0.25 ±0.05	AUBERT,B	04W	BABR	Repl. by AUBERT 07D

[1] This quantity was recalculated by the BELLE authors from numbers in the original paper. NODE=S042Q43;LINKAGE=CH



$\phi_\perp$ in $B^0 \rightarrow \phi K^*(892)^0$ (rad)

$\delta_0(B^0 \rightarrow \phi K^*(892)^0)$

NODE=S042Q76
NODE=S042Q76

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
2.88±0.10 OUR AVERAGE				
2.91±0.10±0.08	PRIM	13	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
2.82±0.15±0.09	AUBERT	08BG	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2.78±0.17±0.09	AUBERT	07D	BABR	Repl. by AUBERT 08BG

A^0_{CP} in $B^0 \rightarrow \phi K^*(892)^0$

NODE=S042Q44
NODE=S042Q44

VALUE	DOCUMENT ID		TECN	COMMENT
−0.007±0.030 OUR AVERAGE				
−0.003±0.038±0.005	AAIJ	14AM	LHCB	pp at 7 TeV
−0.030±0.061±0.007	PRIM	13	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
0.01 ±0.07 ±0.02	AUBERT	08BG	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.03 ±0.08 ±0.02	AUBERT	07D	BABR	Repl. by AUBERT 08BG
0.13 ±0.12 ±0.04	[1] CHEN	05A	BELL	Repl. by PRIM 13
−0.06 ±0.10 ±0.01	AUBERT,B	04W	BABR	Repl. by AUBERT 07D

[1] This quantity was recalculated by the BELLE authors from numbers in the original paper. NODE=S042Q44;LINKAGE=CH

$A^\perp_{CP}$ in $B^0 \rightarrow \phi K^*(892)^0$

NODE=S042Q45
NODE=S042Q45

VALUE	DOCUMENT ID		TECN	COMMENT
−0.02 ±0.06 OUR AVERAGE				
0.047±0.074±0.009	AAIJ	14AM	LHCB	pp at 7 TeV
−0.14 ±0.11 ±0.01	PRIM	13	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
−0.04 ±0.15 ±0.06	AUBERT	08BG	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.03 ±0.16 ±0.05	AUBERT	07D	BABR	Repl. by AUBERT 08BG
−0.20 ±0.18 ±0.04	[1] CHEN	05A	BELL	Repl. by PRIM 13
−0.10 ±0.24 ±0.05	AUBERT,B	04W	BABR	Repl. by AUBERT 07D

[1] This quantity was recalculated by the BELLE authors from numbers in the original paper. NODE=S042Q45;LINKAGE=CH

$\Delta\phi_{\parallel}$ in $B^0 \to \phi K^*(892)^0$

NODE=S042Q46

VALUE (rad)	DOCUMENT ID	TECN	COMMENT
0.05 ±0.05 OUR AVERAGE			
0.045±0.069±0.015	AAIJ 14AM	LHCB	pp at 7 TeV
−0.02 ±0.10 ±0.01	PRIM 13	BELL	$e^+e^- \to \Upsilon(4S)$
0.22 ±0.12 ±0.08	AUBERT 08BG	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.24 ±0.14 ±0.08	AUBERT 07D	BABR	Repl. by AUBERT 08BG
−0.32 ±0.27 ±0.07	[1] CHEN 05A	BELL	Repl. by PRIM 13
0.27 $^{+0.20}_{-0.23}$ ±0.05	AUBERT,B 04W	BABR	Repl. by AUBERT 07D

[1] This quantity was recalculated by the BELLE authors from numbers in the original paper.

NODE=S042Q46;LINKAGE=CH

$\Delta\phi_{\perp}$ in $B^0 \to \phi K^*(892)^0$

NODE=S042Q47

VALUE (rad)	DOCUMENT ID	TECN	COMMENT
0.08 ±0.05 OUR AVERAGE			
0.062±0.062±0.005	AAIJ 14AM	LHCB	pp at 7 TeV
0.05 ±0.10 ±0.02	PRIM 13	BELL	$e^+e^- \to \Upsilon(4S)$
0.21 ±0.13 ±0.08	AUBERT 08BG	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.19 ±0.15 ±0.08	AUBERT 07D	BABR	Repl. by AUBERT 08BG
−0.30 ±0.25 ±0.06	[1] CHEN 05A	BELL	Repl. by PRIM 13
0.36 ±0.25 ±0.05	AUBERT,B 04W	BABR	Repl. by AUBERT 07D

[1] This quantity was recalculated by the BELLE authors from numbers in the original paper.

NODE=S042Q47;LINKAGE=CH

$\Delta\delta_0(B^0 \to \phi K^*(892)^0)$

NODE=S042Q77

VALUE (rad)	DOCUMENT ID	TECN	COMMENT
0.13±0.09 OUR AVERAGE			
0.08±0.10±0.01	PRIM 13	BELL	$e^+e^- \to \Upsilon(4S)$
0.27±0.14±0.08	AUBERT 08BG	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.21±0.17±0.08	AUBERT 07D	BABR	Repl. by AUBERT 08BG

$\Delta\phi_{00}(B^0 \to \phi K^*_0(1430)^0)$

NODE=S042Q79

VALUE (rad)	DOCUMENT ID	TECN	COMMENT
0.28±0.42±0.04	AUBERT 08BG	BABR	$e^+e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^0 \to \phi K^*_2(1430)^0$

NODE=S042Q67

VALUE	DOCUMENT ID	TECN	COMMENT
0.913 $^{+0.028}_{-0.050}$ OUR AVERAGE			
0.918 $^{+0.029}_{-0.060}$ ±0.012	PRIM 13	BELL	$e^+e^- \to \Upsilon(4S)$
0.901 $^{+0.046}_{-0.058}$ ±0.037	AUBERT 08BG	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.853 $^{+0.061}_{-0.069}$ ±0.036	AUBERT 07D	BABR	Repl. by AUBERT 08BG

$\Gamma_{\perp}/\Gamma$ in $B^0 \to \phi K^*_2(1430)^0$

NODE=S042Q68

VALUE	DOCUMENT ID	TECN	COMMENT
0.027 $^{+0.031}_{-0.025}$ OUR AVERAGE Error includes scale factor of 1.1.			
0.056 $^{+0.050}_{-0.035}$ ±0.009	PRIM 13	BELL	$e^+e^- \to \Upsilon(4S)$
0.002 $^{+0.018}_{-0.002}$ ±0.031	AUBERT 08BG	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.045 $^{+0.049}_{-0.040}$ ±0.013	AUBERT 07D	BABR	Repl. by AUBERT 08BG

$\phi_{\parallel}$ in $B^0 \to \phi K^*_2(1430)^0$

NODE=S042Q69

VALUE (rad)	DOCUMENT ID	TECN	COMMENT
4.0 ±0.4 OUR AVERAGE			
3.76±2.88±1.32	PRIM 13	BELL	$e^+e^- \to \Upsilon(4S)$
3.96±0.38±0.06	AUBERT 08BG	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
2.90±0.39±0.06	AUBERT 07D	BABR	Repl. by AUBERT 08BG

$\phi_{\perp}$ in $B^0 \to \phi K_2^*(1430)^0$

NODE=S042Q70

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
$\mathbf{4.45^{+0.43}_{-0.38}\pm0.13}$	PRIM	13	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$5.72^{+0.55}_{-0.87}\pm0.11$	AUBERT	07D	BABR	Repl. by AUBERT 08BG

$\delta_0(B^0 \to \phi K_2^*(1430)^0)$

NODE=S042Q78

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
3.46±0.14 OUR AVERAGE				
3.53±0.11±0.19	PRIM	13	BELL	$e^+e^- \to \Upsilon(4S)$
3.41±0.13±0.13	AUBERT	08BG	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$3.54^{+0.12}_{-0.14}\pm0.06$	AUBERT	07D	BABR	Repl. by AUBERT 08BG

A^0_{CP} in $B^0 \to \phi K_2^*(1430)^0$

NODE=S042Q80

VALUE	DOCUMENT ID		TECN	COMMENT
−0.03 ±0.04 OUR AVERAGE				
$-0.016^{+0.066}_{-0.051}\pm0.008$	PRIM	13	BELL	$e^+e^- \to \Upsilon(4S)$
−0.05 ±0.06 ±0.01	AUBERT	08BG	BABR	$e^+e^- \to \Upsilon(4S)$

$A^{\perp}_{CP}$ in $B^0 \to \phi K_2^*(1430)^0$

NODE=S042Q8A

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{-0.01^{+0.85}_{-0.67}\pm0.09}$	PRIM	13	BELL	$e^+e^- \to \Upsilon(4S)$

$\Delta\phi_{\parallel}(B^0 \to \phi K_2^*(1430)^0)$

NODE=S042Q81

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
−0.9 ±0.4 OUR AVERAGE				
−0.02±1.08±1.01	PRIM	13	BELL	$e^+e^- \to \Upsilon(4S)$
−1.00±0.38±0.09	AUBERT	08BG	BABR	$e^+e^- \to \Upsilon(4S)$

$\Delta\phi_{\perp}(B^0 \to \phi K_2^*(1430)^0)$

NODE=S042Q8B

VALUE	DOCUMENT ID		TECN	COMMENT
−0.19±0.42±0.11	PRIM	13	BELL	$e^+e^- \to \Upsilon(4S)$

$\Delta\delta_0$ in $B^0 \to \phi K_2^*(1430)^0$

NODE=S042Q82

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
0.08±0.09 OUR AVERAGE				
0.06±0.11±0.02	PRIM	13	BELL	$e^+e^- \to \Upsilon(4S)$
0.11±0.13±0.06	AUBERT	08BG	BABR	$e^+e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^0 \to K^*(892)^0\rho^0$

NODE=S042P8

VALUE	DOCUMENT ID		TECN	COMMENT
0.173±0.026 OUR AVERAGE				
0.164±0.015±0.022	AAIJ	19J	LHCB	pp at 7, 8 TeV
0.40 ±0.08 ±0.11	LEES	12K	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.57 ±0.09 ±0.08	AUBERT,B	06G	BABR	Repl. by LEES 12K

$\Gamma_{\perp}/\Gamma$ in $B^0 \to K^*(892)^0\rho^0$

NODE=S042A14

VALUE	DOCUMENT ID		TECN	COMMENT
0.401±0.016±0.037	AAIJ	19J	LHCB	pp at 7, 8 TeV

A^0_{CP} in $B^0 \to K^*(892)^0\rho^0$

NODE=S042A19

VALUE	DOCUMENT ID		TECN	COMMENT
−0.62±0.09±0.09	AAIJ	19J	LHCB	pp at 7, 8 TeV

$A^{\perp}_{CP}$ in $B^0 \to K^*(892)^0\rho^0$

NODE=S042A20

VALUE	DOCUMENT ID		TECN	COMMENT
0.050±0.039±0.015	AAIJ	19J	LHCB	pp at 7, 8 TeV

$A^{\parallel}_{CP}$ in $B^0 \to K^*(892)^0\rho^0$

NODE=S042A21

VALUE	DOCUMENT ID		TECN	COMMENT
0.188±0.037±0.022	AAIJ	19J	LHCB	pp at 7, 8 TeV

ϕ_0 in $B^0 \to K^*(892)^0 \rho^0$

NODE=S042A25

VALUE	DOCUMENT ID		TECN	COMMENT
1.57±0.08±0.18	AAIJ	19J	LHCB	pp at 7, 8 TeV

$\phi_\perp$ in $B^0 \to K^*(892)^0 \rho^0$

NODE=S042A26

VALUE	DOCUMENT ID		TECN	COMMENT
−2.365±0.032±0.054	AAIJ	19J	LHCB	pp at 7, 8 TeV

$\phi_\parallel$ in $B^0 \to K^*(892)^0 \rho^0$

NODE=S042A27

VALUE	DOCUMENT ID		TECN	COMMENT
0.795±0.030±0.068	AAIJ	19J	LHCB	pp at 7, 8 TeV

Γ_L/Γ in $B^0 \to K^{*+} \rho^-$

NODE=S042P15

VALUE	DOCUMENT ID		TECN	COMMENT
0.38±0.13±0.03	LEES	12K	BABR	$e^+ e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^0 \to \rho^+ \rho^-$

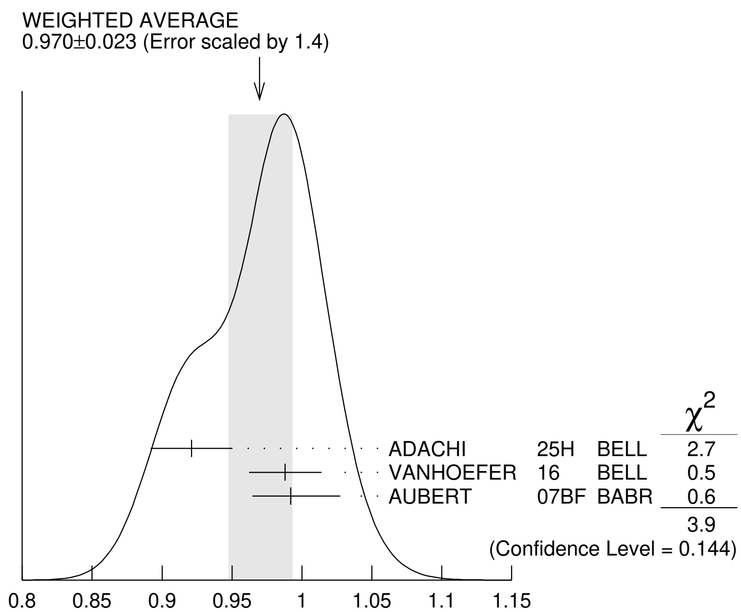
NODE=S042P6

NEW

0.970±0.023 OUR AVERAGE Error includes scale factor of 1.4. See the ideogram below.

[$0.990^{+0.021}_{-0.019}$ OUR 2025 AVERAGE]

VALUE	DOCUMENT ID		TECN	COMMENT
$0.921^{+0.024}_{-0.025}{}^{+0.017}_{-0.015}$	ADACHI	25H	BELL	$e^+ e^- \to \Upsilon(4S)$
$0.988 \pm 0.012 \pm 0.023$	VANHOEFER	16	BELL	$e^+ e^- \to \Upsilon(4S)$
$0.992 \pm 0.024^{+0.026}_{-0.013}$	AUBERT	07BF	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.941^{+0.034}_{-0.040} \pm 0.030$	SOMOV	06	BELL	Repl. by VANHOEFER 16
$0.978 \pm 0.014^{+0.021}_{-0.029}$	AUBERT,B	05C	BABR	Repl. by AUBERT 07BF
$0.98\ ^{+0.02}_{-0.08} \pm 0.03$	AUBERT	04G	BABR	Repl. by AUBERT,B 04R
$0.99 \pm 0.03\ ^{+0.04}_{-0.03}$	AUBERT,B	04R	BABR	Repl. by AUBERT,B 05C



Γ_L/Γ in $B^0 \to \rho^+ \rho^-$

Γ_L/Γ in $B^0 \to \rho^0 \rho^0$

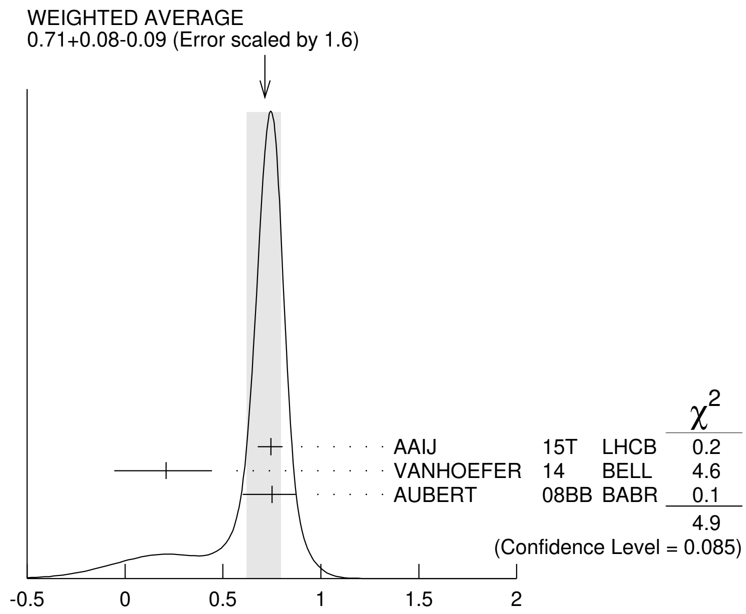
NODE=S042P01

$0.71\ ^{+0.08}_{-0.09}$ OUR AVERAGE Error includes scale factor of 1.6. See the ideogram below.

VALUE	DOCUMENT ID		TECN	COMMENT
$0.745^{+0.048}_{-0.058} \pm 0.034$	AAIJ	15T	LHCB	pp at 7, 8 TeV
$0.21\ ^{+0.18}_{-0.22} \pm 0.15$	VANHOEFER	14	BELL	$e^+ e^- \to \Upsilon(4S)$
$0.75\ ^{+0.11}_{-0.14} \pm 0.05$	AUBERT	08BB	BABR	$e^+ e^- \to \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

0.87 ±0.13 ±0.04	AUBERT	07G	BABR	Repl. by AUBERT 08BB



Γ_L/Γ in $B^0 \to \rho^0\rho^0$

Γ_L/Γ in $B^0 \to \omega\omega$

NODE=S042A53

VALUE	DOCUMENT ID		TECN	COMMENT
0.87±0.13±0.13	GUAN	24	BELL	$e^+e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^0 \to a_1(1260)^+ a_1(1260)^-$

NODE=S042P06

VALUE	DOCUMENT ID		TECN	COMMENT
0.31±0.22±0.10	AUBERT	09AL	BABR	$e^+e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^0 \to p\overline{p}K^*(892)^0$

NODE=S042P10

VALUE	DOCUMENT ID		TECN	COMMENT
1.01±0.13±0.03	CHEN	08C	BELL	$e^+e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^0 \to \Lambda\overline{\Lambda}K^*(892)^0$

NODE=S042P14

VALUE	DOCUMENT ID		TECN	COMMENT
0.60±0.22±0.08	CHANG	09	BELL	$e^+e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^0 \to K^*(892)^0\mu^+\mu^-$ ($0.04 < q^2 < 6.0$ GeV^2/c^4)

NODE=S042A08

VALUE	DOCUMENT ID		TECN	COMMENT
0.50±0.06±0.04	[1] AABOUD	18BY	ATLS	pp at 8 TeV

[1] A set of angular parameters obtained for this decay is also presented. NODE=S042A08;LINKAGE=A

Γ_L/Γ in $B^0 \to K^*(892)^0\mu^+\mu^-$ ($1.1 < q^2 < 2.0$ GeV^2/c^4)

NODE=S042A75

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.709^{+0.073}_{-0.054}\pm0.021}$	[1] HAYRAPETY...	25AE	CMS	$p\,p$ at 13 TeV

[1] A set of angular parameters obtained for this decay is also presented. NODE=S042A75;LINKAGE=A

Γ_L/Γ in $B^0 \to K^*(892)^0\mu^+\mu^-$ ($2.0 < q^2 < 4.3$ GeV^2/c^4)

NODE=S042A76

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.810^{+0.036}_{-0.030}\pm0.016}$	[1] HAYRAPETY...	25AE	CMS	$p\,p$ at 13 TeV

[1] A set of angular parameters obtained for this decay is also presented. NODE=S042A76;LINKAGE=A

Γ_L/Γ in $B^0 \to K^*(892)^0\mu^+\mu^-$ ($4.3 < q^2 < 6.0$ GeV^2/c^4)

NODE=S042A77

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.714^{+0.032}_{-0.030}\pm0.012}$	[1] HAYRAPETY...	25AE	CMS	$p\,p$ at 13 TeV

[1] A set of angular parameters obtained for this decay is also presented. NODE=S042A77;LINKAGE=A

Γ_L/Γ in $B^0 \to K^*(892)^0 e^+ e^-$ (at low q^2)

NODE=S042P07

VALUE	DOCUMENT ID		TECN	COMMENT
0.044±0.026±0.014	[1] AAIJ	20AO	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.16 ±0.06 ±0.03	[2] AAIJ	15Z	LHCB	Repl. by AAIJ 20AO

[1] Determined in the effective dielectron invariant mass range 0.0008 $<q^2<$0.257GeV$^2/c^4$. NODE=S042P07;LINKAGE=B
[2] Determined in the effective dielectron invariant mass range 0.002 $<q^2<$ 1.120 GeV$^2/c^4$. NODE=S042P07;LINKAGE=A

Γ_L/Γ in $B^0 \to K^*(892)^0 e^+ e^-$ ($1.1 < q^2 < 6.0$ GeV$^2/c^4$)

NODE=S042A78

VALUE	DOCUMENT ID		TECN	COMMENT
0.58±0.04±0.05	[1] AAIJ	25W	LHCB	pp at 7, 8, 13 TeV

[1] A set of angular parameters obtained for this decay is also presented. NODE=S042A78;LINKAGE=A

$A_T^{(2)}$ in $B^0 \to K^*(892)^0 e^+ e^-$ (at low q^2)

NODE=S042P08

VALUE	DOCUMENT ID		TECN	COMMENT
0.11±0.10±0.02	[1] AAIJ	20AO	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.23±0.23±0.05	[2] AAIJ	15Z	LHCB	Repl. by AAIJ 20AO

[1] Determined in the effective dielectron invariant mass range 0.0008$<q^2<$0.257GeV$^2/c^4$. NODE=S042P08;LINKAGE=A
[2] Determined in the effective dielectron invariant mass range 0.002 $<q^2<$ 1.120 GeV$^2/c^4$. NODE=S042P08;LINKAGE=B

A_T^{Im} in $B^0 \to K^*(892)^0 e^+ e^-$ (at low q^2)

NODE=S042P09

VALUE	DOCUMENT ID		TECN	COMMENT
0.02±0.10±0.01	[1] AAIJ	20AO	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.14±0.22±0.05	[2] AAIJ	15Z	LHCB	Repl. by AAIJ 20AO

[1] Determined in the effective dielectron invariant mass range 0.0008$<q^2<$0.257GeV$^2/c^4$. NODE=S042P09;LINKAGE=A
[2] Determined in the effective dielectron invariant mass range 0.002 $<q^2<$ 1.120 GeV$^2/c^4$. NODE=S042P09;LINKAGE=B

A_T^{Re} in $B^0 \to K^*(892)^0 e^+ e^-$ (at low q^2)

NODE=S042P11

Related to A_{FB}, F_L by $A_T^{Re} = (4/3)\ A_{FB}\ /\ (1 - F_L)$.

NODE=S042P11

VALUE	DOCUMENT ID		TECN	COMMENT
−0.06±0.08±0.02	[1] AAIJ	20AO	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.10±0.18±0.05	[2] AAIJ	15Z	LHCB	Repl. by AAIJ 20AO

[1] Determined in the effective dielectron invariant mass range 0.0008$<q^2<$0.257GeV$^2/c^4$. NODE=S042P11;LINKAGE=A
[2] Determined in the effective dielectron invariant mass range 0.002 $<q^2<$ 1.120 GeV$^2/c^4$. NODE=S042P11;LINKAGE=B

See the related review(s):

B^0 — $\overline{B}^0$ Mixing

B^0-$\overline{B}^0$ MIXING PARAMETERS

NODE=S042225

For a discussion of B^0-$\overline{B}^0$ mixing see the note on "B^0-$\overline{B}^0$ Mixing" in the B^0 Particle Listings above.

NODE=S042225

χ_d is a measure of the time-integrated B^0-$\overline{B}^0$ mixing probability that a produced $B^0(\overline{B}^0)$ decays as a $\overline{B}^0(B^0)$. Mixing violates $\Delta B \neq 2$ rule.

$$\chi_d = \frac{x_d^2}{2(1+x_d^2)}$$

$$x_d = \frac{\Delta m_{B^0}}{\Gamma_{B^0}} = (m_{B^0_H} - m_{B^0_L})\ \tau_{B^0}\ ,$$

where H, L stand for heavy and light states of two B^0 CP eigenstates and $\tau_{B^0} = \frac{1}{0.5(\Gamma_{B^0_H}+\Gamma_{B^0_L})}$.

χ_d

NODE=S042CHD

This B^0-$\overline{B}^0$ mixing parameter is the probability (integrated over time) that a produced B^0 (or $\overline{B}^0$) decays as a $\overline{B}^0$ (or B^0), e.g. for inclusive lepton decays

NODE=S042CHD

$$\chi_d = \Gamma(B^0 \to \ell^- X \text{ (via } \overline{B}^0))/\Gamma(B^0 \to \ell^\pm X)$$
$$= \Gamma(\overline{B}^0 \to \ell^+ X \text{ (via } B^0))/\Gamma(\overline{B}^0 \to \ell^\pm X)$$

Where experiments have measured the parameter $r = \chi/(1-\chi)$, we have converted to χ. Mixing violates the $\Delta B \neq 2$ rule.

Note that the measurement of χ at energies higher than the $\Upsilon(4S)$ have not separated χ_d from χ_s where the subscripts indicate $B^0(\overline{b}d)$ or $B^0_s(\overline{b}s)$. They are listed in the $B^\pm/B^0/B^0_s/b$-baryon ADMIXTURE section.

The experiments at $\Upsilon(4S)$ make an assumption about the $B^0\overline{B}^0$ fraction and about the ratio of the $B^\pm$ and B^0 semileptonic branching ratios (usually that it equals one).

"OUR EVALUATION" is an average using rescaled values of the data listed below. The averaging/rescaling procedure takes into account correlations between the measurements, includes χ_d calculated from Δm_{B^0} and τ_{B^0}.

NODE=S042CHD

→ UNCHECKED ←

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
0.1860±0.0011 OUR EVALUATION		(Produced by HFLAV)			
0.182 ±0.015 OUR AVERAGE					
0.198 ±0.013 ±0.014		[1] BEHRENS	00B	CLE2	$e^+e^- \to \Upsilon(4S)$
0.16 ±0.04 ±0.04		[2] ALBRECHT	94	ARG	$e^+e^- \to \Upsilon(4S)$
0.149 ±0.023 ±0.022		[3] BARTELT	93	CLE2	$e^+e^- \to \Upsilon(4S)$
0.171 ±0.048		[4] ALBRECHT	92L	ARG	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.20 ±0.13 ±0.12		[5] ALBRECHT	96D	ARG	$e^+e^- \to \Upsilon(4S)$
0.19 ±0.07 ±0.09		[6] ALBRECHT	96D	ARG	$e^+e^- \to \Upsilon(4S)$
0.24 ±0.12		[7] ELSEN	90	JADE	e^+e^- 35–44 GeV
0.158 $^{+0.052}_{-0.059}$		ARTUSO	89	CLEO	$e^+e^- \to \Upsilon(4S)$
0.17 ±0.05		[8] ALBRECHT	87I	ARG	$e^+e^- \to \Upsilon(4S)$
<0.19	90	[9] BEAN	87B	CLEO	$e^+e^- \to \Upsilon(4S)$
<0.27	90	[10] AVERY	84	CLEO	$e^+e^- \to \Upsilon(4S)$

OCCUR=2

[1] BEHRENS 00B uses high-momentum lepton tags and partially reconstructed $\overline{B}^0 \to D^{*+}\pi^-$, ρ^- decays to determine the flavor of the B meson. NODE=S042CHD;LINKAGE=KS

[2] ALBRECHT 94 reports r=0.194 ± 0.062 ± 0.054. We convert to χ for comparison. Uses tagged events (lepton + pion from D^*). NODE=S042CHD;LINKAGE=B

[3] BARTELT 93 analysis performed using tagged events (lepton+pion from D^*). Using dilepton events they obtain $0.157 \pm 0.016^{+0.033}_{-0.028}$. NODE=S042CHD;LINKAGE=C

[4] ALBRECHT 92L is a combined measurement employing several lepton-based techniques. It uses all previous ARGUS data in addition to new data and therefore supersedes ALBRECHT 87I. A value of $r = 20.6 \pm 7.0\%$ is directly measured. The value can be used to measure $x = \Delta M/\Gamma = 0.72 \pm 0.15$ for the B_d meson. Assumes $f_{+-}/f_0 = 1.0 \pm 0.05$ and uses $\tau_{B^\pm}/\tau_{B^0} = (0.95 \pm 0.14)$ (f_{+-}/f_0). NODE=S042CHD;LINKAGE=L

[5] Uses $D^{*+}K^\pm$ correlations. NODE=S042CHD;LINKAGE=F

[6] Uses $(D^{*+}\ell^-)$ $K^\pm$ correlations. NODE=S042CHD;LINKAGE=G

[7] These experiments see a combination of B_s and B_d mesons. NODE=S042CHD;LINKAGE=E1

[8] ALBRECHT 87I is inclusive measurement with like-sign dileptons, with tagged B decays plus leptons, and one fully reconstructed event. Measures r=0.21 ± 0.08. We convert to χ for comparison. Superseded by ALBRECHT 92L. NODE=S042CHD;LINKAGE=X

[9] BEAN 87B measured $r <$ 0.24; we converted to χ. NODE=S042CHD;LINKAGE=A1

[10] Same-sign dilepton events. Limit assumes semileptonic BR for B^+ and B^0 equal. If $B^0/B^\pm$ ratio <0.58, no limit exists. The limit was corrected in BEAN 87B from $r <$ 0.30 to $r <$ 0.37. We converted this limit to χ. NODE=S042CHD;LINKAGE=A

$\Delta m_{B^0} = m_{B^0_H} - m_{B^0_L}$

NODE=S042D

Δm_{B^0} is a measure of 2π times the B^0-$\overline{B}^0$ oscillation frequency in time-dependent mixing experiments.

NODE=S042D

"OUR EVALUATION" is an average using rescaled values of the data listed below. The averaging/rescaling procedure takes into account correlations between the measurements and includes Δm_d calculated from χ_d measured at $\Upsilon(4S)$.

VALUE (10^{12} $\hbar$ s^{-1})	DOCUMENT ID		TECN	COMMENT	
					NODE=S042D
0.5069±0.0019 OUR EVALUATION	(Produced by HFLAV)				→ UNCHECKED ←
$0.516 \pm 0.008 \pm 0.005$	[1] ABUDINEN	23D	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$	
$0.5050 \pm 0.0021 \pm 0.0010$	[2] AAIJ	16AV	LHCB	pp at 7, 8 TeV	
$0.503 \pm 0.011 \pm 0.013$	[3] AAIJ	13CF	LHCB	pp at 7 TeV	
$0.5156 \pm 0.0051 \pm 0.0033$	[4] AAIJ	13F	LHCB	pp at 7 TeV	
$0.499 \pm 0.032 \pm 0.003$	[5] AAIJ	12I	LHCB	pp at 7 TeV	
$0.506 \pm 0.020 \pm 0.016$	[6] ABAZOV	06W	D0	$p\overline{p}$ at 1.96 TeV	
$0.511 \pm 0.007 {}^{+0.007}_{-0.006}$	[7] AUBERT	06G	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$	
$0.511 \pm 0.005 \pm 0.006$	[8] ABE	05B	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$	
$0.531 \pm 0.025 \pm 0.007$	[9] ABDALLAH	03B	DLPH	$e^+ e^- \rightarrow Z$	
$0.492 \pm 0.018 \pm 0.013$	[10] AUBERT	03C	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$	
$0.503 \pm 0.008 \pm 0.010$	[11] HASTINGS	03	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$	
$0.509 \pm 0.017 \pm 0.020$	[12] ZHENG	03	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$	
$0.516 \pm 0.016 \pm 0.010$	[13] AUBERT	02I	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$	
$0.493 \pm 0.012 \pm 0.009$	[14] AUBERT	02J	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$	
$0.497 \pm 0.024 \pm 0.025$	[15] ABBIENDI,G	00B	OPAL	$e^+ e^- \rightarrow Z$	
$0.503 \pm 0.064 \pm 0.071$	[16] ABE	99K	CDF	$p\overline{p}$ at 1.8 TeV	
$0.500 \pm 0.052 \pm 0.043$	[17] ABE	99Q	CDF	$p\overline{p}$ at 1.8 TeV	
$0.516 \pm 0.099 {}^{+0.029}_{-0.035}$	[18] AFFOLDER	99C	CDF	$p\overline{p}$ at 1.8 TeV	
$0.471 {}^{+0.078}_{-0.068} {}^{+0.033}_{-0.034}$	[19] ABE	98C	CDF	$p\overline{p}$ at 1.8 TeV	OCCUR=2
$0.458 \pm 0.046 \pm 0.032$	[20] ACCIARRI	98D	L3	$e^+ e^- \rightarrow Z$	
$0.437 \pm 0.043 \pm 0.044$	[21] ACCIARRI	98D	L3	$e^+ e^- \rightarrow Z$	OCCUR=2
$0.472 \pm 0.049 \pm 0.053$	[22] ACCIARRI	98D	L3	$e^+ e^- \rightarrow Z$	OCCUR=3
$0.523 \pm 0.072 \pm 0.043$	[23] ABREU	97N	DLPH	$e^+ e^- \rightarrow Z$	OCCUR=2
$0.493 \pm 0.042 \pm 0.027$	[21] ABREU	97N	DLPH	$e^+ e^- \rightarrow Z$	OCCUR=3
$0.499 \pm 0.053 \pm 0.015$	[24] ABREU	97N	DLPH	$e^+ e^- \rightarrow Z$	OCCUR=4
$0.480 \pm 0.040 \pm 0.051$	[20] ABREU	97N	DLPH	$e^+ e^- \rightarrow Z$	OCCUR=5
$0.444 \pm 0.029 {}^{+0.020}_{-0.017}$	[21] ACKERSTAFF	97U	OPAL	$e^+ e^- \rightarrow Z$	OCCUR=2
$0.430 \pm 0.043 {}^{+0.028}_{-0.030}$	[20] ACKERSTAFF	97V	OPAL	$e^+ e^- \rightarrow Z$	OCCUR=2
$0.482 \pm 0.044 \pm 0.024$	[25] BUSKULIC	97D	ALEP	$e^+ e^- \rightarrow Z$	OCCUR=2
$0.404 \pm 0.045 \pm 0.027$	[21] BUSKULIC	97D	ALEP	$e^+ e^- \rightarrow Z$	OCCUR=3
$0.452 \pm 0.039 \pm 0.044$	[20] BUSKULIC	97D	ALEP	$e^+ e^- \rightarrow Z$	OCCUR=4
$0.539 \pm 0.060 \pm 0.024$	[26] ALEXANDER	96V	OPAL	$e^+ e^- \rightarrow Z$	OCCUR=2
$0.567 \pm 0.089 {}^{+0.029}_{-0.023}$	[27] ALEXANDER	96V	OPAL	$e^+ e^- \rightarrow Z$	OCCUR=3
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.516 \pm 0.016 \pm 0.010$	[28] AUBERT	02N	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$	
$0.494 \pm 0.012 \pm 0.015$	[29] HARA	02	BELL	Repl. by ABE 05B	
$0.528 \pm 0.017 \pm 0.011$	[30] TOMURA	02	BELL	Repl. by ABE 05B	
$0.463 \pm 0.008 \pm 0.016$	[14] ABE	01D	BELL	Repl. by HASTINGS 03	
$0.444 \pm 0.028 \pm 0.028$	[31] ACCIARRI	98D	L3	$e^+ e^- \rightarrow Z$	OCCUR=4
0.497 ± 0.035	[32] ABREU	97N	DLPH	$e^+ e^- \rightarrow Z$	OCCUR=6
$0.467 \pm 0.022 {}^{+0.017}_{-0.015}$	[33] ACKERSTAFF	97V	OPAL	$e^+ e^- \rightarrow Z$	OCCUR=3
0.446 ± 0.032	[34] BUSKULIC	97D	ALEP	$e^+ e^- \rightarrow Z$	OCCUR=5
$0.531 {}^{+0.050}_{-0.046} \pm 0.078$	[35] ABREU	96Q	DLPH	Sup. by ABREU 97N	
$0.496 {}^{+0.055}_{-0.051} \pm 0.043$	[20] ACCIARRI	96E	L3	Repl. by ACCIARRI 98D	
$0.548 \pm 0.050 {}^{+0.023}_{-0.019}$	[36] ALEXANDER	96V	OPAL	$e^+ e^- \rightarrow Z$	OCCUR=4
0.496 ± 0.046	[37] AKERS	95J	OPAL	Repl. by ACKERSTAFF 97V	
$0.462 {}^{+0.040}_{-0.053} {}^{+0.052}_{-0.035}$	[20] AKERS	95J	OPAL	Repl. by ACKERSTAFF 97V	OCCUR=2
$0.50 \pm 0.12 \pm 0.06$	[23] ABREU	94M	DLPH	Sup. by ABREU 97N	
$0.508 \pm 0.075 \pm 0.025$	[26] AKERS	94C	OPAL	Repl. by ALEXANDER 96V	
$0.57 \pm 0.11 \pm 0.02$	[27] AKERS	94H	OPAL	Repl. by ALEXANDER 96V	
$0.50 {}^{+0.07}_{-0.06} {}^{+0.11}_{-0.10}$	[20] BUSKULIC	94B	ALEP	Sup. by BUSKULIC 97D	
$0.52 {}^{+0.10}_{-0.11} {}^{+0.04}_{-0.03}$	[27] BUSKULIC	93K	ALEP	Sup. by BUSKULIC 97D	

[1] Measured using $B^0 \to D^{(*)-}\pi^+$ decays. NODE=S042D;LINKAGE=D
[2] Uses semileptonic decays of $B^0 \to D^-\mu^+\nu_\mu X$ and $B^0 \to D^{(*)-}\mu^+\nu_\mu X$, where the D mesons are reconstructed in $D^- \to K^+\pi^-\pi^-$ and $D^{(*)-} \to \overline{D}^0\pi^-$ with $\overline{D}^0 \to K^+\pi^-$. NODE=S042D;LINKAGE=A
[3] Uses semileptonic decays of $B^0 \to D^-\mu^+\nu_\mu X$ where the D^- mesons are reconstructed in $D^- \to K^+K^-\pi^-$. NODE=S042D;LINKAGE=B
[4] Measured using $B^0 \to D^-\pi^+$ and $B^0 \to J/\psi K^*(892)^0$ decays. NODE=S042D;LINKAGE=AA
[5] Measured using $B^0 \to D^-\pi^+$. NODE=S042D;LINKAGE=AI
[6] Uses opposite-side flavor-tagging with $B \to D^{(*)}\mu\nu_\mu X$ events. NODE=S042D;LINKAGE=AZ
[7] Measured using a simultaneous fit of the B^0 lifetime and $\overline{B}^0 B^0$ oscillation frequency Δm_d in the partially reconstructed $B^0 \to D^{*-}\ell\nu$ decays. NODE=S042D;LINKAGE=AU
[8] Measurement performed using a combined fit of *CP*-violation, mixing and lifetimes. NODE=S042D;LINKAGE=AE
[9] Events with a high transverse momentum lepton were removed and an inclusively reconstructed vertex was required. NODE=S042D;LINKAGE=BL
[10] AUBERT 03C uses a sample of approximately 14,000 exclusively reconstructed $B^0 \to D^*(2010)^-\ell\nu$ and simultaneously measures the lifetime and oscillation frequency. NODE=S042D;LINKAGE=C3
[11] HASTINGS 03 measurement based on the time evolution of dilepton events. It also reports $f_+/f_0 = 1.01 \pm 0.03 \pm 0.09$ and *CPT* violation parameters in B^0-$\overline{B}^0$ mixing. NODE=S042D;LINKAGE=HH
[12] ZHENG 03 data analyzed using partially reconstructed $\overline{B}^0 \to D^{*-}\pi^+$ decay and a flavor tag based on the charge of the lepton from the accompanying B decay. NODE=S042D;LINKAGE=ZH
[13] Uses a tagged sample of fully-reconstructed neutral B decays at $\Upsilon(4S)$. NODE=S042D;LINKAGE=KI
[14] Measured based on the time evolution of dilepton events in $\Upsilon(4S)$ decays. NODE=S042D;LINKAGE=D9
[15] Data analyzed using partially reconstructed $\overline{B}^0 \to D^{*+}\ell^-\overline{\nu}$ decay and a combination of flavor tags from the rest of the event. NODE=S042D;LINKAGE=C2
[16] Uses di-muon events. NODE=S042D;LINKAGE=M
[17] Uses jet-charge and lepton-flavor tagging. NODE=S042D;LINKAGE=N
[18] Uses $\ell^- D^{*+}-\ell$ events. NODE=S042D;LINKAGE=N3
[19] Uses π-B in the same side. NODE=S042D;LINKAGE=C1
[20] Uses ℓ-ℓ. NODE=S042D;LINKAGE=A1
[21] Uses ℓ-$Q_{\rm hem}$. NODE=S042D;LINKAGE=A2
[22] Uses ℓ-ℓ with impact parameters. NODE=S042D;LINKAGE=A3
[23] Uses $D^{*\pm}$-$Q_{\rm hem}$. NODE=S042D;LINKAGE=C
[24] Uses $\pi_s^{\pm}\ell$-$Q_{\rm hem}$. NODE=S042D;LINKAGE=A9
[25] Uses $D^{*\pm}$-$\ell/Q_{\rm hem}$. NODE=S042D;LINKAGE=B6
[26] Uses $D^{*\pm}\ell$-$Q_{\rm hem}$. NODE=S042D;LINKAGE=A6
[27] Uses $D^{*\pm}$-ℓ. NODE=S042D;LINKAGE=A7
[28] AUBERT 02N result based on the same analysis and data sample reported in AUBERT 02I. NODE=S042D;LINKAGE=N2
[29] Uses a tagged sample of B^0 decays reconstructed in the mode $B^0 \to D^*\ell\nu$. NODE=S042D;LINKAGE=H3
[30] Uses a tagged sample of fully-reconstructed hadronic B^0 decays at $\Upsilon(4S)$. NODE=S042D;LINKAGE=K2
[31] ACCIARRI 98D combines results from ℓ-ℓ, ℓ-$Q_{\rm hem}$, and ℓ-ℓ with impact parameters. NODE=S042D;LINKAGE=A4
[32] ABREU 97N combines results from $D^{*\pm}$-$Q_{\rm hem}$, ℓ-$Q_{\rm hem}$, $\pi_s^{\pm}\ell$-$Q_{\rm hem}$, and ℓ-ℓ. NODE=S042D;LINKAGE=B9
[33] ACKERSTAFF 97V combines results from ℓ-ℓ, ℓ-$Q_{\rm hem}$, D^*-ℓ, and $D^{*\pm}$-$Q_{\rm hem}$. NODE=S042D;LINKAGE=A5
[34] BUSKULIC 97D combines results from $D^{*\pm}$-$\ell/Q_{\rm hem}$, ℓ-$Q_{\rm hem}$, and ℓ-ℓ. NODE=S042D;LINKAGE=A8
[35] ABREU 96Q analysis performed using lepton, kaon, and jet-charge tags. NODE=S042D;LINKAGE=LK
[36] ALEXANDER 96V combines results from $D^{*\pm}$-ℓ and $D^{*\pm}\ell$-$Q_{\rm hem}$. NODE=S042D;LINKAGE=B3
[37] AKERS 95J combines results from charge measurement, $D^{*\pm}\ell$-$Q_{\rm hem}$ and ℓ-ℓ. NODE=S042D;LINKAGE=F

$x_d = \Delta m_{B^0}/\Gamma_{B^0}$

NODE=S042DG

"OUR EVALUATION" is an average using rescaled values of the data listed below. The averaging/rescaling procedure takes into account correlations between the measurements and includes Δm_d calculated from χ_d measured at $\Upsilon(4S)$. NODE=S042DG

VALUE	DOCUMENT ID
0.7697±0.0035 OUR EVALUATION	(Produced by HFLAV)

NODE=S042DG
→ UNCHECKED ←

Re(λ_{CP} / $|\lambda_{CP}|$) Re(z)

NODE=S042RZ1

The λ_{CP} characterizes B^0 and $\overline{B}^0$ decays to states of charmonium plus K_L^0. Parameter z is used to describe *CPT* violation in mixing, see the review on "*CP* Violation" in the reviews section. NODE=S042RZ1

VALUE	DOCUMENT ID		TECN	COMMENT
0.047±0.022±0.003	[1] LEES	16E	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.014±0.035±0.034	[2] AUBERT,B	04C	BABR	Repl. by LEES 16E

NODE=S042RZ1

[1] The first uncertainty is the uncertainty from Re(z) and the second uncertainty is from Re($\lambda/|\lambda|$). NODE=S042RZ1;LINKAGE=A
[2] Corresponds to 90% confidence range [−0.072, 0.101]. NODE=S042RZ1;LINKAGE=AB

$\Delta\Gamma$ Re(z)

NODE=S042GRZ
NODE=S042GRZ

VALUE (ps^{-1})	*DOCUMENT ID*		*TECN*	*COMMENT*
−0.0071±0.0039±0.0020	AUBERT	06T	BABR	$e^+ e^- \to \Upsilon(4S)$

Re(z)

NODE=S042RZ0
NODE=S042RZ0

VALUE (units 10^{-2})	*DOCUMENT ID*		*TECN*	*COMMENT*
−4 ± 4 OUR AVERAGE Error includes scale factor of 1.4.				
−6.5± 2.8±1.4	[1] LEES	16E	BABR	$e^+ e^- \to \Upsilon(4S)$
1.9± 3.7±3.3	[2] HIGUCHI	12	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0 ±12 ±1	[3] HASTINGS	03	BELL	Repl. by HIGUCHI 12

[1] Measurement uses decays $B^0/\overline{B}^0 \to c\overline{c}K^0_S/K^0_L$. NODE=S042RZ0;LINKAGE=A

[2] Measured using $B^0 \to J/\psi K^0_S$, $J/\psi K^0_L$, $D^- \pi^+$, $D^{*-} \pi^+$, $D^{*-} \rho^+$, and $D^{*-} \ell^+ \nu$ decays. NODE=S042RZ0;LINKAGE=HI

[3] Measured using inclusive dilepton events from B^0 decay. NODE=S042RZ0;LINKAGE=HA

Im(z)

NODE=S042IZ1
NODE=S042IZ1

VALUE (units 10^{-2})	*DOCUMENT ID*		*TECN*	*COMMENT*
−0.8 ±0.4 OUR AVERAGE				
1.0 ±3.0 ±1.3	[1] LEES	16E	BABR	$e^+ e^- \to \Upsilon(4S)$
−0.57±0.33±0.33	[2] HIGUCHI	12	BELL	$e^+ e^- \to \Upsilon(4S)$
−1.39±0.73±0.32	[3] AUBERT	06T	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
3.8 ±2.9 ±2.5	[4] AUBERT,B	04C	BABR	Repl. by AUBERT 06T
−3 ±1 ±3	[5] HASTINGS	03	BELL	Repl. by HIGUCHI 12

[1] Measurement uses decays $B^0/\overline{B}^0 \to c\overline{c}K^0_S/K^0_L$. NODE=S042IZ1;LINKAGE=A

[2] Measured using $B^0 \to J/\psi K^0_S$, $J/\psi K^0_L$, $D^- \pi^+$, $D^{*-} \pi^+$, $D^{*-} \rho^+$, and $D^{*-} \ell^+ \nu$ decays. NODE=S042IZ1;LINKAGE=HI

[3] Measurement uses $B^0/\overline{B}^0 \to \ell^+ X/\ell^- X$ decays. Assuming $\Delta\Gamma = 0$, the result becomes Im(z) $= (-0.37 \pm 0.54) \times 10^{-2}$. NODE=S042IZ1;LINKAGE=AE

[4] Corresponds to 90% confidence range [−0.028, 0.104]. NODE=S042IZ1;LINKAGE=AB

[5] Measured using inclusive dilepton events from B^0 decay. NODE=S042IZ1;LINKAGE=HA

CP VIOLATION PARAMETERS

NODE=S042229

Re(ϵ_{B^0})/(1+$|\epsilon_{B^0}|^2$)

NODE=S042EPS
NODE=S042EPS

CP impurity in B^0_d system. It is obtained from either $a_{\ell\ell}$, the charge asymmetry in like-sign dilepton events or a_{cp}, the time-dependent asymmetry of inclusive B^0 and $\overline{B}^0$ decays.

"OUR EVALUATION" is the result of a fit to B_d and B_s *CP* asymmetries, which includes the B_d measurements listed below and the B_s measurements listed in the B_s section, taking into account correlations between those measurements.

NODE=S042EPS

→ UNCHECKED ←

VALUE (units 10^{-3})	*DOCUMENT ID*		*TECN*	*COMMENT*
− 0.5 ± 0.4 OUR EVALUATION (Produced by HFLAV)				
− 0.1 ± 0.4 OUR AVERAGE				
− 0.05 ± 0.48 ±0.75	[1] AAIJ	15F	LHCB	pp at 7, 8 TeV
− 0.975± 0.875±0.475	[2] LEES	15A	BABR	$e^+ e^- \to \Upsilon(4S)$
1.55 ± 1.05	[3] ABAZOV	14	D0	$p\overline{p}$ at 1.96 TeV
0.15 ± 0.42 $^{+0.94}_{-0.81}$	[4] LEES	13N	BABR	$e^+ e^- \to \Upsilon(4S)$
− 1.7 ± 1.1 ±0.4	[5] ABAZOV	12AC	D0	$p\overline{p}$ at 1.96 TeV
0.4 ± 1.3 ±0.9	[6] AUBERT	06T	BABR	$e^+ e^- \to \Upsilon(4S)$
− 0.3 ± 2.0 ±2.1	[7] NAKANO	06	BELL	$e^+ e^- \to \Upsilon(4S)$
3.5 ±10.3 ±1.5	[8] JAFFE	01	CLE2	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
− 0.3 ± 1.3	[9] ABAZOV	11U	D0	Repl. by ABAZOV 14
− 2.3 ± 1.1 ±0.8	[10] ABAZOV	06S	D0	Repl. by ABAZOV 11U
−14.7 ± 6.7 ±5.7	[11] AUBERT,B	04C	BABR	Repl. by AUBERT 06T
1.2 ± 2.9 ±3.6	[2] AUBERT	02K	BABR	Repl. by LEES 15A
− 3.2 ± 6.5	[12] BARATE	01D	ALEP	$e^+ e^- \to Z$
4 ±18 ±3	[13] BEHRENS	00B	CLE2	Repl. by JAFFE 01
1.2 ±13.8 ±3.2	[14] ABBIENDI	99J	OPAL	$e^+ e^- \to Z$
2 ± 7 ±3	[15] ACKERSTAFF	97U	OPAL	$e^+ e^- \to Z$
< 45	[16] BARTELT	93	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] AAIJ 15F uses semileptonic B^0 decays in the inclusive final states $D^- \mu^+$ and $D^{*-} \mu^+$, where the D^- meson decays into the $K^+ \pi^- \pi^-$ final state, and the D^{*-} meson into the $\overline{D}^0 (\to K^+ \pi^-) \pi^-$ final state. Reports $A^d_{SL} = (-0.02 \pm 0.19 \pm 0.30)\%$, which equals to $4\text{Re}(\epsilon_{B^0})/(1+|\epsilon_{B^0}|^2)$. NODE=S042EPS;LINKAGE=F

[2] Uses the charge asymmetry in like-sign dilepton events. LEES 15A reports $A^d_{SL} = (-3.9 \pm 3.5 \pm 1.9) \times 10^{-3}$. NODE=S042EPS;LINKAGE=KA

[3] ABAZOV 14 uses the dimuon charge asymmetry with different impact parameters from which it reports $A^d_{SL} = (-0.62 \pm 0.42) \times 10^{-2}$. NODE=S042EPS;LINKAGE=D

[4] Uses $B^0 \to D^{*-} X \ell^+ \nu_\ell$ and a kaon-tagged sample which yields measurement of $A^d_{SL} = (0.06 \pm 0.17^{+0.38}_{-0.32})\%$, corresponding to $\Delta_{CP} = 1 - |q/p| = (0.29 \pm 0.84^{+1.88}_{-1.61}) \times 10^{-3}$. NODE=S042EPS;LINKAGE=E

[5] ABAZOV 12AC uses $B^0 \to D^- \mu^+ X$ and $B^0 \to D^*(2010)^- \mu^+ X$ decays without initial state flavor tagging which yields measurement of $A^d_{SL} = (6.8 \pm 4.5 \pm 1.4) \times 10^{-3}$. NODE=S042EPS;LINKAGE=AV

[6] AUBERT 06T reports $|q/p| - 1 = (-0.8 \pm 2.7 \pm 1.9) \times 10^{-3}$. We convert to $(1-|q/p|^2)/4$. NODE=S042EPS;LINKAGE=AE

[7] Uses the charge asymmetry in like-sign dilepton events and reports $|q/p| = 1.0005 \pm 0.0040 \pm 0.0043$. NODE=S042EPS;LINKAGE=NA

[8] JAFFE 01 finds $a_{\ell\ell} = 0.013 \pm 0.050 \pm 0.005$ and combines with the previous BEHRENS 00B independent measurement. NODE=S042EPS;LINKAGE=JP

[9] ABAZOV 11U uses the dimuon charge asymmetry with different impact parameters from which it reports $A^d_{SL} = (-1.2 \pm 5.2) \times 10^{-3}$. NODE=S042EPS;LINKAGE=AO

[10] Uses the dimuon charge asymmetry. NODE=S042EPS;LINKAGE=AZ

[11] AUBERT 04C reports $|q/p| = 1.029 \pm 0.013 \pm 0.011$ and we converted it to $(1-|q/p|^2)/4$. NODE=S042EPS;LINKAGE=AB

[12] BARATE 01D measured by investigating time-dependent asymmetries in semileptonic and fully inclusive B^0_d decays. NODE=S042EPS;LINKAGE=DB

[13] BEHRENS 00B uses high-momentum lepton tags and partially reconstructed $\overline{B}^0 \to D^{*+} \pi^-$, ρ^- decays to determine the flavor of the B meson. NODE=S042EPS;LINKAGE=KS

[14] Data analyzed using the time-dependent asymmetry of inclusive B^0 decay. The production flavor of B^0 mesons is determined using both the jet charge and the charge of secondary vertex in the opposite hemisphere. NODE=S042EPS;LINKAGE=C

[15] ACKERSTAFF 97U assumes CPT and is based on measuring the charge asymmetry in a sample of B^0 decays defined by lepton and Q_{hem} tags. If CPT is not invoked, $\text{Re}(\epsilon_B) = -0.006 \pm 0.010 \pm 0.006$ is found. The indirect CPT violation parameter is determined to $\text{Im}(\delta B) = -0.020 \pm 0.016 \pm 0.006$. NODE=S042EPS;LINKAGE=B

[16] BARTELT 93 finds $a_{\ell\ell} = 0.031 \pm 0.096 \pm 0.032$ which corresponds to $|a_{\ell\ell}| < 0.18$, which yields the above $|\text{Re}(\epsilon_{B^0})/(1+|\epsilon_{B^0}|^2)|$. NODE=S042EPS;LINKAGE=A

$A_{T/CP}$

NODE=S042Y3

$A_{T/CP}$ is defined as

NODE=S042Y3

$$\frac{P(\overline{B}^0 \to B^0) - P(B^0 \to \overline{B}^0)}{P(\overline{B}^0 \to B^0) + P(B^0 \to \overline{B}^0)},$$

the CPT invariant asymmetry between the oscillation probabilities $P(\overline{B}^0 \to B^0)$ and $P(B^0 \to \overline{B}^0)$.

NODE=S042Y3

VALUE		DOCUMENT ID		TECN	COMMENT
0.005±0.012±0.014	[1]	AUBERT	02K	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] AUBERT 02K uses the charge asymmetry in like-sign dilepton events. NODE=S042Y3;LINKAGE=KA

$A_{CP}(B^0 \to D^*(2010)^+ D^-)$

NODE=S042AC4

A_{CP} is defined as

NODE=S042AC4

$$\frac{B(\overline{B}^0 \to \overline{f}) - B(B^0 \to f)}{B(\overline{B}^0 \to \overline{f}) + B(B^0 \to f)},$$

the CP-violation charge asymmetry of exclusive B^0 and $\overline{B}^0$ decay.

NODE=S042AC4

VALUE		DOCUMENT ID		TECN	COMMENT
0.013±0.014 OUR AVERAGE					
0.008±0.014±0.006		AAIJ	20L	LHCB	pp at 7, 8, 13 TeV
0.06 ±0.05 ±0.02		ROHRKEN	12	BELL	$e^+ e^- \to \Upsilon(4S)$
0.008±0.048±0.013		AUBERT	09C	BABR	$e^+ e^- \to \Upsilon(4S)$
0.07 ±0.08 ±0.04	[1]	AUSHEV	04	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
−0.12 ±0.06 ±0.02		AUBERT	07AI	BABR	Repl. by AUBERT 09C
−0.03 ±0.10 ±0.02		AUBERT,B	06A	BABR	Repl. by AUBERT 07AI
−0.03 ±0.11 ±0.05		AUBERT	03J	BABR	Repl. by AUBERT,B 06B

[1] Combines results from fully and partially reconstructed $B^0 \to D^{*\pm} D^\mp$ decays. NODE=S042AC4;LINKAGE=AU

$A_{CP}(B^0 \to \overline{D}^0 \pi^0)$

NODE=S042A42

NODE=S042A42

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
0.42±2.05±1.22	BLOOMFIELD 22	BELL	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to [K^+ K^-]_D K^*(892)^0)$

NODE=S042AD3

NODE=S042AD3

VALUE	DOCUMENT ID	TECN	COMMENT
−0.047±0.063±0.015	AAIJ 24M	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
−0.05 ±0.10 ±0.01	AAIJ 19N	LHCB	Repl. by AAIJ 24M
−0.20 ±0.15 ±0.02	AAIJ 14BN	LHCB	Repl. by AAIJ 16S
−0.45 ±0.23 ±0.02	AAIJ 13L	LHCB	Repl. by AAIJ 14BN

$A_{CP}(B^0 \to [K^+ \pi^-]_D K^*(892)^0)$

NODE=S042AD4

NODE=S042AD4

VALUE	DOCUMENT ID	TECN	COMMENT
0.031±0.017±0.015	AAIJ 24M	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.047±0.027±0.010	AAIJ 19N	LHCB	Repl. by AAIJ 24M
−0.03 ±0.04 ±0.02	AAIJ 14BN	LHCB	Repl. by AAIJ 19N
−0.08 ±0.08 ±0.01	AAIJ 13L	LHCB	Repl. by AAIJ 14BN

$A_{CP}(B^0 \to [K^+ \pi^- \pi^+ \pi^-]_D K^*(892)^0)$

NODE=S042A31

NODE=S042A31

VALUE	DOCUMENT ID	TECN	COMMENT
−0.012±0.018±0.016	AAIJ 24M	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.037±0.032±0.010	AAIJ 19N	LHCB	Repl. by AAIJ 24M

$A_{CP}(B^0 \to [K^- \pi^+]_D K^*(892)^0)$

NODE=S042A32

NODE=S042A32

VALUE	DOCUMENT ID	TECN	COMMENT
0.19±0.19±0.01	AAIJ 19N	LHCB	pp at 7, 8, 13 TeV

$A_{CP}(B^0 \to [K^- \pi^+ \pi^+ \pi^-]_D K^*(892)^0)$

NODE=S042A33

NODE=S042A33

VALUE	DOCUMENT ID	TECN	COMMENT
−0.01±0.24±0.01	AAIJ 19N	LHCB	pp at 7, 8, 13 TeV

$R_d^+ = \Gamma(B^0 \to [\pi^+ K^-]_D K^{*0}) / \Gamma(B^0 \to [\pi^- K^+]_D K^{*0})$

NODE=S042AD6

NODE=S042AD6

VALUE	DOCUMENT ID	TECN	COMMENT
0.069±0.013±0.005	AAIJ 24M	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.064±0.021±0.002	AAIJ 19N	LHCB	Repl. by AAIJ 24M
0.06 ±0.03 ±0.01	AAIJ 14BN	LHCB	Repl. by AAIJ 19N

$R_d^- = \Gamma(\overline{B}^0 \to [\pi^- K^+]_D K^{*0}) / \Gamma(\overline{B}^0 \to [\pi^+ K^-]_D K^{*0})$

NODE=S042AD7

NODE=S042AD7

VALUE	DOCUMENT ID	TECN	COMMENT
0.093±0.013±0.005	AAIJ 24M	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.095±0.021±0.003	AAIJ 19N	LHCB	Repl. by AAIJ 24M
0.06 ±0.03 ±0.01	AAIJ 14BN	LHCB	Repl. by AAIJ 19N

$A_{CP}(B^0 \to [\pi^+ \pi^-]_D K^*(892)^0)$

NODE=S042AD5

NODE=S042AD5

VALUE	DOCUMENT ID	TECN	COMMENT
−0.034±0.094±0.016	AAIJ 24M	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
−0.18 ±0.14 ±0.01	AAIJ 19N	LHCB	Repl. by AAIJ 24M
−0.09 ±0.22 ±0.02	AAIJ 14BN	LHCB	Repl. by AAIJ 16S

$A_{CP}(B^0 \to [\pi^+ \pi^- \pi^+ \pi^-]_D K^*(892)^0)$

NODE=S042A28

NODE=S042A28

VALUE	DOCUMENT ID	TECN	COMMENT
0.021±0.087±0.016	AAIJ 24M	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
−0.03 ±0.15 ±0.01	AAIJ 19N	LHCB	Repl. by AAIJ 24M

$R_d^+ = \Gamma(B^0 \to [\pi^+ K^- \pi^+ \pi^-]_D K^{*0}) / \Gamma(B^0 \to [\pi^- K^+ \pi^+ \pi^-]_D K^{*0})$

NODE=S042A29

NODE=S042A29

VALUE	DOCUMENT ID	TECN	COMMENT
0.060±0.014±0.006	AAIJ 24M	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.074±0.026±0.002	AAIJ 19N	LHCB	Repl. by AAIJ 24M

$R_d^- = \Gamma(\overline{B}^0 \to [\pi^- K^+ \pi^+ \pi^-]_D K^{*0}) / \Gamma(\overline{B}^0 \to [\pi^+ K^- \pi^+ \pi^-]_D K^{*0})$

NODE=S042A30

VALUE	DOCUMENT ID		TECN	COMMENT
0.038±0.014±0.006	AAIJ	24M	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.072±0.025±0.003	AAIJ	19N	LHCB	Repl. by AAIJ 24M

A_{CP} $(B^0 \to K^+ \pi^-)$

NODE=S042ACP

VALUE	DOCUMENT ID		TECN	COMMENT
−0.0831±0.0031 OUR AVERAGE				
−0.072 ±0.019 ±0.007	ADACHI	24	BELL	$e^+ e^- \to \Upsilon(4S)$
−0.0824±0.0033±0.0033	AAIJ	21O	LHCB	pp at 13 TeV
−0.084 ±0.004 ±0.003	AAIJ	18O	LHCB	pp at 7, 8 TeV
−0.083 ±0.013 ±0.004	AALTONEN	14P	CDF	$p\overline{p}$ at 1.96 TeV
−0.069 ±0.014 ±0.007	DUH	13	BELL	$e^+ e^- \to \Upsilon(4S)$
−0.107 ±0.016 $^{+0.006}_{-0.004}$	LEES	13D	BABR	$e^+ e^- \to \Upsilon(4S)$
−0.04 ±0.16	[1] CHEN	00	CLE2	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.080 ±0.007 ±0.003	AAIJ	13AX	LHCB	Repl. by AAIJ 18O
−0.088 ±0.011 ±0.008	AAIJ	12V	LHCB	Repl. by AAIJ 13AX
−0.086 ±0.023 ±0.009	AALTONEN	11N	CDF	Repl. by AALTONEN 14P
−0.094 ±0.018 ±0.008	LIN	08	BELL	Repl. by DUH 13
−0.107 ±0.018 $^{+0.007}_{-0.004}$	AUBERT	07AF	BABR	Repl. by LEES 13D
−0.013 ±0.078 ±0.012	ABULENCIA,A	06D	CDF	Repl. by AALTONEN 11N
−0.088 ±0.035 ±0.013	[2] CHAO	05A	BELL	Repl. by CHAO 04B
−0.133 ±0.030 ±0.009	[3] AUBERT,B	04K	BABR	Repl. by AUBERT 07AF
−0.101 ±0.025 ±0.005	[4] CHAO	04B	BELL	Repl. by LIN 08
−0.07 ±0.08 ±0.02	[5] AUBERT	02D	BABR	Repl. by AUBERT 02Q
−0.102 ±0.050 ±0.016	[6] AUBERT	02Q	BABR	Repl. by AUBERT,B 04K
−0.06 ±0.09 $^{+0.01}_{-0.02}$	[7] CASEY	02	BELL	Repl. by CHAO 04B
0.044 $^{+0.186}_{-0.167}$ $^{+0.018}_{-0.021}$	[8] ABE	01K	BELL	Repl. by CASEY 02
−0.19 ±0.10 ±0.03	[9] AUBERT	01E	BABR	Repl. by AUBERT 02Q

[1] Corresponds to 90% confidence range $-0.30 < A_{CP} < 0.22$. NODE=S042ACP;LINKAGE=AA

[2] Corresponds to a 90% CL interval of $-0.15 < A_{CP} < -0.03$. NODE=S042ACP;LINKAGE=CO

[3] Based on a total signal yield of $N(K^- \pi^+) + N(K^+ \pi^-) = 1606 \pm 51$ events. NODE=S042ACP;LINKAGE=AU

[4] CHAO 04B reports significance of 3.9 standard deviation for deviation of A_{CP} from zero. NODE=S042ACP;LINKAGE=CH

[5] Corresponds to 90% confidence range $-0.21 < A_{CP} < 0.07$. NODE=S042ACP;LINKAGE=AD

[6] Corresponds to 90% confidence range $-0.188 < A_{CP} < -0.016$. NODE=S042ACP;LINKAGE=BR

[7] Corresponds to 90% confidence range $-0.21 < A_{CP} < +0.09$. NODE=S042ACP;LINKAGE=CA

[8] Corresponds to 90% confidence range $-0.25 < A_{CP} < 0.37$. NODE=S042ACP;LINKAGE=AX

[9] Corresponds to 90% confidence range $-0.35 < A_{CP} < -0.03$. NODE=S042ACP;LINKAGE=L3

$A_{CP}(B^0 \to \eta' K^*(892)^0)$

NODE=S042CP4

VALUE	DOCUMENT ID		TECN	COMMENT
−0.07±0.18 OUR AVERAGE				
−0.22±0.29±0.07	SATO	14	BELL	$e^+ e^- \to \Upsilon(4S)$
0.02±0.23±0.02	DEL-AMO-SA...	10A	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.08±0.25±0.02	[1] AUBERT	07E	BABR	Repl. by DEL-AMO-SANCHEZ 10A

[1] Reports A_{CP} with the opposite sign convention. NODE=S042CP4;LINKAGE=OS

$A_{CP}(B^0 \to \eta' K_0^*(1430)^0)$

NODE=S042CT2

VALUE	DOCUMENT ID		TECN	COMMENT
−0.19±0.17±0.02	DEL-AMO-SA...	10A	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to \eta' K_2^*(1430)^0)$

NODE=S042CT3

VALUE	DOCUMENT ID		TECN	COMMENT
0.14±0.18±0.02	DEL-AMO-SA...	10A	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to \eta K^*(892)^0)$

NODE=S042CP1

VALUE	DOCUMENT ID		TECN	COMMENT
0.19±0.05 OUR AVERAGE				
0.17±0.08±0.01	WANG	07B	BELL	$e^+ e^- \to \Upsilon(4S)$
0.21±0.06±0.02	AUBERT,B	06H	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.02±0.11±0.02	AUBERT,B	04D	BABR	Repl. by AUBERT,B 06H

$A_{CP}(B^0 \to \eta K_0^*(1430)^0)$

NODE=S042AD1

VALUE	DOCUMENT ID		TECN	COMMENT
0.06±0.13±0.02	AUBERT,B	06H	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to \eta K_2^*(1430)^0)$

NODE=S042AD2

VALUE	DOCUMENT ID		TECN	COMMENT
−0.07±0.19±0.02	AUBERT,B	06H	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to b_1 K^+)$

NODE=S042CQ2

VALUE	DOCUMENT ID		TECN	COMMENT
−0.07±0.12±0.02	AUBERT	07BI	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to \omega K^{*0})$

NODE=S042CQ8

VALUE	DOCUMENT ID		TECN	COMMENT
0.45±0.25±0.02	AUBERT	09H	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to \omega (K\pi)_0^{*0})$

NODE=S042CR0

VALUE	DOCUMENT ID		TECN	COMMENT
−0.07±0.09±0.02	AUBERT	09H	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to \omega K_2^*(1430)^0)$

NODE=S042CR1

VALUE	DOCUMENT ID		TECN	COMMENT
−0.37±0.17±0.02	AUBERT	09H	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to K^+\pi^-\pi^0)$

NODE=S042AC7

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
0 ± 6 OUR AVERAGE				
$-3.0^{+4.5}_{-5.1}\pm5.5$	[1] AUBERT	08AQ	BABR	$e^+e^- \to \Upsilon(4S)$
7 ±11 ±1	[2] CHANG	04	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. NODE=S042AC7;LINKAGE=DA

[2] Corresponds to 90% confidence range $-0.12 < A_{CP} < 0.26$. NODE=S042AC7;LINKAGE=CH

$A_{CP}(B^0 \to \rho^- K^+)$

NODE=S042AC6

VALUE	DOCUMENT ID		TECN	COMMENT
0.20±0.11 OUR AVERAGE				
0.20±0.09±0.08	[1] LEES	11	BABR	$e^+e^- \to \Upsilon(4S)$
$0.22^{+0.22}_{-0.23}{}^{+0.06}_{-0.02}$	[2] CHANG	04	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.11^{+0.14}_{-0.15}\pm0.07$	[1] AUBERT	08AQ	BABR	Repl. by LEES 11
−0.28±0.17±0.08	[3] AUBERT	03T	BABR	Repl. by AUBERT 08AQ

[1] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. NODE=S042AC6;LINKAGE=DA

[2] Corresponds to 90% confidence range $-0.18 < A_{CP} < 0.64$. NODE=S042AC6;LINKAGE=CH

[3] The result reported corresponds to $-A_{CP}$. NODE=S042AC6;LINKAGE=AB

$A_{CP}(B^0 \to \rho(1450)^- K^+)$

NODE=S042CT4

VALUE	DOCUMENT ID		TECN	COMMENT
−0.10±0.32±0.09	[1] LEES	11	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. NODE=S042CT4;LINKAGE=DA

$A_{CP}(B^0 \to \rho(1700)^- K^+)$

NODE=S042CT5

VALUE	DOCUMENT ID		TECN	COMMENT
−0.36±0.57±0.23	[1] LEES	11	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. NODE=S042CT5;LINKAGE=DA

$A_{CP}(B^0 \to K^+\pi^-\pi^0$ nonresonant)

NODE=S042CQ5

VALUE	DOCUMENT ID		TECN	COMMENT
0.10±0.16±0.08	[1] LEES	11	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.23^{+0.19}_{-0.27}{}^{+0.11}_{-0.10}$	[1] AUBERT	08AQ	BABR	Repl. by LEES 11

[1] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. The quoted value is only for the flat part of the non-resonant component. NODE=S042CQ5;LINKAGE=DA

$A_{CP}(B^0 \to K^0\pi^+\pi^-)$

NODE=S042CQ9

VALUE	DOCUMENT ID	TECN	COMMENT
−0.01±0.05±0.01	[1] AUBERT 09AU	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two equivalent solutions is used. NODE=S042CQ9;LINKAGE=AU

$A_{CP}(B^0 \to K^*(892)^+\pi^-)$

NODE=S042AC3

VALUE	DOCUMENT ID	TECN	COMMENT
−0.27 ±0.04 OUR AVERAGE			
−0.308±0.060±0.016	[1] AAIJ 18F	LHCB	pp at 7, 8 TeV
−0.29 ±0.11 ±0.02	[2] LEES 11	BABR	$e^+e^- \to \Upsilon(4S)$
−0.21 ±0.10 ±0.02	[3,4] AUBERT 09AU	BABR	$e^+e^- \to \Upsilon(4S)$
−0.21 ±0.11 ±0.07	[5] DALSENO 09	BELL	$e^+e^- \to \Upsilon(4S)$
0.26 $^{+0.33}_{-0.34}$ $^{+0.10}_{-0.08}$	[6] EISENSTEIN 03	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
−0.19 $^{+0.20}_{-0.15}$ ±0.04	[2] AUBERT 08AQ	BABR	Repl. by LEES 11
−0.11 ±0.14 ±0.05	[3] AUBERT 06I	BABR	Repl. by AUBERT 09AU
0.23 ±0.18 $^{+0.09}_{-0.06}$	AUBERT,B 04O	BABR	Repl. by AUBERT 06I

[1] Uses Dalitz plot analysis of the $B^0 \to K^0_S\pi^+\pi^-$ final state decays. NODE=S042AC3;LINKAGE=B
[2] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. NODE=S042AC3;LINKAGE=DA
[3] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays. NODE=S042AC3;LINKAGE=AU
[4] The first of two equivalent solutions is used. NODE=S042AC3;LINKAGE=BE
[5] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two consistent solutions that may be preferred. NODE=S042AC3;LINKAGE=DL
[6] Corresponds to 90% confidence range $-0.31 < A_{CP} < 0.78$. NODE=S042AC3;LINKAGE=A

$A_{CP}(B^0 \to (K\pi)^{*+}_0\pi^-)$

NODE=S042CQ6

VALUE	DOCUMENT ID	TECN	COMMENT
0.02 ±0.04 OUR AVERAGE			
−0.032±0.047±0.031	[1] AAIJ 18F	LHCB	pp at 7, 8 TeV
0.07 ±0.14 ±0.01	[2] LEES 11	BABR	$e^+e^- \to \Upsilon(4S)$
0.09 ±0.07 ±0.03	[3] AUBERT 09AU	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.17 $^{+0.11}_{-0.16}$ ±0.22	[2] AUBERT 08AQ	BABR	Repl. by LEES 11

[1] Uses Dalitz plot analysis of the $B^0 \to K^0_S\pi^+\pi^-$ final states decays. NODE=S042CQ6;LINKAGE=A
[2] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. NODE=S042CQ6;LINKAGE=DA
[3] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two equivalent solutions is used. NODE=S042CQ6;LINKAGE=AU

$A_{CP}(B^0 \to K^*_2(1430)^+\pi^-)$

NODE=S042A09

VALUE	DOCUMENT ID	TECN	COMMENT
−0.29±0.22±0.09	[1] AAIJ 18F	LHCB	pp at 7, 8 TeV

[1] Uses Dalitz plot analysis of the $B^0 \to K^0_S\pi^+\pi^-$ final state decays. NODE=S042A09;LINKAGE=A

$A_{CP}(B^0 \to K^*(1680)^+\pi^-)$

NODE=S042A10

VALUE	DOCUMENT ID	TECN	COMMENT
−0.07±0.13±0.04	[1] AAIJ 18F	LHCB	pp at 7, 8 TeV

[1] Uses Dalitz plot analysis of the $B^0 \to K^0_S\pi^+\pi^-$ final state decays. NODE=S042A10;LINKAGE=A

$A_{CP}(B^0 \to f_0(980)K^0_S)$

NODE=S042A11

VALUE	DOCUMENT ID	TECN	COMMENT
0.28±0.27±0.15	[1] AAIJ 18F	LHCB	pp at 7, 8 TeV

[1] Uses Dalitz plot analysis of the $B^0 \to K^0_S\pi^+\pi^-$ final state decays. NODE=S042A11;LINKAGE=A

$A_{CP}(B^0 \to (K\pi)^{*0}_0\pi^0)$

NODE=S042CQ7

VALUE	DOCUMENT ID	TECN	COMMENT
−0.15±0.10±0.04	[1] LEES 11	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
−0.22±0.12$^{+0.30}_{-0.29}$	[1] AUBERT 08AQ	BABR	Repl. by LEES 11

[1] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays. NODE=S042CQ7;LINKAGE=DA

$A_{CP}(B^0 \to K^{*0}\pi^0)$

NODE=S042CQ4

VALUE	DOCUMENT ID	TECN	COMMENT
−0.15±0.12±0.04	[1] LEES 11	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$-0.09^{+0.21}_{-0.24}\pm0.09$	[1] AUBERT 08AQ	BABR	Repl. by LEES 11

[1] Uses Dalitz plot analysis of $B^0 \to K^+\pi^-\pi^0$ decays.

NODE=S042CQ4;LINKAGE=DA

$A_{CP}(B^0 \to K^*(892)^0\pi^+\pi^-)$

NODE=S042CP6

VALUE	DOCUMENT ID	TECN	COMMENT
0.07±0.04±0.03	AUBERT 07AS	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to K^*(892)^0\rho^0)$

NODE=S042AC9

VALUE	DOCUMENT ID	TECN	COMMENT
−0.06±0.09±0.02	LEES 12K	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.09±0.19±0.02	AUBERT,B 06G	BABR	Repl. by LEES 12K

$A_{CP}(B^0 \to K^{*0} f_0(980))$

NODE=S042AD0

VALUE	DOCUMENT ID	TECN	COMMENT
0.07±0.10±0.02	LEES 12K	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
−0.17±0.28±0.02	AUBERT,B 06G	BABR	Repl. by LEES 12K

$A_{CP}(B^0 \to K^{*+}\rho^-)$

NODE=S042CT6

VALUE	DOCUMENT ID	TECN	COMMENT
0.21±0.15±0.02	LEES 12K	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to K^*(892)^0 K^+ K^-)$

NODE=S042CP7

VALUE	DOCUMENT ID	TECN	COMMENT
0.01±0.05±0.02	AUBERT 07AS	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to a_1^- K^+)$

NODE=S042CQ1

VALUE	DOCUMENT ID	TECN	COMMENT
−0.16±0.12±0.01	AUBERT 08F	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to K^0 K^0)$

NODE=S042CP5

VALUE	DOCUMENT ID	TECN	COMMENT
$\mathbf{-0.58^{+0.73}_{-0.66}\pm0.04}$	LIN 07	BELL	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to K^*(892)^0\phi)$

NODE=S042AC1

VALUE	DOCUMENT ID	TECN	COMMENT
0.00 ±0.04 OUR AVERAGE			
−0.007±0.048±0.021	PRIM 13	BELL	$e^+e^- \to \Upsilon(4S)$
0.01 ±0.06 ±0.03	AUBERT 08BG	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
−0.03 ±0.07 ±0.03	AUBERT 07D	BABR	Repl. by AUBERT 08BG
0.02 ±0.09 ±0.02	[1] CHEN 05A	BELL	Repl. by PRIM 13
−0.01 ±0.09 ±0.02	AUBERT,B 04W	BABR	Repl. by AUBERT 07D
0.04 ±0.12 ±0.02	AUBERT 03V	BABR	Repl. by AUBERT 04W
$0.07\pm0.15^{+0.05}_{-0.03}$	[2] CHEN 03B	BELL	Repl. by CHEN 05A
0.00 ±0.27 ±0.03	[3] AUBERT 02E	BABR	Repl. by AUBERT 03V

[1] Corresponds to 90% confidence range $-0.14 < A_{CP} < 0.17$.

NODE=S042AC1;LINKAGE=CE

[2] Corresponds to 90% confidence range $-0.18 < A_{CP} < 0.33$.

NODE=S042AC1;LINKAGE=CH

[3] Corresponds to 90% confidence range $-0.44 < A_{CP} < 0.44$.

NODE=S042AC1;LINKAGE=AY

$A_{CP}(B^0 \to K^*(892)^0 K^-\pi^+)$

NODE=S042CP8

VALUE	DOCUMENT ID	TECN	COMMENT
0.22±0.33±0.20	AUBERT 07AS	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to \phi(K\pi)^{*0}_0)$

NODE=S042CP2

VALUE	DOCUMENT ID	TECN	COMMENT
0.12 ±0.08 OUR AVERAGE			
0.093±0.094±0.017	PRIM 13	BELL	$e^+e^- \to \Upsilon(4S)$
0.20 ±0.14 ±0.06	AUBERT 08BG	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.17 ±0.15 ±0.03	AUBERT 07D	BABR	Repl. by AUBERT 08BG

$A_{CP}(B^0 \to \phi K_2^*(1430)^0)$

NODE=S042CP3

VALUE	DOCUMENT ID		TECN	COMMENT
−0.11 ±0.10 OUR AVERAGE				
$-0.155^{+0.152}_{-0.133}\pm0.033$	PRIM	13	BELL	$e^+e^- \to \Upsilon(4S)$
$-0.08 \pm0.12 \pm0.05$	AUBERT	08BG	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.12 \pm0.14 \pm0.04$	AUBERT	07D	BABR	Repl. by AUBERT 08BG

$A_{CP}(B^0 \to K^*(892)^0\gamma)$

NODE=S042AKG

VALUE	DOCUMENT ID		TECN	COMMENT
−0.006±0.011 OUR AVERAGE				
$-0.013\pm0.017\pm0.004$	[1] HORIGUCHI	17	BELL	$e^+e^- \to \Upsilon(4S)$
$0.008\pm0.017\pm0.009$	AAIJ	13	LHCB	pp at 7 TeV
$-0.016\pm0.022\pm0.007$	AUBERT	09AO	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses B($\Upsilon(4S) \to B^+B^-$) = (51.4 ± 0.6)% and B($\Upsilon(4S) \to B^0\overline{B}^0$) = (48.6 ± 0.6)%.

NODE=S042AKG;LINKAGE=A

$A_{CP}(B^0 \to K_2^*(1430)^0\gamma)$

NODE=S042AC8

VALUE	DOCUMENT ID		TECN	COMMENT
−0.08±0.15±0.01	AUBERT,B	04U	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to X_s\gamma)$

NODE=S042A12

VALUE	DOCUMENT ID		TECN	COMMENT
−0.0094±0.0174±0.0047	[1] WATANUKI	19	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Using a sum-of-exclusive technique with $m_{X_s} < 2.8$ GeV/c^2.

NODE=S042A12;LINKAGE=A

$A_{CP}(B^0 \to \rho^+\pi^-)$

NODE=S042AC5

VALUE	DOCUMENT ID		TECN	COMMENT
0.13±0.06 OUR AVERAGE	Error includes scale factor of 1.1.			
$0.09^{+0.05}_{-0.06}\pm0.04$	[1] LEES	13J	BABR	$e^+e^- \to \Upsilon(4S)$
$0.21\pm0.08\pm0.04$	[1] KUSAKA	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.03\pm0.07\pm0.04$	AUBERT	07AA	BABR	Repl. by LEES 13J
$-0.02\pm0.16^{+0.05}_{-0.02}$	WANG	05	BELL	Repl. by KUSAKA 07
$-0.18\pm0.08\pm0.03$	AUBERT	03T	BABR	Repl. by AUBERT 07AA

[1] Uses time-dependent Dalitz plot analysis of $B^0 \to \pi^+\pi^-\pi^0$ decays.

NODE=S042AC5;LINKAGE=LE

$A_{CP}(B^0 \to \rho^-\pi^+)$

NODE=S042AC0

VALUE	DOCUMENT ID		TECN	COMMENT
−0.08±0.08 OUR AVERAGE				
$-0.12\pm0.08^{+0.04}_{-0.05}$	[1] LEES	13J	BABR	$e^+e^- \to \Upsilon(4S)$
$0.08\pm0.16\pm0.11$	[1] KUSAKA	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.37\pm0.16^{+0.09}_{-0.10}$	AUBERT	07AA	BABR	Repl. by LEES 13J
$-0.53\pm0.29^{+0.09}_{-0.04}$	WANG	05	BELL	Repl. by KUSAKA 07

[1] Uses time-dependent Dalitz plot analysis of $B^0 \to \pi^+\pi^-\pi^0$ decays.

NODE=S042AC0;LINKAGE=LE

$A_{CP}(B^0 \to \omega\omega)$

NODE=S042A54

VALUE	DOCUMENT ID		TECN	COMMENT
−0.44±0.43±0.11	GUAN	24	BELL	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to a_1(1260)^\pm\pi^\mp)$

NODE=S042AAP

VALUE	DOCUMENT ID		TECN	COMMENT
−0.07±0.06 OUR AVERAGE				
$-0.06\pm0.05\pm0.07$	DALSENO	12	BELL	$e^+e^- \to \Upsilon(4S)$
$-0.07\pm0.07\pm0.02$	AUBERT	07O	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to b_1^-\pi^+)$

NODE=S042CQ3

VALUE	DOCUMENT ID		TECN	COMMENT
−0.05±0.10±0.02	AUBERT	07BI	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to p\overline{p}K^*(892)^0)$

NODE=S042CQ0

VALUE	DOCUMENT ID		TECN	COMMENT
0.05±0.12 OUR AVERAGE				
−0.08±0.20±0.02	CHEN	08C	BELL	$e^+e^- \to \Upsilon(4S)$
0.11±0.13±0.06	AUBERT	07AV	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to p\overline{\Lambda}\pi^-)$

NODE=S042CLP

VALUE	DOCUMENT ID		TECN	COMMENT
0.04±0.07 OUR AVERAGE				
0.10±0.10±0.02	AUBERT	09AC	BABR	$e^+e^- \to \Upsilon(4S)$
−0.02±0.10±0.03	WANG	07C	BELL	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to K^{*0}\ell^+\ell^-)$

NODE=S042CT1

VALUE	DOCUMENT ID		TECN	COMMENT
−0.05±0.10 OUR AVERAGE				
0.02±0.20±0.02	AUBERT	09T	BABR	$e^+e^- \to \Upsilon(4S)$
−0.08±0.12±0.02	WEI	09A	BELL	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to K^{*0}e^+e^-)$

NODE=S042CU0

VALUE	DOCUMENT ID		TECN	COMMENT
−0.21±0.19±0.02	WEI	09A	BELL	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^0 \to K^{*0}\mu^+\mu^-)$

NODE=S042CU1

VALUE	DOCUMENT ID		TECN	COMMENT
−0.034±0.024 OUR AVERAGE				
−0.035±0.024±0.003	AAIJ	14AN	LHCB	pp at 7, 8 TeV
0.00 ±0.15 ±0.03	WEI	09A	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.072±0.040±0.005	AAIJ	13E	LHCB	Repl. by AAIJ 14AN

$C_{D^*(2010)^- D^+}$ $(B^0 \to D^*(2010)^- D^+)$

NODE=S042CPJ

VALUE	DOCUMENT ID		TECN	COMMENT
−0.02 ±0.08 OUR AVERAGE				
−0.028±0.130±0.026	[1] AAIJ	20L	LHCB	pp at 7, 8, 13 TeV
−0.13 ±0.16 ±0.05	[2] ROHRKEN	12	BELL	$e^+e^- \to \Upsilon(4S)$
0.00 ±0.17 ±0.03	AUBERT	09C	BABR	$e^+e^- \to \Upsilon(4S)$
0.23 ±0.25 ±0.06	[3] AUSHEV	04	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.23 ±0.15 ±0.04	AUBERT	07AI	BABR	Repl. by AUBERT 09C
0.17 ±0.24 ±0.04	AUBERT,B	05Z	BABR	Repl. by AUBERT 07AI
−0.22 ±0.37 ±0.10	AUBERT	03J	BABR	Repl. by AUBERT,B 05Z

[1] AAIJ 20L reports the measurements of C $= -0.059 \pm 0.092 \pm 0.020$ and ΔC $= -0.031 \pm 0.092 \pm 0.016$ such that $C_{D^*(2010)^- D^+}$ = C − ΔC. NODE=S042CPJ;LINKAGE=A

[2] ROHRKEN 12 reports the measurements of C $= -0.01 \pm 0.11 \pm 0.04$ and ΔC $= 0.12 \pm 0.11 \pm 0.03$ such that $C_{D^*(2010)^- D^+}$ = C − ΔC . NODE=S042CPJ;LINKAGE=RO

[3] Combines results from fully and partially reconstructed $B^0 \to D^{*\pm}D^{\mp}$ decays. NODE=S042CPJ;LINKAGE=AU

$S_{D^*(2010)^- D^+}$ $(B^0 \to D^*(2010)^- D^+)$

NODE=S042SPJ

VALUE	DOCUMENT ID		TECN	COMMENT
−0.83 ±0.09 OUR AVERAGE				
−0.880±0.107±0.022	[1] AAIJ	20L	LHCB	pp at 7, 8, 13 TeV
−0.65 ±0.22 ±0.07	[2] ROHRKEN	12	BELL	$e^+e^- \to \Upsilon(4S)$
−0.73 ±0.23 ±0.050	AUBERT	09C	BABR	$e^+e^- \to \Upsilon(4S)$
−0.96 ±0.43 ±0.12	[3] AUSHEV	04	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.44 ±0.22 ±0.06	AUBERT	07AI	BABR	Repl. by AUBERT 09C
−0.29 ±0.33 ±0.07	AUBERT,B	05Z	BABR	Repl. by AUBERT 07AI
−0.24 ±0.69 ±0.12	AUBERT	03J	BABR	Repl. by AUBERT,B 05Z

[1] AAIJ 20L reports the measurements of S $= -0.861 \pm 0.077 \pm 0.019$ and ΔS $= 0.019 \pm 0.075 \pm 0.012$ such that $S_{D^*(2010)^- D^+}$ = S − ΔS. NODE=S042SPJ;LINKAGE=A

[2] ROHRKEN 12 reports the measurements of S $= -0.78 \pm 0.15 \pm 0.05$ and ΔS $= -0.13 \pm 0.15 \pm 0.04$ such that $S_{D^*(2010)^+ D^-}$ = S − ΔS. NODE=S042SPJ;LINKAGE=RO

[3] Combines results from fully and partially reconstructed $B^0 \to D^{*\pm}D^{\mp}$ decays. NODE=S042SPJ;LINKAGE=AU

$C_{D^*(2010)^+ D^-}$ ($B^0 \to D^*(2010)^+ D^-$)

NODE=S042CPK
NODE=S042CPK

VALUE	DOCUMENT ID		TECN	COMMENT
−0.03 ±0.09 OUR AVERAGE	Error includes scale factor of 1.1.			
−0.090±0.130±0.026	[1] AAIJ	20L	LHCB	pp at 7, 8, 13 TeV
0.11 ±0.14 ±0.06	[2] ROHRKEN	12	BELL	$e^+ e^- \to \Upsilon(4S)$
0.08 ±0.17 ±0.04	AUBERT	09C	BABR	$e^+ e^- \to \Upsilon(4S)$
−0.37 ±0.22 ±0.06	[3] AUSHEV	04	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.18 ±0.15 ±0.04	AUBERT	07AI	BABR	Repl. by AUBERT 09C
0.09 ±0.25 ±0.06	AUBERT,B	05Z	BABR	Repl. by AUBERT 07AI
−0.47 ±0.40 ±0.12	AUBERT	03J	BABR	Repl. by AUBERT,B 05Z

[1] AAIJ 20L reports the measurements of C = −0.059 ± 0.092 ± 0.020 and ΔC = −0.031 ± 0.092 ± 0.016 such that $C_{D^*(2010)^+ D^-}$ = C + ΔC. NODE=S042CPK;LINKAGE=A

[2] ROHRKEN 12 reports the measurements of C = −0.01 ± 0.11 ± 0.04 and ΔC = 0.12 ± 0.11 ± 0.03 such that $C_{D^*(2010)^+ D^-}$ = C + ΔC . NODE=S042CPK;LINKAGE=RO

[3] Combines results from fully and partially reconstructed $B^0 \to D^{*\pm} D^{\mp}$ decays. NODE=S042CPK;LINKAGE=AU

$S_{D^*(2010)^+ D^-}$ ($B^0 \to D^*(2010)^+ D^-$)

NODE=S042SPK
NODE=S042SPK

VALUE	DOCUMENT ID		TECN	COMMENT
−0.80 ±0.09 OUR AVERAGE				
−0.842±0.107±0.022	[1] AAIJ	20L	LHCB	pp at 7, 8, 13 TeV
−0.90 ±0.21 ±0.07	[2] ROHRKEN	12	BELL	$e^+ e^- \to \Upsilon(4S)$
−0.62 ±0.21 ±0.03	AUBERT	09C	BABR	$e^+ e^- \to \Upsilon(4S)$
−0.55 ±0.39 ±0.12	[3] AUSHEV	04	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.79 ±0.21 ±0.06	AUBERT	07AI	BABR	Repl. by AUBERT 09C
−0.54 ±0.35 ±0.07	AUBERT,B	05Z	BABR	Repl. by AUBERT 07AI
−0.82 ±0.75 ±0.14	AUBERT	03J	BABR	Repl. by AUBERT,B 05Z

[1] AAIJ 20L reports the measurements of S = −0.861 ± 0.077 ± 0.019 and ΔS = 0.019 ± 0.075 ± 0.012 such that $S_{D^*(2010)^+ D^-}$ = S + ΔS. NODE=S042SPK;LINKAGE=A

[2] ROHRKEN 12 reports the measurements of S = −0.78 ± 0.15 ± 0.05 and ΔS = −0.13 ± 0.15 ± 0.04 such that $S_{D^*(2010)^+ D^-}$ = S + ΔS. NODE=S042SPK;LINKAGE=RO

[3] Combines results from fully and partially reconstructed $B^0 \to D^{*\pm} D^{\mp}$ decays. NODE=S042SPK;LINKAGE=AU

$C_{D^{*+} D^{*-}}$ ($B^0 \to D^{*+} D^{*-}$)

NODE=S042LD1
NODE=S042LD1

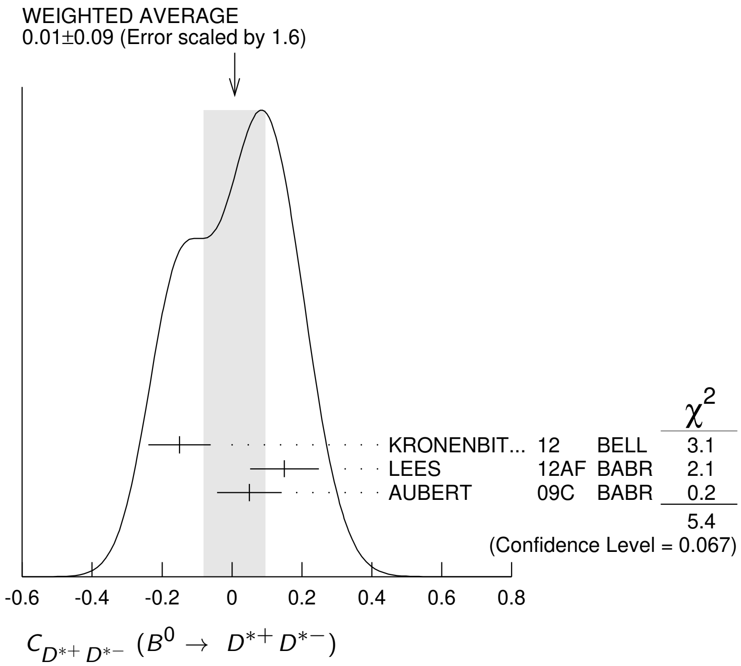
VALUE	DOCUMENT ID		TECN	COMMENT
0.01±0.09 OUR AVERAGE	Error includes scale factor of 1.6. See the ideogram below.			
−0.15±0.08±0.04	[1,2] KRONENBIT...	12	BELL	$e^+ e^- \to \Upsilon(4S)$
+0.15±0.09±0.04	[3] LEES	12AF	BABR	$e^+ e^- \to \Upsilon(4S)$
0.05±0.09±0.02	AUBERT	09C	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.15±0.13±0.04	[2] VERVINK	09	BELL	Repl. by KRONENBITTER 12
−0.02±0.11±0.02	[1] AUBERT	07BO	BABR	Repl. by AUBERT 09C
0.26±0.26±0.06	[2] MIYAKE	05	BELL	Repl. by VERVINK 09
0.28±0.23±0.02	[4] AUBERT	03Q	BABR	Repl. by AUBERT 07BO

[1] Assumes both CP-even and CP-odd states having the CP asymmetry. NODE=S042LD1;LINKAGE=AU

[2] Belle Collab. quotes $A_{D^{*+} D^{*-}}$ which is equal to $-C_{D^{*+} D^{*-}}$. NODE=S042LD1;LINKAGE=MI

[3] Measured partially reconstructed candidates when one D^0 meson is not excplicitely reconstructed. Analysis does not separate CP-even and CP-odd component. NODE=S042LD1;LINKAGE=LE

[4] AUBERT 03Q reports $|\lambda|$=0.75 ± 0.19 ± 0.02 and Im(λ)=0.05 ± 0.29 ± 0.10. We convert them to S and C parameters taking into account correlations. NODE=S042LD1;LINKAGE=AR



$S_{D^{*+}D^{*-}}$ ($B^0 \to D^{*+}D^{*-}$)

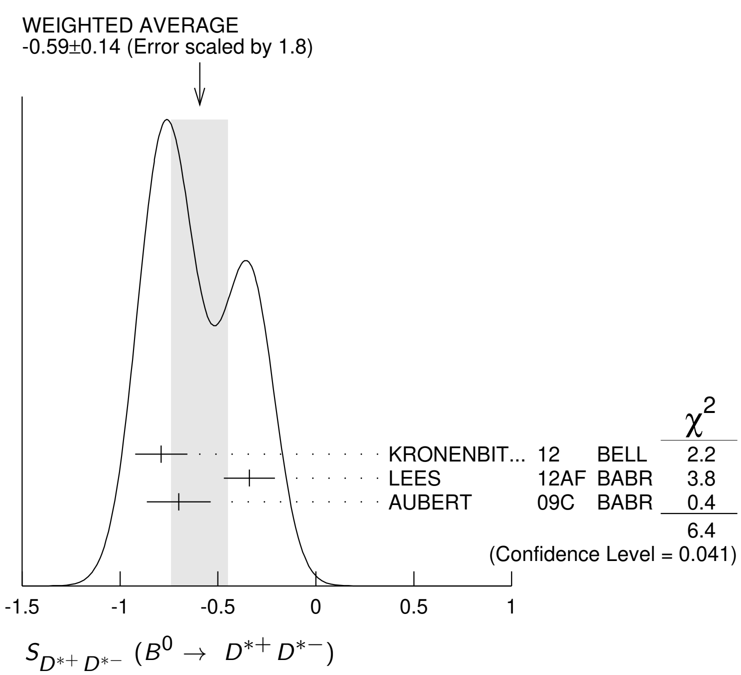
NODE=S042LD2
NODE=S042LD2

VALUE	DOCUMENT ID		TECN	COMMENT
−0.59±0.14 OUR AVERAGE	Error includes scale factor of 1.8. See the ideogram below.			
−0.79±0.13±0.03	[1] KRONENBIT...	12	BELL	$e^+e^- \to \Upsilon(4S)$
−0.34±0.12±0.05	[2] LEES	12AF	BABR	$e^+e^- \to \Upsilon(4S)$
−0.70±0.16±0.03	[1] AUBERT	09C	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.96\pm0.25{}^{+0.13}_{-0.16}$	VERVINK	09	BELL	Repl. by KRONENBITTER 12
−0.66±0.19±0.04	[1] AUBERT	07BO	BABR	Repl. by AUBERT 09C
−0.75±0.56±0.12	MIYAKE	05	BELL	Repl. by VERVINK 09
0.06±0.37±0.13	[3] AUBERT	03Q	BABR	Repl. by AUBERT 07BO

[1] Assumes both *CP*-even and *CP*-odd states having the *CP* asymmetry. NODE=S042LD2;LINKAGE=AU

[2] Measured partially reconstructed candidates when one D^0 meson is not excplicitely reconstructed. Analysis does not separate *CP*-even and *CP*-odd component. NODE=S042LD2;LINKAGE=LE

[3] AUBERT 03Q reports $|\lambda|$=0.75 ± 0.19 ± 0.02 and Im(λ)=0.05 ± 0.29 ± 0.10. We convert them to *S* and *C* parameters taking into account correlations. NODE=S042LD2;LINKAGE=AR



C_+ ($B^0 \rightarrow D^{*+} D^{*-}$)

NODE=S042CD+

See the note in the $C_{\pi\pi}$ datablock, but for CP even final state.

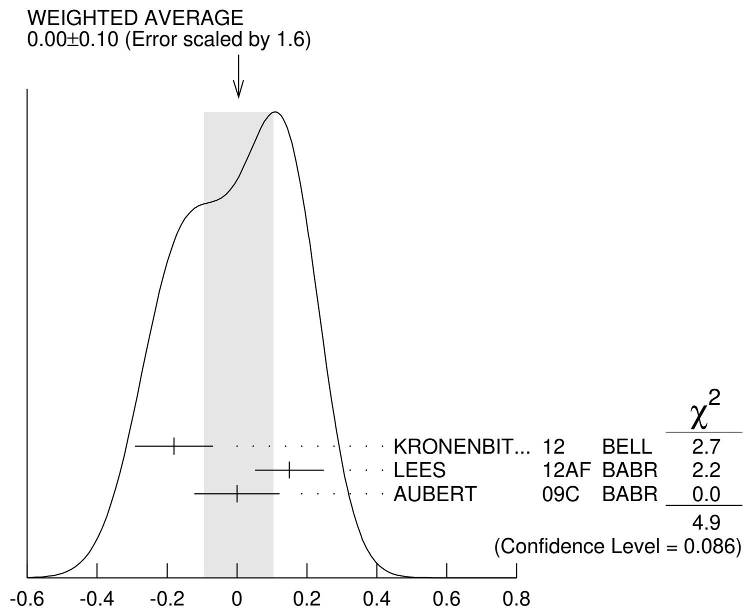
NODE=S042CD+
NODE=S042CD+

VALUE	DOCUMENT ID		TECN	COMMENT
0.00±0.10 OUR AVERAGE	Error includes scale factor of 1.6. See the ideogram below.			
$-0.18\pm0.10\pm0.05$	[1] KRONENBIT...	12	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
$+0.15\pm0.09\pm0.04$	[2] LEES	12AF	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$0.00\pm0.12\pm0.02$	AUBERT	09C	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.05\pm0.14\pm0.02$	AUBERT	07BO	BABR	Repl. by AUBERT 09C
$0.06\pm0.17\pm0.03$	[3] AUBERT,BE	05A	BABR	Repl. by AUBERT 07BO

[1] Belle Collab. quotes $A_{D^{*+} D^{*-}}$ which is equal to $-C_{D^{*+} D^{*-}}$. NODE=S042CD+;LINKAGE=KR

[2] Measured partially reconstructed candidates when one D^0 meson is not excplicitely reconstructed. Extracted under assumption of equal C_+ and C_-. NODE=S042CD+;LINKAGE=LE

[3] AUBERT,BE 05A reports a CP-odd fraction $R_\perp = 0.125 \pm 0.044 \pm 0.007$. NODE=S042CD+;LINKAGE=AU



C_+ ($B^0 \rightarrow D^{*+} D^{*-}$)

S_+ ($B^0 \rightarrow D^{*+} D^{*-}$)

NODE=S042SD+

See the note in the $S_{\pi\pi}$ datablock, but for CP even final state.

NODE=S042SD+
NODE=S042SD+

VALUE	DOCUMENT ID		TECN	COMMENT
−0.73±0.09 OUR AVERAGE				
$-0.81\pm0.13\pm0.03$	KRONENBIT...	12	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
$-0.49\pm0.18\pm0.08$	[1] LEES	12AF	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$-0.76\pm0.16\pm0.04$	AUBERT	09C	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.72\pm0.19\pm0.05$	AUBERT	07BO	BABR	Repl. by AUBERT 09C
$-0.75\pm0.25\pm0.03$	[2] AUBERT,BE	05A	BABR	Repl. by AUBERT 07BO

[1] Measured partially reconstructed candidates when one D^0 meson is not excplicitely reconstructed. Analysis does not separate CP-even and CP-odd component. Value is obtained from $S = -0.34 \pm 0.12 \pm 0.05$ using $S = S_+ \, (1 - 2\, R_\perp)$ with $R_\perp = 0.158 \pm 0.029$. NODE=S042SD+;LINKAGE=LE

[2] AUBERT,BE 05A reports a CP-odd fraction $R_\perp = 0.125 \pm 0.044 \pm 0.007$. NODE=S042SD+;LINKAGE=AU

C_- ($B^0 \rightarrow D^{*+} D^{*-}$)

NODE=S042CD-

See the note in the $C_{\pi\pi}$ datablock, but for CP odd final state.

NODE=S042CD-
NODE=S042CD-

VALUE	DOCUMENT ID		TECN	COMMENT
0.19±0.31 OUR AVERAGE				
$0.05\pm0.39\pm0.08$	[1] KRONENBIT...	12	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
$0.41\pm0.49\pm0.08$	AUBERT	09C	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.23\pm0.67\pm0.10$	AUBERT	07BO	BABR	Repl. by AUBERT 09C
$-0.20\pm0.96\pm0.11$	[2] AUBERT,BE	05A	BABR	Repl. by AUBERT 07BO

[1] Belle Collab. quotes $A_{D^{*+} D^{*-}}$ which is equal to $-C_{D^{*+} D^{*-}}$. NODE=S042CD-;LINKAGE=KR

[2] AUBERT,BE 05A reports a CP-odd fraction $R_\perp = 0.125 \pm 0.044 \pm 0.007$. NODE=S042CD-;LINKAGE=AU

S_- ($B^0 \to D^{*+} D^{*-}$)

NODE=S042SD-

See the note in the $S_{\pi\pi}$ datablock, but for CP odd final state.

NODE=S042SD-
NODE=S042SD-

VALUE	DOCUMENT ID		TECN	COMMENT
−1.6 ±0.5 OUR AVERAGE				
−1.52±0.62±0.12	[1] KRONENBIT...	12	BELL	$e^+ e^- \to \Upsilon(4S)$
−1.80±0.70±0.16	AUBERT	09C	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−1.83±1.04±0.23	AUBERT	07BO	BABR	Repl. by AUBERT 09C
−1.75±1.78±0.22	[2] AUBERT,BE	05A	BABR	Repl. by AUBERT 07BO

[1] KRONENBITTER 12 reported $S_- = 1.52 \pm 0.62 \pm 0.12$. A minus sign results from a different convention, see AUBERT 09C.

NODE=S042SD-;LINKAGE=A

[2] AUBERT,BE 05A reports a CP-odd fraction $R_\perp = 0.125 \pm 0.044 \pm 0.007$.

NODE=S042SD-;LINKAGE=AU

C ($B^0 \to D^*(2010)^+ D^*(2010)^- K^0_S$)

NODE=S042CDS
NODE=S042CDS

VALUE	DOCUMENT ID		TECN	COMMENT
0.01±0.28±0.09	[1] DALSENO	07	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Reports value of A which is equal to $-C$.

NODE=S042CDS;LINKAGE=AC

S ($B^0 \to D^*(2010)^+ D^*(2010)^- K^0_S$)

NODE=S042SDS
NODE=S042SDS

VALUE	DOCUMENT ID		TECN	COMMENT
$0.06^{+0.45}_{-0.44}\pm0.06$	[1] DALSENO	07	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] This value includes an unknown CP dilution factor D due to possible contributions from intermediate resonances and different partial waves.

NODE=S042SDS;LINKAGE=DA

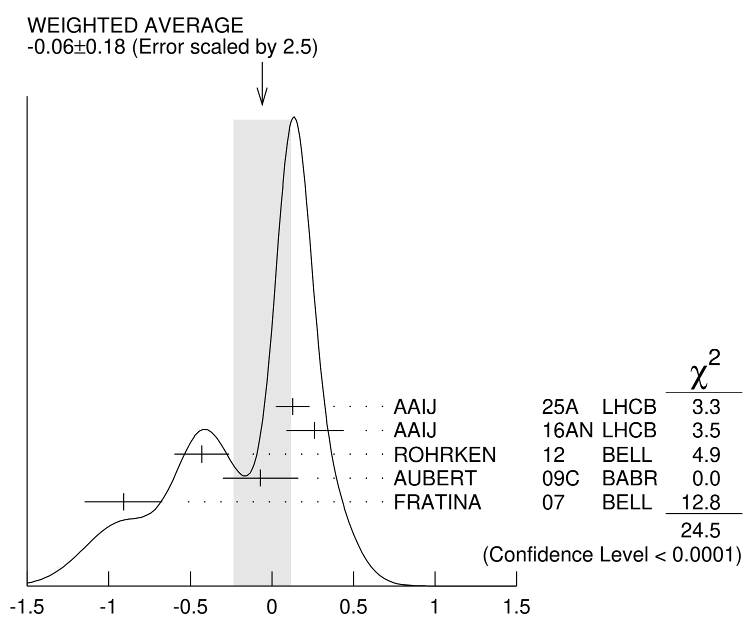
$C_{D^+ D^-}$ ($B^0 \to D^+ D^-$)

NODE=S042CPD
NODE=S042CPD

VALUE	DOCUMENT ID		TECN	COMMENT
−0.06 ±0.18 OUR AVERAGE Error includes scale factor of 2.5. See the ideogram below.				
0.128±0.103±0.010	AAIJ	25A	LHCB	pp at 13 TeV
$0.26\ ^{+0.18}_{-0.17}\ \pm0.02$	AAIJ	16AN	LHCB	pp at 7, 8 TeV
−0.43 ±0.16 ±0.05	ROHRKEN	12	BELL	$e^+ e^- \to \Upsilon(4S)$
−0.07 ±0.23 ±0.03	AUBERT	09C	BABR	$e^+ e^- \to \Upsilon(4S)$
−0.91 ±0.23 ±0.06	[1] FRATINA	07	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.11 ±0.22 ±0.07	AUBERT	07AI	BABR	Repl. by AUBERT 09C
0.11 ±0.35 ±0.06	AUBERT,B	05Z	BABR	Repl. by AUBERT 07AI

[1] The paper reports A, which is equal to $-C$.

NODE=S042CPD;LINKAGE=BL



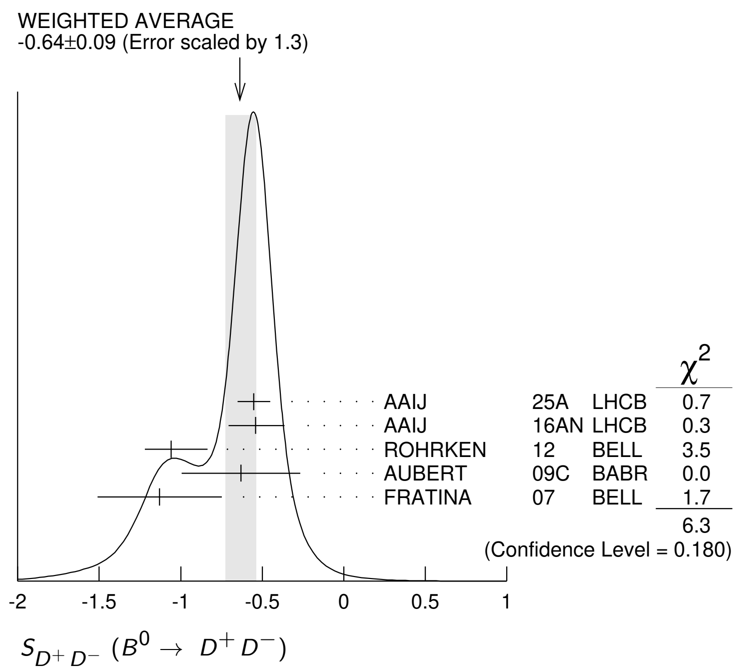
$C_{D^+ D^-}$ ($B^0 \to D^+ D^-$)

$S_{D^+D^-}$ ($B^0 \to D^+ D^-$)

NODE=S042SPD
NODE=S042SPD

−0.64 ±0.09 OUR AVERAGE Error includes scale factor of 1.3. See the ideogram below.

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.552 \pm 0.100 \pm 0.010$	AAIJ	25A	LHCB	pp at 13 TeV
$-0.54\ ^{+0.17}_{-0.16}\ \pm 0.05$	AAIJ	16AN	LHCB	pp at 7, 8 TeV
$-1.06\ ^{+0.21}_{-0.14}\ \pm 0.08$	ROHRKEN	12	BELL	$e^+ e^- \to \Upsilon(4S)$
$-0.63 \pm 0.36 \pm 0.05$	AUBERT	09C	BABR	$e^+ e^- \to \Upsilon(4S)$
$-1.13 \pm 0.37 \pm 0.09$	FRATINA	07	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.54 \pm 0.34 \pm 0.06$	AUBERT	07AI	BABR	Repl. by AUBERT 09C
$-0.29 \pm 0.63 \pm 0.06$	AUBERT,B	05Z	BABR	Repl. by AUBERT 07AI



$C_{J/\psi(1S)\pi^0}$ ($B^0 \to J/\psi(1S)\pi^0$)

NODE=S042CPL
NODE=S042CPL

0.07±0.09 OUR AVERAGE Error includes scale factor of 1.1. [0.03 ± 0.17 OUR 2025 AVERAGE Scale factor = 1.5]

NEW

VALUE	DOCUMENT ID		TECN	COMMENT
$0.13 \pm 0.12 \pm 0.03$	ADACHI	25C	BELL	$e^+ e^- \to \Upsilon(4S)$
$0.15 \pm 0.14\ ^{+0.04}_{-0.03}$	[1] PAL	18	BELL	$e^+ e^- \to \Upsilon(4S)$
$-0.20 \pm 0.19 \pm 0.03$	AUBERT	08AU	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.08 \pm 0.16 \pm 0.05$	[1] LEE	08A	BELL	Repl. by PAL 18
$-0.21 \pm 0.26 \pm 0.06$	AUBERT,B	06B	BABR	Repl. by AUBERT 08AU
$0.01 \pm 0.29 \pm 0.03$	[1] KATAOKA	04	BELL	Repl. by LEE 08A
$0.38 \pm 0.41 \pm 0.09$	AUBERT	03N	BABR	Repl. by AUBERT,B 06B

[1] BELLE Collab. quotes $A_{J/\psi\pi^0}$ which is equal to $-C_{J/\psi\pi^0}$.

NODE=S042CPL;LINKAGE=KA

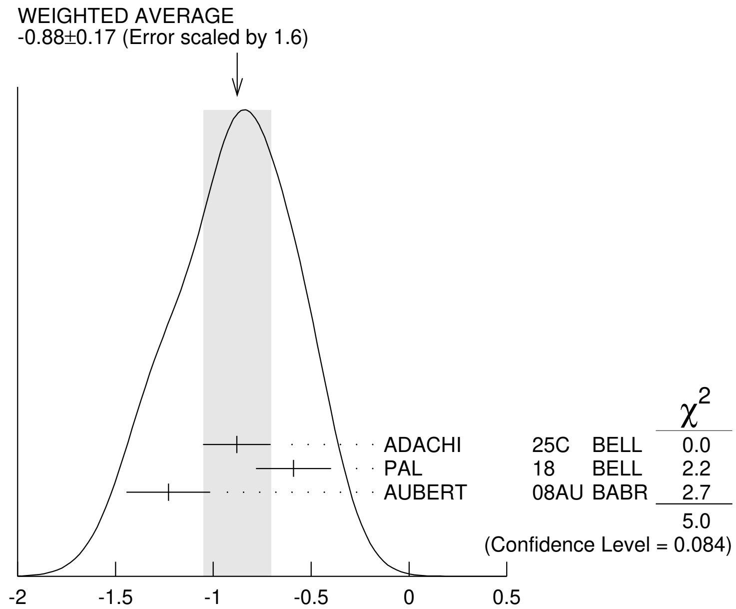
$S_{J/\psi(1S)\pi^0}$ ($B^0 \to J/\psi(1S)\pi^0$)

NODE=S042SPL
NODE=S042SPL

−0.88±0.17 OUR AVERAGE Error includes scale factor of 1.6. See the ideogram below. [−0.88 ± 0.32 OUR 2025 AVERAGE Scale factor = 2.2]

NEW

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.88 \pm 0.17 \pm 0.03$	ADACHI	25C	BELL	pp at 7, 8, 13 TeV
$-0.59 \pm 0.19 \pm 0.03$	PAL	18	BELL	$e^+ e^- \to \Upsilon(4S)$
$-1.23 \pm 0.21 \pm 0.04$	AUBERT	08AU	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.65 \pm 0.21 \pm 0.05$	LEE	08A	BELL	Repl. by PAL 18
$-0.68 \pm 0.30 \pm 0.04$	AUBERT,B	06B	BABR	Repl. by AUBERT 08AU
$-0.72 \pm 0.42 \pm 0.09$	KATAOKA	04	BELL	Repl. by LEE 08A
$0.05 \pm 0.49 \pm 0.16$	AUBERT	03N	BABR	Repl. by AUBERT,B 06B



$S_{J/\psi(1S)\pi^0}$ ($B^0 \rightarrow J/\psi(1S)\pi^0$)

$C(B^0 \rightarrow J/\psi(1S)\rho^0)$

NODE=S042CPR

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{-0.063 \pm 0.056^{+0.019}_{-0.014}}$	[1] AAIJ	15J	LHCB	pp at 7, 8 TeV

[1] Time-dependent CP violation is measured in the $B^0 \rightarrow J/\psi\rho^0$ and was used to limit the size of penguin amplitude contributions to ϕ_s in $B^0_s \rightarrow J/\psi\phi$ decays to be between $[-1.05^\circ, 1.18^\circ]$ at 95% confidence level. NODE=S042CPR;LINKAGE=AA

$S(B^0 \rightarrow J/\psi(1S)\rho^0)$

NODE=S042SPR

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{-0.66^{+0.13}_{-0.12}{}^{+0.09}_{-0.03}}$	[1] AAIJ	15J	LHCB	pp at 7, 8 TeV

[1] Time-dependent CP violation is measured in the $B^0 \rightarrow J/\psi\rho^0$ and was used to limit the size of penguin amplitude contributions to ϕ_s in $B^0_s \rightarrow J/\psi\phi$ decays to be between $[-1.05^\circ, 1.18^\circ]$ at 95% confidence level. NODE=S042SPR;LINKAGE=AA

$C_{D^{(*)}_{CP}h^0}$ ($B^0 \rightarrow D^{(*)}_{CP}h^0$)

NODE=S042CDH

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{-0.02 \pm 0.07 \pm 0.03}$	[1] ABDESSALAM	15		$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.23 \pm 0.16 \pm 0.04$	AUBERT	07AJ	BABR	Repl. by ABDESSALAM 15

[1] BABAR and BELLE combined analysis uses CP-eigenstate decay modes $D^0 \rightarrow K^+K^-$, $K^0_S\pi^0$, $K^0_S\omega$, and $h^0 = \pi^0$, η, ω. NODE=S042CDH;LINKAGE=A

$S_{D^{(*)}_{CP}h^0}$ ($B^0 \rightarrow D^{(*)}_{CP}h^0$)

NODE=S042SDH

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{-0.66 \pm 0.10 \pm 0.06}$	[1] ABDESSALAM	15		$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.56 \pm 0.23 \pm 0.05$	AUBERT	07AJ	BABR	Repl. by ABDESSALAM 15

[1] BABAR and BELLE combined analysis uses CP-eigenstate decay modes $D^0 \rightarrow K^+K^-$, $K^0_S\pi^0$, $K^0_S\omega$, and $h^0 = \pi^0$, η, ω. NODE=S042SDH;LINKAGE=A

$C_{K^0\pi^0}$ ($B^0 \rightarrow K^0\pi^0$)

NODE=S042CKP

VALUE	DOCUMENT ID		TECN	COMMENT
0.00±0.08 OUR AVERAGE				
$-0.01 \pm 0.12 \pm 0.04$	[1] ADACHI	24	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$-0.14 \pm 0.13 \pm 0.06$	[2] FUJIKAWA	10A	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$0.13 \pm 0.13 \pm 0.03$	AUBERT	09I	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

OCCUR=2

• • • We do not use the following data for averages, fits, limits, etc. • • •

$-0.06\pm0.15\pm0.04$	[3] ADACHI	24	BELL	$e^+e^- \to \Upsilon(4S)$
$-0.04^{+0.14}_{-0.15}\pm0.05$	[4] ADACHI	23E	BELL	$e^+e^- \to \Upsilon(4S)$
$0.24\pm0.15\pm0.03$	AUBERT	08E	BABR	Repl. by AUBERT 09I
$0.05\pm0.14\pm0.05$	[2] CHAO	07	BELL	Repl. by FUJIKAWA 10A
$0.06\pm0.18\pm0.03$	AUBERT	05Y	BABR	Repl. by AUBERT 08E
$-0.16\pm0.29\pm0.05$	[2,5] CHAO	05A	BELL	Repl. by CHEN 05B
$0.11\pm0.20\pm0.09$	[2] CHEN	05B	BELL	Repl. by CHAO 07
$-0.03\pm0.36\pm0.11$	[2] AUBERT	04M	BABR	Repl. by AUBERT,B 04M
$0.40^{+0.27}_{-0.28}\pm0.09$	[6] AUBERT,B	04M	BABR	Repl. by AUBERT 05Y

[1] This is the combined result of this analysis (ADACHI 24) and ADACHI 23E. NODE=S042CKP;LINKAGE=C

[2] Reports A which is equal to $-C$. NODE=S042CKP;LINKAGE=A

[3] The measurement is using BELL II data reported in ADACHI 24. The combination with ADACHI 23E is also reported. NODE=S042CKP;LINKAGE=B

[4] The result has been combined with ADACHI 24. NODE=S042CKP;LINKAGE=D

[5] Corresponds to a 90% CL interval of $-0.33 < A_{CP} < 0.64$. NODE=S042CKP;LINKAGE=CO

[6] Based on a total signal yield of 122 ± 16 events. NODE=S042CKP;LINKAGE=AU

$S_{K^0\pi^0}$ ($B^0 \to K^0\pi^0$)

NODE=S042SKP
NODE=S042SKP

VALUE	DOCUMENT ID		TECN	COMMENT
0.64±0.13 OUR AVERAGE				
$0.75^{+0.20}_{-0.23}\pm0.04$	ADACHI	23E	BELL	$e^+e^- \to \Upsilon(4S)$
$0.67\pm0.31\pm0.08$	FUJIKAWA	10A	BELL	$e^+e^- \to \Upsilon(4S)$
$0.55\pm0.20\pm0.03$	AUBERT	09I	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.40\pm0.23\pm0.03$	AUBERT	08E	BABR	Repl. by AUBERT 09I
$0.33\pm0.35\pm0.08$	CHAO	07	BELL	Repl. by FUJIKAWA 10A
$0.35^{+0.30}_{-0.33}\pm0.04$	AUBERT	05Y	BABR	Repl. by AUBERT 08E
$0.32\pm0.61\pm0.13$	CHEN	05B	BELL	Repl. by CHAO 07
$0.48^{+0.38}_{-0.47}\pm0.06$	[1] AUBERT,B	04M	BABR	Repl. by AUBERT 05Y

[1] Based on a total signal yield of 122 ± 16 events. NODE=S042SKP;LINKAGE=AU

$C_{\eta'(958)K^0_S}$ ($B^0 \to \eta'(958)K^0_S$)

NODE=S042Y1

See updated measurements in $C_{\eta' K^0}$

NODE=S042Y1
NODE=S042Y1

VALUE	DOCUMENT ID		TECN	COMMENT
−0.04±0.20 OUR AVERAGE Error includes scale factor of 2.5.				
$-0.21\pm0.10\pm0.02$	AUBERT	05M	BABR	$e^+e^- \to \Upsilon(4S)$
$0.19\pm0.11\pm0.05$	[1] CHEN	05B	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.26\pm0.22\pm0.03$	[1] ABE	03C	BELL	Repl. by ABE 03H
$0.01\pm0.16\pm0.04$	[1] ABE	03H	BELL	Repl. by CHEN 05B
$0.10\pm0.22\pm0.04$	AUBERT	03W	BABR	Repl. by AUBERT 05M
$-0.13\pm0.32^{+0.06}_{-0.09}$	[1] CHEN	02B	BELL	Repl. by ABE 03C

[1] BELLE Collab. quotes $A_{\eta'(958)K^0_S}$ which is equal to $-C_{\eta'(958)K^0_S}$. NODE=S042Y1;LINKAGE=A

$S_{\eta'(958)K^0_S}$ ($B^0 \to \eta'(958)K^0_S$)

NODE=S042Y2

See updated measurements in $S_{\eta' K^0}$

NODE=S042Y2
NODE=S042Y2

VALUE	DOCUMENT ID		TECN	COMMENT
0.43±0.17 OUR AVERAGE Error includes scale factor of 1.5.				
$0.30\pm0.14\pm0.02$	AUBERT	05M	BABR	$e^+e^- \to \Upsilon(4S)$
$0.65\pm0.18\pm0.04$	CHEN	05B	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.71\pm0.37^{+0.05}_{-0.06}$	ABE	03C	BELL	Repl. by ABE 03H
$0.43\pm0.27\pm0.05$	ABE	03H	BELL	Repl. by CHEN 05B
$0.02\pm0.34\pm0.03$	AUBERT	03W	BABR	Repl. by AUBERT 05M
$0.28\pm0.55^{+0.07}_{-0.08}$	CHEN	02B	BELL	Repl. by ABE 03C

$C_{\eta' K^0}$ ($B^0 \to \eta' K^0$)

NODE=S042CEK

VALUE	DOCUMENT ID	TECN	COMMENT
-0.08 ± 0.04 OUR AVERAGE	Error includes scale factor of 1.1.		
$-0.19 \pm 0.08 \pm 0.03$	[1] ADACHI 24P	BEL2	$e^+ e^- \to \Upsilon(4S)$
$-0.03 \pm 0.05 \pm 0.04$	[2] SANTELJ 14	BELL	$e^+ e^- \to \Upsilon(4S)$
$-0.08 \pm 0.06 \pm 0.02$	AUBERT 09I	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$-0.16 \pm 0.07 \pm 0.03$	[3] AUBERT 07A	BABR	Repl. by AUBERT 09I
$0.01 \pm 0.07 \pm 0.05$	[2,3] CHEN 07	BELL	Repl. by SANTELJ 14

[1] Asymmetries are measured using $B^0 \to \eta' K^0_S$ decays, with $\eta' \to \eta(\to \gamma\gamma)\pi^+\pi^-$ and $\eta' \to \rho(\to \pi^+\pi^-)\gamma$. NODE=S042CEK;LINKAGE=A

[2] The paper reports A, which is equal to $-C$. NODE=S042CEK;LINKAGE=CH

[3] The mixing-induced CP violation is reported with a significance of more than 5 standard deviations in this $b \to s$ penguin dominated mode. NODE=S042CEK;LINKAGE=AU

$S_{\eta' K^0}$ ($B^0 \to \eta' K^0$)

NODE=S042SEK

VALUE	DOCUMENT ID	TECN	COMMENT
0.64 ± 0.05 OUR AVERAGE			
$0.67 \pm 0.10 \pm 0.03$	[1] ADACHI 24P	BEL2	$e^+ e^- \to \Upsilon(4S)$
$0.68 \pm 0.07 \pm 0.03$	SANTELJ 14	BELL	$e^+ e^- \to \Upsilon(4S)$
$0.57 \pm 0.08 \pm 0.02$	AUBERT 09I	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.58 \pm 0.10 \pm 0.03$	[2] AUBERT 07A	BABR	Repl. by AUBERT 09I
$0.64 \pm 0.10 \pm 0.04$	[2] CHEN 07	BELL	Repl. by SANTELJ 14

[1] Asymmetries are measured using $B^0 \to \eta' K^0_S$ decays, with $\eta' \to \eta(\to \gamma\gamma)\pi^+\pi^-$ and $\eta' \to \rho(\to \pi^+\pi^-)\gamma$. NODE=S042SEK;LINKAGE=A

[2] The mixing-induced CP violation is reported with a significance of more than 5 standard deviations in this $b \to s$ penguin dominated mode. NODE=S042SEK;LINKAGE=AU

$C_{\omega K^0_S}$ ($B^0 \to \omega K^0_S$)

NODE=S042CW1

VALUE	DOCUMENT ID	TECN	COMMENT
0.0 ± 0.4 OUR AVERAGE	Error includes scale factor of 3.0.		
$0.36 \pm 0.19 \pm 0.05$	[1] CHOBANOVA 14	BELL	$e^+ e^- \to \Upsilon(4S)$
$-0.52^{+0.22}_{-0.20} \pm 0.03$	AUBERT 09I	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.09 \pm 0.29 \pm 0.06$	[1] CHAO 07	BELL	Repl. by CHOBANOVA 14
$-0.55^{+0.28}_{-0.26} \pm 0.03$	AUBERT,B 06E	BABR	Repl. by AUBERT 09I
$-0.27 \pm 0.48 \pm 0.15$	[1] CHEN 05B	BELL	Repl. by CHAO 07

[1] Belle Collab. quotes $A_{\omega K^0_S}$ which is equal to $-C_{\omega K^0_S}$. NODE=S042CW1;LINKAGE=BA

$S_{\omega K^0_S}$ ($B^0 \to \omega K^0_S$)

NODE=S042SW1

VALUE	DOCUMENT ID	TECN	COMMENT
0.70 ± 0.21 OUR AVERAGE			
$0.91 \pm 0.32 \pm 0.05$	CHOBANOVA 14	BELL	$e^+ e^- \to \Upsilon(4S)$
$0.55^{+0.26}_{-0.29} \pm 0.02$	AUBERT 09I	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.11 \pm 0.46 \pm 0.07$	CHAO 07	BELL	Repl. by CHOBANOVA 14
$0.51^{+0.35}_{-0.39} \pm 0.02$	AUBERT,B 06E	BABR	Repl. by AUBERT 09I
$0.76 \pm 0.65^{+0.13}_{-0.16}$	CHEN 05B	BELL	Repl. by CHAO 07

C ($B^0 \to K^0_S \pi^0 \pi^0$)

NODE=S042CK2

VALUE	DOCUMENT ID	TECN	COMMENT
-0.21 ± 0.20 OUR AVERAGE			
$-0.28 \pm 0.21 \pm 0.04$	[1] YUSA 19	BELL	$e^+ e^- \to \Upsilon(4S)$
$0.23 \pm 0.52 \pm 0.13$	AUBERT 07AQ	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Reports value of A which is equal to $-C$. NODE=S042CK2;LINKAGE=A

$S(B^0 \to K^0_S \pi^0 \pi^0)$

NODE=S042SK2

VALUE	DOCUMENT ID	TECN	COMMENT
$\mathbf{0.89^{+0.27}_{-0.30}}$ **OUR AVERAGE**			
$0.92^{+0.27}_{-0.31}\pm0.11$	YUSA 19	BELL	$e^+e^- \to \Upsilon(4S)$
$0.72\pm0.71\pm0.08$	AUBERT 07AQ	BABR	$e^+e^- \to \Upsilon(4S)$

NODE=S042SK2

$C_{\rho^0 K^0_S}(B^0 \to \rho^0 K^0_S)$

NODE=S042CX7

VALUE	DOCUMENT ID	TECN	COMMENT
$\mathbf{-0.04\pm0.20}$ **OUR AVERAGE**			
$-0.05\pm0.26\pm0.10$	[1] AUBERT 09AU	BABR	$e^+e^- \to \Upsilon(4S)$
$-0.03^{+0.24}_{-0.23}\pm0.15$	[2,3] DALSENO 09	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.64\pm0.41\pm0.20$	AUBERT 07F	BABR	Repl. by AUBERT 09AU

NODE=S042CX7

[1] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two equivalent solutions is used. NODE=S042CX7;LINKAGE=AU

[2] Quotes $A_{\rho^0 K^0_S}$ which is equal to $-C_{\rho^0 K^0_S}$. NODE=S042CX7;LINKAGE=BA

[3] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two consistent solutions that may be preferred. NODE=S042CX7;LINKAGE=DL

$S_{\rho^0 K^0_S}(B^0 \to \rho^0 K^0_S)$

NODE=S042SX7

VALUE	DOCUMENT ID	TECN	COMMENT
$\mathbf{0.50^{+0.17}_{-0.21}}$ **OUR AVERAGE**			
$0.35^{+0.26}_{-0.31}\pm0.07$	[1] AUBERT 09AU	BABR	$e^+e^- \to \Upsilon(4S)$
$0.64^{+0.19}_{-0.25}\pm0.13$	[2] DALSENO 09	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.20\pm0.52\pm0.24$	AUBERT 07F	BABR	Repl. by AUBERT 09AU

NODE=S042SX7

[1] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two equivalent solutions is used. NODE=S042SX7;LINKAGE=AU

[2] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two consistent solutions that may be preferred. NODE=S042SX7;LINKAGE=DL

$C_{f_0(980) K^0_S}(B^0 \to f_0(980) K^0_S)$

NODE=S042CF1

VALUE	DOCUMENT ID	TECN	COMMENT
$\mathbf{0.29\pm0.20}$ **OUR AVERAGE**			
$0.28\pm0.24\pm0.09$	[1] LEES 12O	BABR	$e^+e^- \to \Upsilon(4S)$
$0.30\pm0.29\pm0.14$	[2,3] NAKAHAMA 10	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.08\pm0.19\pm0.05$	[4] AUBERT 09AU	BABR	Repl. by LEES 12O
$0.06\pm0.17\pm0.11$	[2,5] DALSENO 09	BELL	Repl. by NAKAHAMA 10
$-0.41\pm0.23\pm0.07$	[2] AUBERT 07AX	BABR	Repl. by AUBERT 09AU
$0.15\pm0.15\pm0.07$	[2] CHAO 07	BELL	Repl. by DALSENO 09
$0.39\pm0.27\pm0.09$	[2] CHEN 05B	BELL	Repl. by CHAO 07

NODE=S042CF1

[1] Uses Dalitz plot analysis of the $B^0 \to K^0_S K^+ K^-$ decay. NODE=S042CF1;LINKAGE=LA

[2] Quotes $A_{f_0(980) K^0_S}$ which is equal to $-C_{f_0(980) K^0_S}$. NODE=S042CF1;LINKAGE=BA

[3] Uses Dalitz plot analysis of $B^0 \to K^0_S K^+ K^-$ decays and the first of four consistent solutions that may be preferred. NODE=S042CF1;LINKAGE=NA

[4] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two equivalent solutions is used. NODE=S042CF1;LINKAGE=AU

[5] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two consistent solutions that may be preferred. NODE=S042CF1;LINKAGE=DL

$S_{f_0(980) K^0_S}(B^0 \to f_0(980) K^0_S)$

NODE=S042SF1

VALUE	DOCUMENT ID	TECN	COMMENT
$\mathbf{-0.50\pm0.16}$ **OUR AVERAGE**			
$-0.55\pm0.18\pm0.12$	[1] LEES 12O	BABR	$e^+e^- \to \Upsilon(4S)$
$-0.43^{+0.22}_{-0.20}\pm0.14$	[2] DALSENO 09	BELL	$e^+e^- \to \Upsilon(4S)$

NODE=S042SF1

• • • We do not use the following data for averages, fits, limits, etc. • • •

$-0.96^{+0.21}_{-0.04}\pm0.04$	[3] AUBERT	09AU	BABR	Repl. by LEES 12O
$-0.25\pm0.26\pm0.10$	[4] AUBERT	07AX	BABR	Repl. by AUBERT 09AU
$0.18\pm0.23\pm0.11$	CHAO	07	BELL	Repl. by DALSENO 09
$0.47\pm0.41\pm0.08$	CHEN	05B	BELL	Repl. by CHAO 07

[1] Uses Dalitz plot analysis of the $B^0 \to K^0_S K^+ K^-$ decay. NODE=S042SF1;LINKAGE=LA

[2] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two consistent solutions that may be preferred. NODE=S042SF1;LINKAGE=DL

[3] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two equivalent solutions is used. NODE=S042SF1;LINKAGE=AU

[4] Reports β_{eff}. We quote S obtained from epaps: E-PRLTAO-99-076741. NODE=S042SF1;LINKAGE=AX

$S_{f_2(1270)K^0_S}$ ($B^0 \to f_2(1270)K^0_S$)

NODE=S042SF2
NODE=S042SF2

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.48\pm0.52\pm0.12$	[1] AUBERT	09AU	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two equivalent solutions is used. NODE=S042SF2;LINKAGE=AU

$C_{f_2(1270)K^0_S}$ ($B^0 \to f_2(1270)K^0_S$)

NODE=S042CF2
NODE=S042CF2

VALUE	DOCUMENT ID		TECN	COMMENT
$0.28^{+0.35}_{-0.40}\pm0.11$	[1] AUBERT	09AU	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two equivalent solutions is used. NODE=S042CF2;LINKAGE=AU

$S_{f_x(1300)K^0_S}$ ($B^0 \to f_x(1300)K^0_S$)

NODE=S042SF3
NODE=S042SF3

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.20\pm0.52\pm0.10$	[1] AUBERT	09AU	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two equivalent solutions is used. NODE=S042SF3;LINKAGE=AU

$C_{f_x(1300)K^0_S}$ ($B^0 \to f_x(1300)K^0_S$)

NODE=S042CF3
NODE=S042CF3

VALUE	DOCUMENT ID		TECN	COMMENT
$0.13^{+0.33}_{-0.35}\pm0.10$	[1] AUBERT	09AU	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two equivalent solutions is used. NODE=S042CF3;LINKAGE=AU

$S_{K^0\pi^+\pi^-}$ ($B^0 \to K^0\pi^+\pi^-$ nonresonant)

NODE=S042SF4
NODE=S042SF4

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.01\pm0.31\pm0.10$	[1] AUBERT	09AU	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two equivalent solutions is used. NODE=S042SF4;LINKAGE=AU

$C_{K^0\pi^+\pi^-}$ ($B^0 \to K^0\pi^+\pi^-$ nonresonant)

NODE=S042CF4
NODE=S042CF4

VALUE	DOCUMENT ID		TECN	COMMENT
$0.01\pm0.25\pm0.08$	[1] AUBERT	09AU	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two equivalent solutions is used. NODE=S042CF4;LINKAGE=AU

$C_{K^0_S K^0_S}$ ($B^0 \to K^0_S K^0_S$)

NODE=S042CKS
NODE=S042CKS

VALUE	DOCUMENT ID		TECN	COMMENT
0.0 ± 0.4 OUR AVERAGE	Error includes scale factor of 1.4.			
$0.38\pm0.38\pm0.05$	[1] NAKAHAMA	08	BELL	$e^+e^- \to \Upsilon(4S)$
$-0.40\pm0.41\pm0.06$	AUBERT,BE	06C	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Reports $A_{K^0_S K^0_S}$ which equals to $-C_{K^0_S K^0_S}$. NODE=S042CKS;LINKAGE=NA

$S_{K^0_S K^0_S}$ ($B^0 \to K^0_S K^0_S$)

NODE=S042SKS
NODE=S042SKS

VALUE	DOCUMENT ID		TECN	COMMENT
-0.8 ± 0.5 OUR AVERAGE				
$-0.38^{+0.69}_{-0.77}\pm0.09$	NAKAHAMA	08	BELL	$e^+e^- \to \Upsilon(4S)$
$-1.28^{+0.80}_{-0.73}{}^{+0.11}_{-0.16}$	AUBERT,BE	06C	BABR	$e^+e^- \to \Upsilon(4S)$

$C_{K^+K^-K^0_S}$ ($B^0 \to K^+K^-K^0_S$ nonresonant)

NODE=S042CX2

VALUE		DOCUMENT ID		TECN	COMMENT
0.06 ±0.08 OUR AVERAGE					
0.02 ±0.09 ±0.03	[1,2]	LEES	12O	BABR	$e^+e^- \to \Upsilon(4S)$
0.14 ±0.11 ±0.09	[3,4]	NAKAHAMA	10	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.054±0.102±0.060	[3,5]	AUBERT	07AX	BABR	Repl. by LEES 12O
0.09 ±0.10 ±0.05	[3,5]	CHAO	07	BELL	Repl. by NAKAHAMA 10
0.10 ±0.14 ±0.04	[5]	AUBERT	05T	BABR	Repl. by AUBERT 07AX
0.09 ±0.12 ±0.07	[3]	CHEN	05B	BELL	Repl. by CHAO 07
−0.10 ±0.19 ±0.10	[5]	AUBERT,B	04V	BABR	Repl. by AUBERT 05T
0.40 ±0.33 $^{+0.28}_{-0.10}$	[3]	ABE	03C	BELL	Repl. by ABE 03H
0.17 ±0.16 ±0.04	[3,5]	ABE	03H	BELL	Repl. by CHEN 05B

[1] Uses Dalitz plot analysis of the $B^0 \to K^0_S K^+ K^-$ decay. NODE=S042CX2;LINKAGE=LA

[2] This measurement is performed on all the isobar components, excluding ϕK^0_S and $f_0(980) K^0_S$. NODE=S042CX2;LINKAGE=LB

[3] Quotes $A_{K^+K^-K^0_S}$ which is equal to $-C_{K^+K^-K^0_S}$. NODE=S042CX2;LINKAGE=A

[4] Uses Dalitz plot analysis of $B^0 \to K^0_S K^+ K^-$ decays and the first of four consistent solutions that may be preferred. NODE=S042CX2;LINKAGE=NA

[5] Excludes the events from $B^0 \to \phi K^0_S$ decay. The results are derived from a combined sample of $K^+K^-K^0_S$ and $K^+K^-K^0_L$ decays. NODE=S042CX2;LINKAGE=AB

$S_{K^+K^-K^0_S}$ ($B^0 \to K^+K^-K^0_S$ nonresonant)

NODE=S042SX2

VALUE		DOCUMENT ID		TECN	COMMENT
−0.66 ±0.11 OUR AVERAGE					
−0.65 ±0.12 ±0.03	[1,2]	LEES	12O	BABR	$e^+e^- \to \Upsilon(4S)$
−0.68 ±0.15 $^{+0.21}_{-0.13}$	[3]	CHAO	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
−0.764±0.111$^{+0.071}_{-0.040}$	[3,4]	AUBERT	07AX	BABR	Repl. by LEES 12O
−0.42 ±0.17 ±0.03	[3,5]	AUBERT	05T	BABR	Repl. by AUBERT 07AX
−0.49 ±0.18 ±0.04		CHEN	05B	BELL	Repl. by CHAO 07
−0.56 ±0.25 ±0.04	[3,6]	AUBERT,B	04V	BABR	Repl. by AUBERT 05T
−0.49 ±0.43 ±0.11		ABE	03C	BELL	Repl. by ABE 03H
−0.51 ±0.26 ±0.05	[3,7]	ABE	03H	BELL	Repl. by CHEN 05B

[1] Uses Dalitz plot analysis of the $B^0 \to K^0_S K^+ K^-$ decay. NODE=S042SX2;LINKAGE=LA

[2] This measurement is performed on all the isobar components, excluding ϕK^0_S and $f_0(980) K^0_S$. Note that the nonresonant component is not a CP eigenstate. NODE=S042SX2;LINKAGE=LB

[3] Excludes events from $B^0 \to \phi K^0_S$ decay. The results are derived from a combined sample of $K^+K^-K^0_S$ and $K^+K^-K^0_L$ decays. NODE=S042SX2;LINKAGE=AA

[4] Reports β_{eff}. We quote S obtained from epaps: E-PRLTAO-99-076741. NODE=S042SX2;LINKAGE=AX

[5] The measured CP-even final states fraction is 0.89 ± 0.08 ± 0.06. NODE=S042SX2;LINKAGE=AE

[6] The measured CP-even final states fraction is 0.98 ± 0.15 ± 0.04. NODE=S042SX2;LINKAGE=AU

[7] The measured CP-even final states fraction is 1.03 ± 0.15 ± 0.05. NODE=S042SX2;LINKAGE=AB

$C_{K^+K^-K^0_S}$ ($B^0 \to K^+K^-K^0_S$ inclusive)

NODE=S042CKK

VALUE		DOCUMENT ID		TECN	COMMENT
0.015±0.077±0.053	[1,2]	AUBERT	07AX	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Measured using full Dalitz plot fit including ϕ component. NODE=S042CKK;LINKAGE=AB

[2] The results are derived from a combined sample of $K^+K^-K^0_S$ and $K^+K^-K^0_L$ decays. NODE=S042CKK;LINKAGE=AU

$S_{K^+K^-K^0_S}$ ($B^0 \to K^+K^-K^0_S$ inclusive)

NODE=S042SKK

VALUE		DOCUMENT ID		TECN	COMMENT
−0.647±0.116±0.040	[1]	AUBERT	07AX	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Measured using full Dalitz plot fit including ϕ component. NODE=S042SKK;LINKAGE=AU

$C_{\phi K^0_S}$ ($B^0 \rightarrow \phi K^0_S$)

NODE=S042CX1
NODE=S042CX1

VALUE		DOCUMENT ID		TECN	COMMENT
−0.09±0.12 OUR AVERAGE					
−0.31±0.20±0.05		ADACHI	23I	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
0.05±0.18±0.05	1	LEES	12O	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
−0.04±0.20±0.10	2,3	NAKAHAMA	10	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.08±0.18±0.04	2,4	AUBERT	07AX	BABR	Repl. by LEES 12O
−0.07±0.15±0.05	2,4	CHEN	07	BELL	Repl. by NAKAHAMA 10
0.00±0.23±0.05	4	AUBERT	05T	BABR	Repl. by AUBERT 07AX
−0.08±0.22±0.09	2,4	CHEN	05B	BELL	Repl. by CHEN 07
0.01±0.33±0.10	4	AUBERT,B	04G	BABR	Repl. by AUBERT 05T
0.56±0.41±0.16	2	ABE	03C	BELL	Repl. by ABE 03H
0.15±0.29±0.07	2	ABE	03H	BELL	Repl. by CHEN 05B

[1] Uses Dalitz plot analysis of the $B^0 \rightarrow K^0_S K^+ K^-$ decay. NODE=S042CX1;LINKAGE=LA

[2] Quotes $A_{\phi K^0_S}$ which is equal to $-C_{\phi K^0_S}$. NODE=S042CX1;LINKAGE=A

[3] Uses Dalitz plot analysis of $B^0 \rightarrow K^0_S K^+ K^-$ decays and the first of four consistent solutions that may be preferred. NODE=S042CX1;LINKAGE=NA

[4] Result combines B-meson final states ϕK^0_S and ϕK^0_L by assuming $S_{\phi K^0_S} = -S_{\phi K^0_L}$ NODE=S042CX1;LINKAGE=AU

$S_{\phi K^0_S}$ ($B^0 \rightarrow \phi K^0_S$)

NODE=S042SX1
NODE=S042SX1

VALUE		DOCUMENT ID		TECN	COMMENT
0.58±0.12 OUR AVERAGE					
$0.54\pm0.26{}^{+0.06}_{-0.08}$		ADACHI	23I	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
0.66±0.17±0.07	1	LEES	12O	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
0.50±0.21±0.06	2	CHEN	07	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.21±0.26±0.11	2,3	AUBERT	07AX	BABR	Repl. by LEES 12O
$0.50\pm0.25{}^{+0.07}_{-0.04}$	2	AUBERT	05T	BABR	Repl. by AUBERT 07AX
0.08±0.33±0.09	2	CHEN	05B	BELL	Repl. by CHEN 07
$0.47\pm0.34{}^{+0.08}_{-0.06}$	2	AUBERT,B	04G	BABR	Repl. by AUBERT 05T
−0.73±0.64±0.22		ABE	03C	BELL	Repl. by ABE 03H
$-0.96\pm0.50{}^{+0.09}_{-0.11}$		ABE	03H	BELL	Repl. by CHEN 05B

[1] Uses Dalitz plot analysis of the $B^0 \rightarrow K^0_S K^+ K^-$ decay. NODE=S042SX1;LINKAGE=LA

[2] Result combines B-meson final states ϕK^0_S and ϕK^0_L by assuming $S_{\phi K^0_S} = -S_{\phi K^0_L}$ NODE=S042SX1;LINKAGE=AU

[3] Reports β_{eff}. We quote S obtained from epaps: E-PRLTAO-99-076741. NODE=S042SX1;LINKAGE=AX

$C_{K_S K_S K_S}$($B^0 \rightarrow K_S K_S K_S$)

NODE=S042CX5
NODE=S042CX5

VALUE	CL%		DOCUMENT ID		TECN	COMMENT
−0.14±0.12 OUR AVERAGE						
−0.12±0.16±0.05		1	KANG	21	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
−0.17±0.18±0.04			LEES	12I	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
[-0.45, 0.32]	95	2	ADACHI	24G	BEL2	$e^+ e^- \rightarrow \Upsilon(4S)$
0.02±0.21±0.05			AUBERT	07AT	BABR	Repl. by LEES 12I
−0.31±0.20±0.07		1	CHEN	07	BELL	Repl. by KANG 21
$-0.34{}^{+0.28}_{-0.25}\pm0.05$			AUBERT,B	05	BABR	Repl. by AUBERT 07AT
−0.54±0.34±0.09		1	SUMISAWA	05	BELL	Repl. by CHEN 07

[1] KANG 21 quotes $A_{K^0_S K^0_S K^0_S}$ which is equal to $-C_{K^0_S K^0_S K^0_S}$. NODE=S042CX5;LINKAGE=BA

[2] The two-dimensional intervals at the 95.5 % CL using 362 fb^{-1} BELL II data. NODE=S042CX5;LINKAGE=B

$S_{K_S K_S K_S}$($B^0 \rightarrow K_S K_S K_S$)

NODE=S042SX5
NODE=S042SX5

VALUE	CL%		DOCUMENT ID		TECN	COMMENT
−0.82±0.17 OUR AVERAGE						
−0.71±0.23±0.05			KANG	21	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
$-0.94{}^{+0.24}_{-0.21}\pm0.06$			LEES	12I	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

[-1, -0.41]	95	[1] ADACHI	24G	BEL2	$e^+ e^- \to \Upsilon(4S)$
$-0.71 \pm 0.24 \pm 0.04$		AUBERT	07AT	BABR	Repl. by LEES 12I
$0.30 \pm 0.32 \pm 0.08$		CHEN	07	BELL	Repl. by KANG 21
$-0.71^{+0.38}_{-0.32} \pm 0.04$		AUBERT,B	05	BABR	Repl. by AUBERT 07AT
$1.26 \pm 0.68 \pm 0.20$		SUMISAWA	05	BELL	Repl. by CHEN 07.

[1] The two-dimensional intervals at the 95.5 % CL using 362 fb^{-1} BELL II data.

NODE=S042SX5;LINKAGE=A

$C_{K^0_S \pi^0 \gamma}(B^0 \to K^0_S \pi^0 \gamma)$

NODE=S042CKG
NODE=S042CKG

VALUE	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$-0.06 \pm 0.25 \pm 0.09$	[1] ADACHI 25	BELL	$e^+ e^- \to \Upsilon(4S)$
$0.36 \pm 0.33 \pm 0.04$	[2] AUBERT 08BA	BABR	$e^+ e^- \to \Upsilon(4S)$
$0.20 \pm 0.20 \pm 0.06$	[3,4] USHIRODA 06	BELL	$e^+ e^- \to \Upsilon(4S)$
$-1.0 \pm 0.5 \pm 0.2$	[2] AUBERT,B 05P	BABR	Repl. by AUBERT 08BA
$-0.03 \pm 0.34 \pm 0.11$	[4] USHIRODA 05	BELL	Repl. by USHIRODA 06

[1] Requires $0.6 < M_{K^0_S \pi^0} < 0.8$ GeV/c^2 or $1.0 < M_{K^0_S \pi^0} < 1.8$ GeV/c^2.

NODE=S042CKG;LINKAGE=A

[2] Requires $1.1 < M_{K^0_S \pi^0} < 1.8$ GeV/c^2.

NODE=S042CKG;LINKAGE=AU

[3] Requires $M_{K^0_S \pi^0} < 1.8$ GeV/c^2.

NODE=S042CKG;LINKAGE=UH

[4] Reports $A_{K^0_S \pi^0 \gamma}$, which is $-C_{K^0_S \pi^0 \gamma}$.

NODE=S042CKG;LINKAGE=US

$S_{K^0_S \pi^0 \gamma}(B^0 \to K^0_S \pi^0 \gamma)$

NODE=S042SKG
NODE=S042SKG

VALUE	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.04^{+0.45}_{-0.44} \pm 0.10$	[1] ADACHI 25	BELL	$e^+ e^- \to \Upsilon(4S)$
$-0.78 \pm 0.59 \pm 0.09$	[2] AUBERT 08BA	BABR	$e^+ e^- \to \Upsilon(4S)$
$-0.10 \pm 0.31 \pm 0.07$	[3] USHIRODA 06	BELL	$e^+ e^- \to \Upsilon(4S)$
$0.9 \pm 1.0 \pm 0.2$	[2] AUBERT,B 05P	BABR	Repl. by AUBERT 08BA
$-0.58^{+0.46}_{-0.38} \pm 0.11$	USHIRODA 05	BELL	Repl. by USHIRODA 06

[1] Requires $0.6 < M_{K^0_S \pi^0} < 0.8$ GeV/c^2 or $1.0 < M_{K^0_S \pi^0} < 1.8$ GeV/c^2.

NODE=S042SKG;LINKAGE=A

[2] Requires $1.1 < M_{K^0_S \pi^0} < 1.8$ GeV/c^2.

NODE=S042SKG;LINKAGE=AU

[3] Requires $M_{K^0_S \pi^0} < 1.8$ GeV/c^2.

NODE=S042SKG;LINKAGE=UH

$C_{K^0_S \pi^+ \pi^- \gamma}(B^0 \to K^0_S \pi^+ \pi^- \gamma)$

NODE=S042CK0
NODE=S042CK0

VALUE	DOCUMENT ID	TECN	COMMENT
$\mathbf{-0.39 \pm 0.20^{+0.03}_{-0.02}}$	[1] DEL-AMO-SA...16	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Requires $M_{K \pi \pi} < 1.8$ GeV/c^2, 0.6 GeV/c^2 $< m_{\pi^+ \pi^-} < 0.9$ GeV/c^2, $m_{K \pi} <$ 0.845 GeV/c^2 or $m_{K \pi} > 0.945$ GeV/c^2.

NODE=S042CK0;LINKAGE=A

$S_{K^0_S \pi^+ \pi^- \gamma}(B^0 \to K^0_S \pi^+ \pi^- \gamma)$

NODE=S042SK0
NODE=S042SK0

VALUE	DOCUMENT ID	TECN	COMMENT
$\mathbf{0.14 \pm 0.25 \pm 0.03}$	[1] DEL-AMO-SA...16	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Requires $M_{K \pi \pi} < 1.8$ GeV/c^2, 0.6 GeV/c^2 $< m_{\pi^+ \pi^-} < 0.9$ GeV/c^2, $m_{K \pi} <$ 0.845 GeV/c^2 or $m_{K \pi} > 0.945$ GeV/c^2.

NODE=S042SK0;LINKAGE=A

$C_{K^*(892)^0 \gamma}$ $(B^0 \to K^*(892)^0 \gamma)$

NODE=S042CX4
NODE=S042CX4

VALUE	DOCUMENT ID	TECN	COMMENT
0.03±0.10 OUR AVERAGE			
$0.10 \pm 0.13 \pm 0.04$	[1] ADACHI 25	BELL	$e^+ e^- \to \Upsilon(4S)$
$-0.14 \pm 0.16 \pm 0.03$	[1] AUBERT 08BA	BABR	$e^+ e^- \to \Upsilon(4S)$
$0.20 \pm 0.24 \pm 0.05$	[1,2] USHIRODA 06	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$-0.40 \pm 0.23 \pm 0.03$	AUBERT,B 05P	BABR	Repl. by AUBERT 08BA
$-0.57 \pm 0.32 \pm 0.09$	[3] AUBERT,B 04Z	BABR	Repl. by AUBERT,B 05P

[1] Requires $0.8 < M_{K^0_S \pi^0} < 1.0$ GeV/c^2.

NODE=S042CX4;LINKAGE=UH

[2] Reports value of A which is equal to $-C$.

NODE=S042CX4;LINKAGE=AC

[3] Based on a total signal of 105 ± 14 events with $K^*(892)^0 \to K^0_S \pi^0$ only.

NODE=S042CX4;LINKAGE=AU

$S_{K^*(892)^0\gamma}$ ($B^0 \to K^*(892)^0\gamma$)

NODE=S042SX4

VALUE	DOCUMENT ID		TECN	COMMENT
−0.08±0.17 OUR AVERAGE				
$0.00^{+0.27}_{-0.26}\pm0.03$	[1] ADACHI	25	BELL	$e^+e^- \to \Upsilon(4S)$
$-0.03\pm0.29\pm0.03$	[1] AUBERT	08BA	BABR	$e^+e^- \to \Upsilon(4S)$
$-0.32^{+0.36}_{-0.33}\pm0.05$	[1] USHIRODA	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.21\pm0.40\pm0.05$	AUBERT,B	05P	BABR	Repl. by AUBERT 08BA
$-0.79^{+0.63}_{-0.50}\pm0.10$	[2] USHIRODA	05	BELL	Repl. by USHIRODA 06
$0.25\pm0.63\pm0.14$	[3] AUBERT,B	04Z	BABR	Repl. by AUBERT,B 05P

[1] Requires $0.8 < M_{K^0_S\pi^0} < 1.0$ GeV/c^2. NODE=S042SX4;LINKAGE=UH

[2] Assumes $C(B^0 \to K^*(892)^0\gamma) = 0$. NODE=S042SX4;LINKAGE=US

[3] Based on a total signal of 105 ± 14 events with $K^*(892)^0 \to K^0_S\pi^0$ only. NODE=S042SX4;LINKAGE=AU

$C_{\eta K^0\gamma}$ ($B^0 \to \eta K^0\gamma$)

NODE=S042CEG

VALUE	DOCUMENT ID		TECN	COMMENT
0.1 ±0.4 OUR AVERAGE Error includes scale factor of 1.4.				
$0.48\pm0.41\pm0.07$	[1,2] NAKANO	18	BELL	$e^+e^- \to \Upsilon(4S)$
$-0.32^{+0.40}_{-0.39}\pm0.07$	[3] AUBERT	09	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assuming $m_{\eta K^0_S} < 2.1$ GeV. NODE=S042CEG;LINKAGE=A

[2] Reversed the sign for C=-A. NODE=S042CEG;LINKAGE=B

[3] Assuming $m_{\eta K} < 3.25$ GeV. NODE=S042CEG;LINKAGE=AR

$S_{\eta K^0\gamma}$ ($B^0 \to \eta K^0\gamma$)

NODE=S042SEG

VALUE	DOCUMENT ID		TECN	COMMENT
−0.5 ±0.5 OUR AVERAGE Error includes scale factor of 1.2.				
$-1.32\pm0.77\pm0.36$	[1] NAKANO	18	BELL	$e^+e^- \to \Upsilon(4S)$
$-0.18^{+0.49}_{-0.46}\pm0.12$	[2] AUBERT	09	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assuming $m_{\eta K^0_S} < 2.1$ GeV. NODE=S042SEG;LINKAGE=A

[2] Assuming $m_{\eta K} < 3.25$ GeV. NODE=S042SEG;LINKAGE=AR

$C_{K^0\phi\gamma}$ ($B^0 \to K^0\phi\gamma$)

NODE=S042CPG

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{-0.35\pm0.58^{+0.10}_{-0.23}}$	[1] SAHOO	11A	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Reports value of A, which is equal to $-C$. NODE=S042CPG;LINKAGE=SA

$S_{K^0\phi\gamma}$ ($B^0 \to K^0\phi\gamma$)

NODE=S042SPG

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.74^{+0.72+0.10}_{-1.05-0.24}}$	SAHOO	11A	BELL	$e^+e^- \to \Upsilon(4S)$

$C(B^0 \to K^0_S\rho^0\gamma)$

NODE=S042CKR

VALUE	DOCUMENT ID		TECN	COMMENT
−0.05±0.18±0.06	[1,2] LI	08F	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Requires $M_{K^0_S\pi^+\pi^-} < 1.8$ GeV/c^2 and $0.6 < M_{\pi^+\pi^-} < 0.9$ GeV/c^2 . NODE=S042CKR;LINKAGE=LI

[2] Reports value of A_{eff} which is equal to $-C$, and includes the non-resonant $\pi^+\pi^-$ contribution in the ρ^0 region. NODE=S042CKR;LINKAGE=MC

$S(B^0 \to K^0_S\rho^0\gamma)$

NODE=S042SKR

VALUE	DOCUMENT ID		TECN	COMMENT
−0.04±0.23 OUR AVERAGE				
$-0.18\pm0.32^{+0.06}_{-0.05}$	[1] DEL-AMO-SA...	16	BABR	$e^+e^- \to \Upsilon(4S)$
$0.11\pm0.33^{+0.05}_{-0.09}$	[2] LI	08F	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Requires $M_{K\pi\pi} < 1.8$ GeV/c^2, 0.6 GeV/c$^2 < m_{\pi^+\pi^-} < 0.9$ GeV/c^2, $m_{K\pi} < 0.845$ GeV/c^2 or $m_{K\pi} > 0.945$ GeV/c^2. NODE=S042SKR;LINKAGE=A

[2] Requires $M_{K\pi\pi} < 1.8$ GeV/c^2. NODE=S042SKR;LINKAGE=LI

C ($B^0 \to \rho^0\gamma$)

NODE=S042CX8
NODE=S042CX8

VALUE	DOCUMENT ID		TECN	COMMENT
0.44±0.49±0.14	[1] USHIRODA	08	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Reports value of A which is equal to $-C$.

NODE=S042CX8;LINKAGE=A

S ($B^0 \to \rho^0\gamma$)

NODE=S042SX8
NODE=S042SX8

VALUE	DOCUMENT ID		TECN	COMMENT
−0.83±0.65±0.18	USHIRODA	08	BELL	$e^+e^- \to \Upsilon(4S)$

$C_{\pi\pi}$ ($B^0 \to \pi^+\pi^-$)

NODE=S042CPI

$C_{\pi\pi}$ is defined as $(1-|\lambda|^2)/(1+|\lambda|^2)$, where the quantity $\lambda=q/p\ \overline{A}_f/A_f$ is a phase convention independent observable quantity for the final state f. For details, see the review on "*CP* Violation" in the Reviews section.

NODE=S042CPI

NODE=S042CPI

VALUE	DOCUMENT ID		TECN	COMMENT
−0.314±0.030 OUR AVERAGE				
$-0.311\pm0.045\pm0.015$	AAIJ	21O	LHCB	pp at 13 TeV
$-0.34\ \pm0.06\ \pm0.01$	AAIJ	18O	LHCB	pp at 7, 8 TeV
$-0.33\ \pm0.06\ \pm0.03$	[1] DALSENO	13	BELL	$e^+e^- \to \Upsilon(4S)$
$-0.25\ \pm0.08\ \pm0.02$	LEES	13D	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.38\ \pm0.15\ \pm0.02$	AAIJ	13BO	LHCB	Repl. by AAIJ 18O
$-0.21\ \pm0.09\ \pm0.02$	AUBERT	07AF	BABR	Repl. by LEES 13D
$-0.55\ \pm0.08\ \pm0.05$	[1] ISHINO	07	BELL	Repl. by DALSENO 13
$-0.56\ \pm0.12\ \pm0.06$	[1] ABE	05D	BELL	Repl. by ISHINO 07
$-0.09\ \pm0.15\ \pm0.04$	AUBERT,BE	05	BABR	Repl. by AUBERT 07AF
$-0.58\ \pm0.15\ \pm0.07$	[1] ABE	04E	BELL	Repl. by ABE 05D
$-0.77\ \pm0.27\ \pm0.08$	[1] ABE	03G	BELL	Repl. by ABE 04E.
$-0.94\ ^{+0.31}_{-0.25}\ \pm0.09$	[1] ABE	02M	BELL	Repl. by ABE 03G
$-0.25\ ^{+0.45}_{-0.47}\ \pm0.14$	[2] AUBERT	02D	BABR	Repl. by AUBERT 02Q
$-0.30\ \pm0.25\ \pm0.04$	[3] AUBERT	02Q	BABR	Repl. by AUBERT,BE 05

[1] Paper reports $A_{\pi\pi}$ which equals to $-C_{\pi\pi}$.
NODE=S042CPI;LINKAGE=MA

[2] Corresponds to 90% confidence range $-1.0 < C_{\pi\pi} < 0.47$.
NODE=S042CPI;LINKAGE=AD

[3] Corresponds to 90% confidence range $-0.72 < C_{\pi\pi} < 0.12$.
NODE=S042CPI;LINKAGE=BR

$S_{\pi\pi}$ ($B^0 \to \pi^+\pi^-$)

NODE=S042SPI

$S_{\pi\pi} = 2\mathrm{Im}\lambda/(1+|\lambda|^2)$, see the note in the $C_{\pi\pi}$ datablock above.

NODE=S042SPI

NODE=S042SPI

VALUE	DOCUMENT ID		TECN	COMMENT
−0.670±0.030 OUR AVERAGE				
$-0.706\pm0.042\pm0.013$	AAIJ	21O	LHCB	pp at 13 TeV
$-0.63\ \pm0.05\ \pm0.01$	AAIJ	18O	LHCB	pp at 7, 8 TeV
$-0.64\ \pm0.08\ \pm0.03$	[1] DALSENO	13	BELL	$e^+e^- \to \Upsilon(4S)$
$-0.68\ \pm0.10\ \pm0.03$	LEES	13D	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.71\ \pm0.13\ \pm0.02$	AAIJ	13BO	LHCB	Repl. by AAIJ 18O
$-0.60\ \pm0.11\ \pm0.03$	AUBERT	07AF	BABR	Repl. by LEES 13D
$-0.61\ \pm0.10\ \pm0.04$	ISHINO	07	BELL	Repl. by DALSENO 13
$-0.67\ \pm0.16\ \pm0.06$	[2] ABE	05D	BELL	Repl. by ISHINO 07
$-0.30\ \pm0.17\ \pm0.03$	AUBERT,BE	05	BABR	Repl. by AUBERT 07AF
$-1.00\ \pm0.21\ \pm0.07$	[3] ABE	04E	BELL	Repl. by ABE 05D
$-1.23\ \pm0.41\ ^{+0.08}_{-0.07}$	ABE	03G	BELL	Repl. by ABE 04E.
$-1.21\ ^{+0.38}_{-0.27}\ ^{+0.16}_{-0.13}$	ABE	02M	BELL	Repl. by ABE 03G
$0.03\ ^{+0.52}_{-0.56}\ \pm0.11$	[4] AUBERT	02D	BABR	Repl. by AUBERT 02Q
$0.02\ \pm0.34\ \pm0.05$	[5] AUBERT	02Q	BABR	Repl. by AUBERT,BE 05

[1] An isospin analysis using other BELLE measurements, disfavors the region of $23.8^\circ < \phi_2 < 66.8^\circ$ at 68% CL.
NODE=S042SPI;LINKAGE=DA

[2] Rule out the *CP*-conserving case, $C_{\pi\pi} = S_{\pi\pi} = 0$, at the 5.4 sigma level.
NODE=S042SPI;LINKAGE=AE

[3] Rule out the *CP*-conserving case, $C_{\pi\pi} = S_{\pi\pi} = 0$, at the 5.2 sigma level.
NODE=S042SPI;LINKAGE=AB

[4] Corresponds to 90% confidence range $-0.89 < S_{\pi\pi} < 0.85$.
NODE=S042SPI;LINKAGE=AD

[5] Corresponds to 90% confidence range $-0.54 < S_{\pi\pi} < 0.58$.
NODE=S042SPI;LINKAGE=BR

$C_{\pi^0\pi^0}(B^0 \to \pi^0\pi^0)$

NODE=S042CX6

VALUE	DOCUMENT ID		TECN	COMMENT
-0.23 ± 0.18 OUR AVERAGE				
[-0.25 ± 0.20 OUR 2025 AVERAGE]				
$-0.03\pm0.30\pm0.04$	[1] ADACHI	25F	BEL2	$e^+e^- \to \Upsilon(4S)$
$-0.14\pm0.36\pm0.10$	[2] JULIUS	17	BELL	$e^+e^- \to \Upsilon(4S)$
$-0.43\pm0.26\pm0.05$	LEES	13D	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.14\pm0.46\pm0.07$	[2] ABUDINEN	23E	BELL	Repl. by ADACHI 25F
$-0.49\pm0.35\pm0.05$	AUBERT	07BC	BABR	Repl. by LEES 13D
$-0.12\pm0.56\pm0.06$	[3] AUBERT	05L	BABR	Repl. by AUBERT 07BC
$-0.44^{+0.52}_{-0.53}\pm0.17$	[2] CHAO	05	BELL	Repl. by JULIUS 17

NODE=S042CX6 NEW

[1] Reports value of A which is equal to $-C$. NODE=S042CX6;LINKAGE=B

[2] Quotes $A_{\pi^0\pi^0} = -0.14 \pm 0.46 \pm 0.07$ (correction published May 22, 2024) which is equal to $-C_{\pi^0\pi^0}$. NODE=S042CX6;LINKAGE=CH

[3] Corresponds to a 90% CL interval of $-0.88 < A_{CP} < 0.64$. NODE=S042CX6;LINKAGE=AU

$C_{\rho\pi}$ $(B^0 \to \rho^+\pi^-)$

NODE=S042CRP NODE=S042CRP

VALUE	DOCUMENT ID		TECN	COMMENT
-0.03 ± 0.07 OUR AVERAGE Error includes scale factor of 1.2.				
$0.016\pm0.059\pm0.036$	[1] LEES	13J	BABR	$e^+e^- \to \Upsilon(4S)$
$-0.13 \pm0.09 \pm0.05$	[1] KUSAKA	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.15 \pm0.09 \pm0.05$	AUBERT	07AA	BABR	Repl. by LEES 13J
$0.25 \pm0.17 {}^{+0.02}_{-0.06}$	WANG	05	BELL	Repl. by KUSAKA 07
$0.36 \pm0.18 \pm0.04$	AUBERT	03T	BABR	Repl. by AUBERT 07AA

[1] Uses time-dependent Dalitz plot analysis of $B^0 \to \pi^+\pi^-\pi^0$ decays. NODE=S042CRP;LINKAGE=LE

$S_{\rho\pi}$ $(B^0 \to \rho^+\pi^-)$

NODE=S042SRP NODE=S042SRP

VALUE	DOCUMENT ID		TECN	COMMENT
0.05 ± 0.07 OUR AVERAGE				
$0.053\pm0.081\pm0.034$	[1] LEES	13J	BABR	$e^+e^- \to \Upsilon(4S)$
$0.06 \pm0.13 \pm0.05$	[1] KUSAKA	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.03 \pm0.11 \pm0.04$	AUBERT	07AA	BABR	Repl. by LEES 13J
$-0.28 \pm0.23 {}^{+0.10}_{-0.08}$	WANG	05	BELL	Repl. by KUSAKA 07
$0.19 \pm0.24 \pm0.03$	AUBERT	03T	BABR	Repl. by AUBERT 07AA

[1] Uses time-dependent Dalitz plot analysis of $B^0 \to \pi^+\pi^-\pi^0$ decays. NODE=S042SRP;LINKAGE=LE

$\Delta C_{\rho\pi}$ $(B^0 \to \rho^+\pi^-)$

NODE=S042CDT

$\Delta C_{\rho\pi}$ describes the asymmetry between the rates $\Gamma(B^0 \to \rho^+\pi^-) + \Gamma(\overline{B}^0 \to \rho^-\pi^+)$ and $\Gamma(B^0 \to \rho^-\pi^+) + \Gamma(\overline{B}^0 \to \rho^+\pi^-)$. NODE=S042CDT

NODE=S042CDT

VALUE	DOCUMENT ID		TECN	COMMENT
0.27 ± 0.06 OUR AVERAGE				
$0.234\pm0.061\pm0.048$	[1] LEES	13J	BABR	$e^+e^- \to \Upsilon(4S)$
$0.36 \pm0.10 \pm0.05$	[1] KUSAKA	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.39 \pm0.09 \pm0.09$	AUBERT	07AA	BABR	Repl. by LEES 13J
$0.38 \pm0.18 {}^{+0.02}_{-0.04}$	WANG	05	BELL	Repl. by KUSAKA 07
$0.28 {}^{+0.18}_{-0.19} \pm0.04$	AUBERT	03T	BABR	Repl. by AUBERT 07AA

[1] Uses time-dependent Dalitz plot analysis of $B^0 \to \pi^+\pi^-\pi^0$ decays. NODE=S042CDT;LINKAGE=LE

$\Delta S_{\rho\pi}$ $(B^0 \to \rho^+\pi^-)$

NODE=S042SDT

$\Delta S_{\rho\pi}$ is related to the strong phase difference between the amplitudes contributing to $B^0 \to \rho^+\pi^-$. NODE=S042SDT

NODE=S042SDT

VALUE	DOCUMENT ID		TECN	COMMENT
0.01 ± 0.08 OUR AVERAGE				
$0.054\pm0.082\pm0.039$	[1] LEES	13J	BABR	$e^+e^- \to \Upsilon(4S)$
$-0.08 \pm0.13 \pm0.05$	[1] KUSAKA	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.01 \pm0.14 \pm0.06$	AUBERT	07AA	BABR	Repl. by LEES 13J
$-0.30 \pm0.24 \pm0.09$	WANG	05	BELL	Repl. by KUSAKA 07
$0.15 \pm0.25 \pm0.03$	AUBERT	03T	BABR	Repl. by AUBERT 07AA

[1] Uses time-dependent Dalitz plot analysis of $B^0 \to \pi^+\pi^-\pi^0$ decays. NODE=S042SDT;LINKAGE=LE

$C_{\rho^0\pi^0}$ ($B^0 \to \rho^0\pi^0$) NODE=S042CRH

VALUE		DOCUMENT ID		TECN	COMMENT
0.27±0.24 OUR AVERAGE					
0.19±0.23±0.15	[1]	LEES	13J	BABR	$e^+e^- \to \Upsilon(4S)$
0.49±0.36±0.28	[1,2]	KUSAKA	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
−0.10±0.40±0.53		AUBERT	07AA	BABR	Repl. by LEES 13J
$0.53^{+0.67}_{-0.84}{}^{+0.10}_{-0.15}$	[2]	DRAGIC	06	BELL	Repl. by KUSAKA 07

[1] Uses time-dependent Dalitz plot analysis of $B^0 \to \pi^+\pi^-\pi^0$ decays. NODE=S042CRH;LINKAGE=LE

[2] Quotes $A_{\rho^0\pi^0}$ which is equal to $-C_{\rho^0\pi^0}$. NODE=S042CRH;LINKAGE=DR

$S_{\rho^0\pi^0}$ ($B^0 \to \rho^0\pi^0$) NODE=S042SRH

VALUE		DOCUMENT ID		TECN	COMMENT
−0.23±0.34 OUR AVERAGE					
−0.37±0.34±0.20	[1]	LEES	13J	BABR	$e^+e^- \to \Upsilon(4S)$
0.17±0.57±0.35	[1]	KUSAKA	07	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.04±0.44±0.18		AUBERT	07AA	BABR	Repl. by LEES 13J

[1] Uses time-dependent Dalitz plot analysis of $B^0 \to \pi^+\pi^-\pi^0$ decays. NODE=S042SRH;LINKAGE=LE

$C_{a_1\pi}$ ($B^0 \to a_1(1260)^+\pi^-$) NODE=S042CAP

VALUE	DOCUMENT ID		TECN	COMMENT
−0.05±0.11 OUR AVERAGE				
−0.01±0.11±0.09	DALSENO	12	BELL	$e^+e^- \to \Upsilon(4S)$
−0.10±0.15±0.09	AUBERT	07O	BABR	$e^+e^- \to \Upsilon(4S)$

$S_{a_1\pi}$ ($B^0 \to a_1(1260)^+\pi^-$) NODE=S042SAP

VALUE	DOCUMENT ID		TECN	COMMENT
−0.2 ±0.4 OUR AVERAGE Error includes scale factor of 3.2.				
−0.51±0.14±0.08	DALSENO	12	BELL	$e^+e^- \to \Upsilon(4S)$
0.37±0.21±0.07	AUBERT	07O	BABR	$e^+e^- \to \Upsilon(4S)$

$\Delta C_{a_1\pi}$ ($B^0 \to a_1(1260)^+\pi^-$) NODE=S042CDA

$\Delta C_{a_1\pi}$ describes the asymmetry between the rates $\Gamma(B^0 \to a_1^+\pi^-) + \Gamma(\overline{B}^0 \to a_1^-\pi^+)$ and $\Gamma(B^0 \to a_1^-\pi^+) + \Gamma(\overline{B}^0 \to a_1^+\pi^-)$. NODE=S042CDA

VALUE	DOCUMENT ID		TECN	COMMENT
0.43±0.14 OUR AVERAGE Error includes scale factor of 1.3.				
0.54±0.11±0.07	DALSENO	12	BELL	$e^+e^- \to \Upsilon(4S)$
0.26±0.15±0.07	AUBERT	07O	BABR	$e^+e^- \to \Upsilon(4S)$

NODE=S042CDA

$\Delta S_{a_1\pi}$ ($B^0 \to a_1(1260)^+\pi^-$) NODE=S042SDA

$\Delta S_{a_1\pi}$ is related to the strong phase difference between the amplitudes contributing to $B^0 \to a_1\pi$ decays. NODE=S042SDA

VALUE	DOCUMENT ID		TECN	COMMENT
−0.11±0.12 OUR AVERAGE				
−0.09±0.14±0.06	DALSENO	12	BELL	$e^+e^- \to \Upsilon(4S)$
−0.14±0.21±0.06	AUBERT	07O	BABR	$e^+e^- \to \Upsilon(4S)$

NODE=S042SDA

C ($B^0 \to b_1^- K^+$) NODE=S042CAQ

VALUE	DOCUMENT ID		TECN	COMMENT
−0.22±0.23±0.05	AUBERT	07BI	BABR	$e^+e^- \to \Upsilon(4S)$

NODE=S042CAQ

ΔC ($B^0 \to b_1^-\pi^+$) NODE=S042SDB

VALUE	DOCUMENT ID		TECN	COMMENT
−1.04±0.23±0.08	AUBERT	07BI	BABR	$e^+e^- \to \Upsilon(4S)$

NODE=S042SDB

$C_{\rho^0\rho^0}$ ($B^0 \to \rho^0\rho^0$) NODE=S042CX9

VALUE	DOCUMENT ID		TECN	COMMENT
0.2±0.8±0.3	AUBERT	08BB	BABR	$e^+e^- \to \Upsilon(4S)$

NODE=S042CX9

$S_{\rho^0\rho^0}$ ($B^0 \to \rho^0\rho^0$) NODE=S042SX9

VALUE	DOCUMENT ID		TECN	COMMENT
0.3±0.7±0.2	AUBERT	08BB	BABR	$e^+e^- \to \Upsilon(4S)$

NODE=S042SX9

$C_{\rho\rho}$ ($B^0 \to \rho^+\rho^-$)

NODE=S042CRR

VALUE	DOCUMENT ID		TECN	COMMENT
0.00±0.08 OUR AVERAGE				
[0.00 ± 0.09 OUR 2025 AVERAGE]				
$-0.02\pm0.12^{+0.06}_{-0.05}$	ADACHI	25H	BELL	$e^+e^- \to \Upsilon(4S)$
$0.00\pm0.10\pm0.06$	[1] VANHOEFER	16	BELL	$e^+e^- \to \Upsilon(4S)$
$0.01\pm0.15\pm0.06$	AUBERT	07BF	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.16\pm0.21\pm0.08$	[1] SOMOV	07	BELL	Repl. by VANHOEFER 16
$-0.00\pm0.30\pm0.09$	[1] SOMOV	06	BELL	Repl. by SOMOV 07
$-0.03\pm0.18\pm0.09$	AUBERT,B	05C	BABR	Repl. by AUBERT 07BF
$-0.17\pm0.27\pm0.14$	AUBERT,B	04R	BABR	Repl. by AUBERT,B 05C

NODE=S042CRR NEW

[1] BELLE Collab. quotes A_{CP} which is equal to $-C$.

NODE=S042CRR;LINKAGE=BC

$S_{\rho\rho}$ ($B^0 \to \rho^+\rho^-$)

NODE=S042SRR

VALUE	DOCUMENT ID		TECN	COMMENT
−0.18±0.11 OUR AVERAGE				
[−0.14 ± 0.13 OUR 2025 AVERAGE]				
$-0.26\pm0.19\pm0.08$	ADACHI	25H	BELL	$e^+e^- \to \Upsilon(4S)$
$-0.13\pm0.15\pm0.05$	VANHOEFER	16	BELL	$e^+e^- \to \Upsilon(4S)$
$-0.17\pm0.20^{+0.05}_{-0.06}$	AUBERT	07BF	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.19\pm0.30\pm0.08$	SOMOV	07	BELL	Repl. by VANHOEFER 16
$0.08\pm0.41\pm0.09$	SOMOV	06	BELL	Repl. by SOMOV 07
$-0.33\pm0.24^{+0.08}_{-0.14}$	AUBERT,B	05C	BABR	Repl. by AUBERT 07BF
$-0.42\pm0.42\pm0.14$	AUBERT,B	04R	BABR	Repl. by AUBERT,B 05C

NODE=S042SRR NEW

$|\lambda|$ ($B^0 \to J/\psi K^*(892)^0$)

NODE=S042LD9

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.25	95	[1] AUBERT,B	04H	BABR	$e^+e^- \to \Upsilon(4S)$

NODE=S042LD9

[1] Uses the measured cosine coefficients C and $\overline{C}$ and assumes $|q/p| = 1$.

NODE=S042LD9;LINKAGE=AU

cos 2β ($B^0 \to J/\psi K^*(892)^0$)

NODE=S042CJ1

β (ϕ_1) is one of the angles of CMK unitarity triangle, see the review on "CP" Violation in the Reviews section.

NODE=S042CJ1

VALUE	DOCUMENT ID		TECN	COMMENT
$1.7^{+0.7}_{-0.9}$ OUR AVERAGE Error includes scale factor of 1.6.				
$2.72^{+0.50}_{-0.79}\pm0.27$	[1] AUBERT	05P	BABR	$e^+e^- \to \Upsilon(4S)$
$0.87\pm0.74\pm0.12$	[2] ITOH	05	BELL	$e^+e^- \to \Upsilon(4S)$

NODE=S042CJ1

[1] The measurement is obtained when sin 2β is fixed to 0.726 and the sign of cos 2β is positive with 86% confidence level.

NODE=S042CJ1;LINKAGE=AU

[2] The measurement is obtained with sin 2β fixed to 0.731.

NODE=S042CJ1;LINKAGE=IT

cos 2β ($B^0 \to [K^0_S\pi^+\pi^-]_{D^{(*)}} h^0$)

NODE=S042CJ2

VALUE	DOCUMENT ID		TECN	COMMENT
$0.91\pm0.22\pm0.11$	[1] ADACHI	18		$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.06\pm0.33^{+0.21}_{-0.15}$	[2] VOROBYEV	16	BELL	$e^+e^- \to \Upsilon(4S)$
$0.42\pm0.49\pm0.16$	[3] AUBERT	07BH	BABR	$e^+e^- \to \Upsilon(4S)$
$1.87^{+0.40}_{-0.53}{}^{+0.22}_{-0.32}$	[4] KROKOVNY	06	BELL	Repl. by VOROBYEV 16

NODE=S042CJ2

[1] Analyzes joint data sample of Belle and BaBar using Dalitz plot analysis of $D \to K^0_S\pi^+\pi^-$; the second error combines experimental systematic uncertainty and the Dalitz plot model uncertainty.

NODE=S042CJ2;LINKAGE=A

[2] A model-independent measurement uses the binned Dalitz plot technique.

NODE=S042CJ2;LINKAGE=B

[3] AUBERT 07BH evaluates the likelihoods for the positive and negative solutions assuming sin(2 β_{eff}) = 0.678. It quotes L_+ / (L_++ L_-) = 0.86 corresponding to a likelihood ratio of L_+/L_- = 6.14 in favor of the positive solution.

NODE=S042CJ2;LINKAGE=AU

[4] KROKOVNY 06 evaluates the likelihoods for the positive and negative solutions assuming sin(2 β_{eff}) = 0.689. It quotes L_+ / (L_++ L_-) = 0.983 corresponding to a likelihood ratio of L_+/L_- = 57.8 in favor of the positive solution.

NODE=S042CJ2;LINKAGE=KR

$(S_+ + S_-)/2$ ($B^0 \to D^{*-}\pi^+$) NODE=S042LD3

$S_\pm = -\frac{2Im(\lambda_\pm)}{1+|\lambda_\pm|^2}$ where λ_+ and λ_- are defined in the $C_{\pi\pi}$ datablock above for $B^0 \to D^{*-}\pi^+$ and $\overline{B}^0 \to D^{*+}\pi^-$. NODE=S042LD3

NODE=S042LD3

VALUE	DOCUMENT ID		TECN	COMMENT
−0.039±0.011 OUR AVERAGE				
−0.046±0.013±0.015	[1] BAHINIPATI	11	BELL	$e^+e^- \to \Upsilon(4S)$
−0.040±0.023±0.010	[2] AUBERT	06Y	BABR	$e^+e^- \to \Upsilon(4S)$
−0.034±0.014±0.009	[1] AUBERT	05Z	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.039±0.020±0.013	[3] RONGA	06	BELL	Repl. by BAHINIPATI 11
−0.030±0.028±0.018	[1] GERSHON	05	BELL	Repl. by RONGA 06
−0.068±0.038±0.020	[2] AUBERT	04V	BABR	Repl. by AUBERT 06Y
−0.063±0.024±0.014	[1] AUBERT	04W	BABR	Repl. by AUBERT 05Z
0.060±0.040±0.019	[2] SARANGI	04	BELL	Repl. by RONGA 06

[1] Uses partially reconstructed $B^0 \to D^{*\pm}\pi^\mp$ decays. NODE=S042LD3;LINKAGE=AB

[2] Uses fully reconstructed $B^0 \to D^{*\pm}\pi^\mp$ decays. NODE=S042LD3;LINKAGE=AU

[3] Combines the results from fully reconstructed and partially reconstructed $D^*\pi$ events by taking weighted averages. Assumes that systematic errors from physics parameters and fit biases in the two measurements are 100% correlated. NODE=S042LD3;LINKAGE=RO

$(S_- - S_+)/2$ ($B^0 \to D^{*-}\pi^+$) NODE=S042LD4

NODE=S042LD4

VALUE	DOCUMENT ID		TECN	COMMENT
−0.009±0.015 OUR AVERAGE				
−0.015±0.013±0.015	[1] BAHINIPATI	11	BELL	$e^+e^- \to \Upsilon(4S)$
0.049±0.042±0.015	[2] AUBERT	06Y	BABR	$e^+e^- \to \Upsilon(4S)$
−0.019±0.022±0.013	[1] AUBERT	05Z	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.011±0.020±0.013	[3] RONGA	06	BELL	Repl. by BAHINIPATI 11
−0.005±0.028±0.018	[1] GERSHON	05	BELL	Repl. by RONGA 06
0.031±0.070±0.033	[2] AUBERT	04V	BABR	Repl. by AUBERT 06Y
−0.004±0.037±0.014	[1] AUBERT	04W	BABR	Repl. by AUBERT 05Z
0.049±0.040±0.019	[2] SARANGI	04	BELL	Repl. by RONGA 06

OCCUR=2

[1] Uses partially reconstructed $B^0 \to D^{*\pm}\pi^\mp$ decays. NODE=S042LD4;LINKAGE=AE

[2] Uses fully reconstructed $B^0 \to D^{*\pm}\pi^\mp$ decays. NODE=S042LD4;LINKAGE=AU

[3] Combines the results from fully reconstructed and partially reconstructed $D^*\pi$ events by taking weighted averages. Assumes that systematic errors from physics parameters and fit biases in the two measurements are 100% correlated. NODE=S042LD4;LINKAGE=RO

$(S_+ + S_-)/2$ ($B^0 \to D^-\pi^+$) NODE=S042LD5

NODE=S042LD5

VALUE	DOCUMENT ID		TECN	COMMENT
−0.046±0.023 OUR AVERAGE				
−0.010±0.023±0.07	[1] AUBERT	06Y	BABR	$e^+e^- \to \Upsilon(4S)$
−0.050±0.021±0.012	[2] RONGA	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.022±0.038±0.020	[1] AUBERT	04V	BABR	Repl. by AUBERT 06Y
−0.062±0.037±0.018	[1] SARANGI	04	BELL	Repl. by RONGA 06

[1] Uses fully reconstructed $B^0 \to D^\pm\pi^\mp$ decays. NODE=S042LD5;LINKAGE=FR

[2] Combines the results from fully reconstructed and partially reconstructed $D\pi$ events by taking weighted averages. Assumes that systematic errors from physics parameters and fit biases in the two measurements are 100% correlated. NODE=S042LD5;LINKAGE=RO

$(S_- - S_+)/2$ ($B^0 \to D^-\pi^+$) NODE=S042LD6

NODE=S042LD6

VALUE	DOCUMENT ID		TECN	COMMENT
−0.022±0.021 OUR AVERAGE				
−0.033±0.042±0.012	[1] AUBERT	06Y	BABR	$e^+e^- \to \Upsilon(4S)$
−0.019±0.021±0.012	[2] RONGA	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.025±0.068±0.033	[1] AUBERT	04V	BABR	Repl. by AUBERT 06Y
−0.025±0.037±0.018	[1] SARANGI	04	BELL	Repl. by RONGA 06

[1] Uses fully reconstructed $B^0 \to D^\pm\pi^\mp$ decays. NODE=S042LD6;LINKAGE=FR

[2] Combines the results from fully reconstructed and partially reconstructed $D\pi$ events by taking weighted averages. Assumes that systematic errors from physics parameters and fit biases in the two measurements are 100% correlated. NODE=S042LD6;LINKAGE=RO

S_+ ($B^0 \to D^- \pi^+$)

NODE=S042A06

VALUE	DOCUMENT ID		TECN	COMMENT
0.058±0.020±0.011	[1] AAIJ	18Z	LHCB	pp at 7, 8 TeV

[1] Measured in the simultaneous analysis of $B^0 \to D^{\mp}\pi^{\pm}$ decays. AAIJ 18Z reports a statistical (systematic) correlation of 0.6 (−0.41) with the measured value of $S_-(B^0 \to D^+\pi^-)$. NODE=S042A06;LINKAGE=A

S_- ($B^0 \to D^+ \pi^-$)

NODE=S042A07

VALUE	DOCUMENT ID		TECN	COMMENT
0.038±0.020±0.007	[1] AAIJ	18Z	LHCB	pp at 7, 8 TeV

[1] Measured in the simultaneous analysis of $B^0 \to D^{\mp}\pi^{\pm}$ decays. AAIJ 18Z reports a statistical (systematic) correlation of 0.6 (−0.41) with the measured value of $S_+(B^0 \to D^-\pi^+)$. NODE=S042A07;LINKAGE=A

$(S_+ + S_-)/2$ ($B^0 \to D^- \rho^+$)

NODE=S042DR+

VALUE	DOCUMENT ID		TECN	COMMENT
−0.024±0.031±0.009	[1] AUBERT	06Y	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses fully reconstructed $B^0 \to D^-\rho^+$ decays. NODE=S042DR+;LINKAGE=AE

$(S_- - S_+)/2$ ($B^0 \to D^- \rho^+$)

NODE=S042DR-

VALUE	DOCUMENT ID		TECN	COMMENT
−0.098±0.055±0.018	[1] AUBERT	06Y	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses fully reconstructed $B^0 \to D^-\rho^+$ decays. NODE=S042DR-;LINKAGE=AE

$C_{\eta_c K^0_S}$ ($B^0 \to \eta_c K^0_S$)

NODE=S042CEC

VALUE	DOCUMENT ID		TECN	COMMENT
0.080±0.124±0.029	AUBERT	09K	BABR	$e^+e^- \to \Upsilon(4S)$

$S_{\eta_c K^0_S}$ ($B^0 \to \eta_c K^0_S$)

NODE=S042SEC

VALUE	DOCUMENT ID		TECN	COMMENT
0.925±0.160±0.057	AUBERT	09K	BABR	$e^+e^- \to \Upsilon(4S)$

$C_{c\overline{c}K^{(*)0}}$ ($B^0 \to c\overline{c}K^{(*)0}$)

NODE=S042CCC

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
0.4± 1.0 OUR EVALUATION	(Produced by HFLAV)			
0.4± 1.0 OUR AVERAGE				
0.4± 1.2	[1] AAIJ	24	LHCB	pp at 7, 8 and 13 TeV
− 0.6± 1.6±1.2	[2] ADACHI	12A	BELL	$e^+e^- \to \Upsilon(4S)$
$-29\ {}^{+53}_{-44}$ ±6	[3] AUBERT	09AU	BABR	$e^+e^- \to \Upsilon(4S)$
2.4± 2.0±1.6	[4] AUBERT	09K	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.8± 1.2±0.3	[5,6] AAIJ	24	LHCB	pp at 13 TeV
− 1.7± 2.9	[5,7] AAIJ	17BN	LHCB	pp at 7, 8 TeV
− 4 ± 7 ±5	[8] SAHOO	08	BELL	Repl. by ADACHI 12A
4.9± 2.3±1.8	[4] AUBERT	07AY	BABR	Repl. by AUBERT 09K
− 1.8± 2.1±1.4	[9] CHEN	07	BELL	Repl. by ADACHI 12A
− 0.7± 4.1±3.3	[10] ABE	05B	BELL	Repl. by CHEN 07
5.1± 3.2±1.4	[11] AUBERT	05F	BABR	Repl. by AUBERT 07AY
5.1± 5.1±2.6	[12] ABE	02Z	BELL	Repl. by ABE 05B
5.3± 5.4±3.2	[13] AUBERT	02P	BABR	Repl. by AUBERT 05F

→ UNCHECKED ←

OCCUR=2

[1] A combination of this Run 2 result with the Run 1 result from AAIJ 17BN is reported with a correlation coefficient of 0.40. NODE=S042CCC;LINKAGE=F

[2] Measurement based on $B^0 \to J/\psi K^0_S$, $B^0 \to \psi(2S) K^0_S$, $B^0 \to J/\psi K^0_L$, and $B^0 \to \chi_{c1}(1P) K^0_S$ decays. NODE=S042CCC;LINKAGE=AD

[3] Uses Dalitz plot analysis of $B^0 \to K^0\pi^+\pi^-$ decays and the first of two equivalent solutions is used. NODE=S042CCC;LINKAGE=AU

[4] Measurement based on $B^0 \to c\overline{c}K^{(*)0}$ decays. NODE=S042CCC;LINKAGE=UE

[5] Measurement based on $B^0 \to J/\psi K^0_S$, $B^0 \to \psi(2S) K^0_S$ with $J/\psi \to \mu^+\mu^-$, $J/\psi \to e^+e^-$ and $\psi(2S) \to \mu^+\mu^-$. NODE=S042CCC;LINKAGE=C

[6] AAIJ 24 provides the correlation coefficient ρ=0.441 between the uncertainties of $\sin(2\beta)$ and $C_{c\overline{c}K^{(*)0}}$ ($B^0 \to c\overline{c}K^{(*)0}$) measurements. NODE=S042CCC;LINKAGE=E

[7] AAIJ 17BN provides the correlation coefficient ρ=0.42 between the uncertainties of $S_{B^0 \to c\overline{c}K^{(*)0}}(B^0 \to c\overline{c}K^{(*)0})$ and $C_{c\overline{c}K^{(*)0}}$ ($B^0 \to c\overline{c}K^{(*)0}$) measurements. NODE=S042CCC;LINKAGE=D

[8] Reports value of A of $B^0 \to \psi(2S) K^0$ which is equal to $-C$. NODE=S042CCC;LINKAGE=SH
[9] Reports value of A of $B^0 \to J/\psi K^0$ which is equal to $-C$. NODE=S042CCC;LINKAGE=CH
[10] Measurement based on 152×10^6 $B\overline{B}$ pairs. NODE=S042CCC;LINKAGE=AE
[11] Measurement based on 227×10^6 $B\overline{B}$ pairs. NODE=S042CCC;LINKAGE=AR
[12] Measured with both $\eta_f = \pm 1$ samples. NODE=S042CCC;LINKAGE=A
[13] Measured with the high purity of $\eta_f = -1$ samples. NODE=S042CCC;LINKAGE=B

sin(2β)

NODE=S042BET

For a discussion of CP violation, see the review on "CP Violation" in the Reviews section. $\sin(2\beta)$ is a measure of the CP-violating amplitude in the $B^0_d \to J/\psi(1S) K^0_S$.

NODE=S042BET

NODE=S042BET

→ UNCHECKED ←

OCCUR=2

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
0.710±0.011 OUR EVALUATION	(Produced by HFLAV)			
0.710±0.013 OUR AVERAGE	Error includes scale factor of 1.2.			
0.724 ± 0.014	[1] AAIJ	24	LHCB	pp at 7, 8 and 13 TeV
$0.724 \pm 0.035 \pm 0.009$	[2] ADACHI	24H	BEL2	$e^+ e^- \to \Upsilon(4S)$
$0.667 \pm 0.023 \pm 0.012$	[3] ADACHI	12A	BELL	$e^+ e^- \to \Upsilon(4S)$
$0.57 \pm 0.58 \pm 0.06$	[4] SATO	12	BELL	$e^+ e^- \to \Upsilon(5S)$
$0.69 \pm 0.52 \pm 0.08$	[5] AUBERT	09AU	BABR	$e^+ e^- \to \Upsilon(4S)$
$0.687 \pm 0.028 \pm 0.012$	[6] AUBERT	09K	BABR	$e^+ e^- \to \Upsilon(4S)$
$1.56 \pm 0.42 \pm 0.21$	[7] AUBERT	04R	BABR	$e^+ e^- \to \Upsilon(4S)$
$0.79 {}^{+0.41}_{-0.44}$	[8] AFFOLDER	00C	CDF	$p\overline{p}$ at 1.8 TeV
$0.84 {}^{+0.82}_{-1.04} \pm 0.16$	[9] BARATE	00Q	ALEP	$e^+ e^- \to Z$
$3.2 {}^{+1.8}_{-2.0} \pm 0.5$	[10] ACKERSTAFF	98Z	OPAL	$e^+ e^- \to Z$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.717 \pm 0.013 \pm 0.008$	[11,12] AAIJ	24	LHCB	pp at 13 TeV
0.760 ± 0.034	[11,13] AAIJ	17BN	LHCB	pp at 7, 8 TeV
$0.72 \pm 0.09 \pm 0.03$	[14] SAHOO	08	BELL	Repl. by ADACHI 12A
$0.714 \pm 0.032 \pm 0.018$	[6] AUBERT	07AY	BABR	Repl. by AUBERT 09K
$0.642 \pm 0.031 \pm 0.017$	CHEN	07	BELL	Repl. by ADACHI 12A
$0.728 \pm 0.056 \pm 0.023$	[15] ABE	05B	BELL	Repl. by CHEN 07
$0.722 \pm 0.040 \pm 0.023$	[16] AUBERT	05F	BABR	Repl. by AUBERT 07AY
$0.99 \pm 0.14 \pm 0.06$	[17] ABE	02U	BELL	$e^+ e^- \to \Upsilon(4S)$
$0.719 \pm 0.074 \pm 0.035$	[18] ABE	02Z	BELL	Repl. by ABE 05B
$0.59 \pm 0.14 \pm 0.05$	[19] AUBERT	02N	BABR	$e^+ e^- \to \Upsilon(4S)$
$0.741 \pm 0.067 \pm 0.034$	[20] AUBERT	02P	BABR	Repl. by AUBERT 05F
$0.58 {}^{+0.32}_{-0.34} {}^{+0.09}_{-0.10}$	ABASHIAN	01	BELL	Repl. by ABE 01G
$0.99 \pm 0.14 \pm 0.06$	[21] ABE	01G	BELL	Repl. by ABE 02Z
$0.34 \pm 0.20 \pm 0.05$	AUBERT	01	BABR	Repl. by AUBERT 01B
$0.59 \pm 0.14 \pm 0.05$	[21] AUBERT	01B	BABR	Repl. by AUBERT 02P
$1.8 \pm 1.1 \pm 0.3$	[22] ABE	98U	CDF	Repl. by AFFOLDER 00C

[1] A combination of this Run 2 result with the Run 1 result from AAIJ 17BN is reported with a correlation coefficient of 0.40. NODE=S042BET;LINKAGE=F

[2] Uses $B^0 \to J/\psi K^0_S$ decays with 362 fb^{-1} BELL II data. NODE=S042BET;LINKAGE=G

[3] Measurement based on $B^0 \to J/\psi K^0_S$, $B^0 \to \psi(2S) K^0_S$, $B^0 \to J/\psi K^0_L$, and $B^0 \to \chi_{c1}(1P) K^0_S$ decays. NODE=S042BET;LINKAGE=AD

[4] SATO 12 uses 121 fb^{-1} data collected on $Y(5S)$ resonance. Uses the "$B-\pi$ tagging" where $B\pi^+$ and $B\pi^-$ tagged $J/\psi K^0_S$ events are compared. NODE=S042BET;LINKAGE=ST

[5] Uses Dalitz plot analysis of $B^0 \to K^0 \pi^+ \pi^-$ decays and the first of two equivalent solutions. NODE=S042BET;LINKAGE=AT

[6] Measurement based on $B^0 \to c\overline{c} K^{(*)0}$ decays. NODE=S042BET;LINKAGE=UE

[7] Measurement in which the J/ψ decays to hadrons or to muons that do not satisfy the standard identification criteria. NODE=S042BET;LINKAGE=AB

[8] AFFOLDER 00C uses about 400 $B^0 \to J/\psi(1S) K^0_S$ events. The production flavor of B^0 was determined using three tagging algorithms: a same-side tag, a jet-charge tag, and a soft-lepton tag. NODE=S042BET;LINKAGE=N

[9] BARATE 00Q uses 23 candidates for $B^0 \to J/\psi(1S) K^0_S$ decays. A combination of jet-charge, vertex-charge, and same-side tagging techniques were used to determine the B^0 production flavor. NODE=S042BET;LINKAGE=BQ

[10] ACKERSTAFF 98Z uses 24 candidates for $B^0_d \to J/\psi(1S) K^0_S$ decay. A combination of jet-charge and vertex-charge techniques were used to tag the B^0_d production flavor. NODE=S042BET;LINKAGE=A

[11] Measurement based on $B^0 \to J/\psi K^0_S$, $B^0 \to \psi(2S) K^0_S$ with $J/\psi \to \mu^+ \mu^-$, $J/\psi \to e^+ e^-$ and $\psi(2S) \to \mu^+ \mu^-$. NODE=S042BET;LINKAGE=C

[12] AAIJ 24 provides the correlation coefficient $\rho = 0.441$ between the uncertainties of $\sin(2\beta)$ and $C_{c\overline{c}K^{(*)0}}$ ($B^0 \to c\overline{c} K^{(*)0}$) measurements. NODE=S042BET;LINKAGE=E

[13] AAIJ 17BN provides the correlation coefficient $\rho = 0.42$ between the uncertainties of $\sin(2\beta)$ and $\cos(2\beta)$ measurements. NODE=S042BET;LINKAGE=D
[14] Based on $B^0 \to \psi(2S) K^0_S$ decays. NODE=S042BET;LINKAGE=SA
[15] Measurement based on 152×10^6 $B\overline{B}$ pairs. NODE=S042BET;LINKAGE=AE
[16] Measurement based on 227×10^6 $B\overline{B}$ pairs. NODE=S042BET;LINKAGE=AR
[17] ABE 02U result is based on the same analysis and data sample reported in ABE 01G. NODE=S042BET;LINKAGE=AU
[18] ABE 02Z result is based on 85×10^6 $B\overline{B}$ pairs. NODE=S042BET;LINKAGE=KZ
[19] AUBERT 02N result based on the same analysis and data sample reported in AUBERT 01B. NODE=S042BET;LINKAGE=N2
[20] AUBERT 02P result is based on 88×10^6 $B\overline{B}$ pairs. NODE=S042BET;LINKAGE=P
[21] First observation of CP violation in B^0 meson system. NODE=S042BET;LINKAGE=BT
[22] ABE 98U uses 198 ± 17 $B^0_d \to J/\psi(1S) K^0$ events. The production flavor of B^0 was determined using the same side tagging technique. NODE=S042BET;LINKAGE=B

$C_{J/\psi(\mathrm{nS})K^0}$ ($B^0 \to J/\psi(\mathrm{nS}) K^0$)

NODE=S042CJK
NODE=S042CJK

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT	
0.2± 1.0 OUR EVALUATION	(Produced by HFLAV)				→ UNCHECKED ←
0.1± 1.0 OUR AVERAGE					
0.4± 1.2	[1] AAIJ	24	LHCB	pp at 7, 8 and 13 TeV	OCCUR=4
− 3.5± 2.6±2.9	[2] ADACHI	24H	BEL2	$e^+e^- \to \Upsilon(4S)$	
1.5± $2.1^{+2.3}_{-4.5}$	[3,4] ADACHI	12A	BELL	$e^+e^- \to \Upsilon(4S)$	
−10.4± $5.5^{+2.7}_{-4.7}$	[4,5] ADACHI	12A	BELL	$e^+e^- \to \Upsilon(4S)$	OCCUR=2
− 1.9± $2.6^{+4.1}_{-1.7}$	[4,6] ADACHI	12A	BELL	$e^+e^- \to \Upsilon(4S)$	OCCUR=3
8.9± 7.6±2.0	[5] AUBERT	09K	BABR	$e^+e^- \to \Upsilon(4S)$	
1.6± 2.3±1.8	AUBERT	09K	BABR	$e^+e^- \to \Upsilon(4S)$	OCCUR=2
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.8± 1.2±0.3	[7,8] AAIJ	24	LHCB	pp at 13 TeV	
− 8.7± 4.8±0.5	[9] AAIJ	24	LHCB	pp at 13 TeV	OCCUR=2
1.5± 1.3±0.3	[10] AAIJ	24	LHCB	pp at 13 TeV	OCCUR=3
− 1.7± 2.9	[7,11] AAIJ	17BN	LHCB	pp at 7, 8 TeV	
− 1.4± 3.0	[10] AAIJ	17BN	LHCB	pp at 7, 8 TeV	OCCUR=2
− 5 ±10 ±1	[9] AAIJ	17BN	LHCB	pp at 7, 8 TeV	OCCUR=3
− 3.8± 3.2±0.5	[12] AAIJ	15N	LHCB	Repl. by AAIJ 17BN	
3 ± 9 ±1	[13] AAIJ	13K	LHCB	Repl. by AAIJ 15N	
− 4 ± 7 ±5	[4,5] SAHOO	08	BELL	Repl. by ADACHI 12A	
− 1.8± 2.1±1.4	[4] CHEN	07	BELL	Repl. by ADACHI 12A	

[1] A combination of this Run 2 result with the Run 1 result from AAIJ 17BN is reported with a correlation coefficient of 0.40. NODE=S042CJK;LINKAGE=G
[2] Uses $B^0 \to J/\psi K^0_S$ decays with 362 fb^{-1} BELL II data. NODE=S042CJK;LINKAGE=H
[3] Uses $B^0 \to J/\psi K^0_S$ decays. NODE=S042CJK;LINKAGE=AD
[4] The paper reports A, which is equal to $-C$. NODE=S042CJK;LINKAGE=CH
[5] Uses $B^0 \to \psi(2S) K^0_S$ decays. NODE=S042CJK;LINKAGE=SA
[6] Uses $B^0 \to J/\psi K^0_L$ decays. NODE=S042CJK;LINKAGE=AH
[7] Measurement based on $B^0 \to J/\psi K^0_S$, $B^0 \to \psi(2S) K^0_S$ with $J/\psi \to \mu^+\mu^-$, $J/\psi \to e^+e^-$ and $\psi(2S) \to \mu^+\mu^-$. NODE=S042CJK;LINKAGE=B
[8] AAIJ 24 provides the correlation coefficient $\rho = 0.441$ between the uncertainties of $C_{J/\psi(\mathrm{nS})K^0}$ ($B^0 \to J/\psi(\mathrm{nS}) K^0$) and $S_{J/\psi(\mathrm{nS})K^0}$ ($B^0 \to J/\psi(\mathrm{nS}) K^0$) measurements. NODE=S042CJK;LINKAGE=F
[9] Measurement based on $B^0 \to \psi(2S) K^0_S$ with $\psi(2S) \to \mu^+\mu^-$. NODE=S042CJK;LINKAGE=E
[10] Measurement based on $B^0 \to J/\psi K^0_S$ with $J/\psi \to \mu^+\mu^-$ and $J/\psi \to e^+e^-$. NODE=S042CJK;LINKAGE=D
[11] AAIJ 17BN provides the correlation coefficient $\rho = 0.42$ between the uncertainties of $S_{J/\psi(\mathrm{nS})K^0}$ ($B^0 \to J/\psi(\mathrm{nS}) K^0$) and $C_{J/\psi(\mathrm{nS})K^0}$ ($B^0 \to J/\psi(\mathrm{nS}) K^0$) measurements. NODE=S042CJK;LINKAGE=C
[12] AAIJ 15N uses 41,560 flavor-tagged $B_d \to J/\psi K^0_S$ events from 3 fb^{-1} of integrated luminosity. Provides the correlation coefficient $\rho = 0.483$ between the statistical uncertainties of and measurements. NODE=S042CJK;LINKAGE=A
[13] AAIJ 13K uses 8200 flavor-tagged $B_d \to J/\psi K^0_S$ events from 1 fb^{-1} of integrated luminosity. Provides the correlation coefficient $\rho = 0.42$ between the statistical uncertainties of $S_{J/\psi(\mathrm{nS})K^0}$ ($B^0 \to J/\psi(\mathrm{nS}) K^0$) and $C_{J/\psi(\mathrm{nS})K^0}$ ($B^0 \to J/\psi(\mathrm{nS}) K^0$) measurements. NODE=S042CJK;LINKAGE=AA

$S_{J/\psi(\mathrm{nS})K^0}$ ($B^0 \to J/\psi(\mathrm{nS})K^0$)

NODE=S042SJK

NODE=S042SJK

VALUE	DOCUMENT ID		TECN	COMMENT	
0.711±0.011 OUR EVALUATION	(Produced by HFLAV)				→ UNCHECKED ←
0.710±0.014 OUR AVERAGE	Error includes scale factor of 1.3. See the ideogram below.				
0.724±0.014	[1] AAIJ	24	LHCB	pp at 7, 8 and 13 TeV	OCCUR=4
0.724±0.035±0.009	[2] ADACHI	24H	BEL2	$e^+e^- \to \Upsilon(4S)$	
0.670±0.029±0.013	[3] ADACHI	12A	BELL	$e^+e^- \to \Upsilon(4S)$	
0.738±0.079±0.036	[4] ADACHI	12A	BELL	$e^+e^- \to \Upsilon(4S)$	OCCUR=2
0.642±0.047±0.021	[5] ADACHI	12A	BELL	$e^+e^- \to \Upsilon(4S)$	OCCUR=3
0.57 ±0.58 ±0.06	[6] SATO	12	BELL	$e^+e^- \to \Upsilon(5S)$	
0.897±0.100±0.036	[4] AUBERT	09K	BABR	$e^+e^- \to \Upsilon(4S)$	
0.666±0.031±0.013	AUBERT	09K	BABR	$e^+e^- \to \Upsilon(4S)$	OCCUR=2
$0.79\ ^{+0.41}_{-0.44}$	[7] AFFOLDER	00C	CDF	$p\overline{p}$ at 1.8 TeV	
$0.84\ ^{+0.82}_{-1.04}\ \pm0.16$	[8] BARATE	00Q	ALEP	$e^+e^- \to Z$	
$3.2\ ^{+1.8}_{-2.0}\ \pm0.5$	[9] ACKERSTAFF	98Z	OPAL	$e^+e^- \to Z$	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.717±0.013±0.008	[10,11] AAIJ	24	LHCB	pp at 13 TeV	
0.649±0.053±0.018	[12] AAIJ	24	LHCB	pp at 13 TeV	OCCUR=2
0.722±0.014±0.007	[13] AAIJ	24	LHCB	pp at 13 TeV	OCCUR=3
0.760±0.034	[10,14] AAIJ	17BN	LHCB	pp at 7, 8 TeV	
0.75 ±0.04	[13] AAIJ	17BN	LHCB	pp at 7, 8 TeV	OCCUR=2
0.84 ±0.10 ±0.01	[12] AAIJ	17BN	LHCB	pp at 7, 8 TeV	OCCUR=3
0.731±0.035±0.020	[15] AAIJ	15N	LHCB	Repl. by AAIJ 17BN	
0.73 ±0.07 ±0.04	[16] AAIJ	13K	LHCB	Repl. by AAIJ 15N	
0.650±0.029±0.018	[17] SAHOO	08	BELL	Repl. by ADACHI 12A	
0.72 ±0.09 ±0.03	[4] SAHOO	08	BELL	Repl. by ADACHI 12A	OCCUR=2
0.642±0.031±0.017	CHEN	07	BELL	Repl. by ADACHI 12A	

[1] A combination of this Run 2 result with the Run 1 result from AAIJ 17BN is reported with a correlation coefficient of 0.40.
NODE=S042SJK;LINKAGE=G

[2] Uses $B^0 \to J/\psi K^0_S$ decays with 362 fb^{-1} BELL II data.
NODE=S042SJK;LINKAGE=H

[3] Uses $B^0 \to J/\psi K^0_S$ decays.
NODE=S042SJK;LINKAGE=AD

[4] Based on $B^0 \to \psi(2S)K^0_S$ decays.
NODE=S042SJK;LINKAGE=SA

[5] Uses $B^0 \to J/\psi K^0_L$ decays.
NODE=S042SJK;LINKAGE=AH

[6] SATO 12 uses 121 fb^{-1} data collected at $\Upsilon(5S)$ resonance. Uses the "$B-\pi$ tagging" where $B\pi^+$ and $B\pi^-$ tagged $J/\psi K^0_S$ events are compared.
NODE=S042SJK;LINKAGE=ST

[7] AFFOLDER 00C uses about 400 $B^0 \to J/\psi(1S)K^0_S$ events. The production flavor of B^0 was determined using three tagging algorithms: a same-side tag, a jet-charge tag, and a soft-lepton tag.
NODE=S042SJK;LINKAGE=AF

[8] BARATE 00Q uses 23 candidates for $B^0 \to J/\psi(1S)K^0_S$ decays. A combination of jet-charge, vertex-charge, and same-side tagging techniques were used to determine the B^0 production flavor.
NODE=S042SJK;LINKAGE=BA

[9] ACKERSTAFF 98Z uses 24 candidates for $B^0_d \to J/\psi(1S)K^0_S$ decay. A combination of jet-charge and vertex-charge techniques were used to tag the B^0_d production flavor.
NODE=S042SJK;LINKAGE=AC

[10] Measurement based on $B^0 \to J/\psi K^0_S$, $B^0 \to \psi(2S)K^0_S$ with $J/\psi \to \mu^+\mu^-$, $J/\psi \to e^+e^-$ and $\psi(2S) \to \mu^+\mu^-$.
NODE=S042SJK;LINKAGE=B

[11] AAIJ 24 provides the correlation coefficient $\rho = 0.441$ between the uncertainties of $C_{J/\psi(\mathrm{nS})K^0}$ ($B^0 \to J/\psi(\mathrm{nS})K^0$) and $S_{J/\psi(\mathrm{nS})K^0}$ ($B^0 \to J/\psi(\mathrm{nS})K^0$) measurements.
NODE=S042SJK;LINKAGE=F

[12] Measurement based on $B^0 \to \psi(2S)K^0_S$ with $\psi(2S) \to \mu^+\mu^-$.
NODE=S042SJK;LINKAGE=D

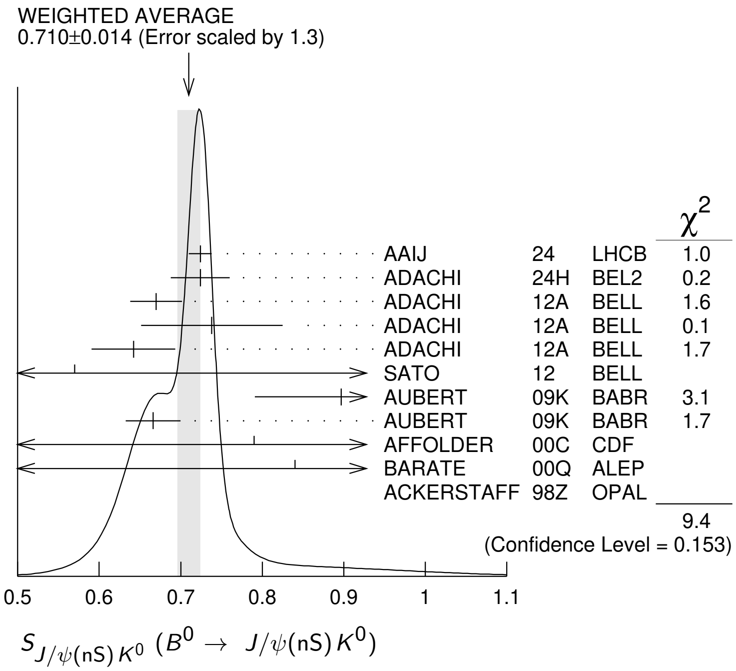
[13] Measurement based on $B^0 \to J/\psi K^0_S$ with $J/\psi \to \mu^+\mu^-$ and $J/\psi \to e^+e^-$.
NODE=S042SJK;LINKAGE=C

[14] AAIJ 17BN provides the correlation coefficient $\rho = 0.42$ between the uncertainties of $S_{J/\psi(\mathrm{nS})K^0}$ ($B^0 \to J/\psi(\mathrm{nS})K^0$) and $C_{J/\psi(\mathrm{nS})K^0}$ ($B^0 \to J/\psi(\mathrm{nS})K^0$) measurements.
NODE=S042SJK;LINKAGE=E

[15] AAIJ 15N uses 41,560 flavor-tagged $B_d \to J/\psi K^0_S$ events from 3 fb^{-1} of integrated luminosity. Provides the correlation coefficient $\rho = 0.483$ between the statistical uncertainties of and measurements.
NODE=S042SJK;LINKAGE=A

[16] AAIJ 13K uses 8200 flavor-tagged $B_d \to J/\psi K^0_S$ events from 1 fb^{-1} of integrated luminosity. Provides the correlation coefficient $\rho = 0.42$ between the statistical uncertainties of $S_{J/\psi(\mathrm{nS})K^0}$ ($B^0 \to J/\psi(\mathrm{nS})K^0$) and $C_{J/\psi(\mathrm{nS})K^0}$ ($B^0 \to J/\psi(\mathrm{nS})K^0$) measurements.
NODE=S042SJK;LINKAGE=AA

[17] Combined result of CHEN 07 and SAHOO 08.
NODE=S042SJK;LINKAGE=SC



$C_{J/\psi K^{*0}}$ $(B^0 \to J/\psi K^{*0})$

NODE=S042CJS
NODE=S042CJS

VALUE	DOCUMENT ID	TECN	COMMENT
0.025±0.083±0.054	[1] AUBERT 09K	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Based on $B^0 \to J/\psi K^{*0}$, $K^{*0} \to K^0_S \pi^0$.

NODE=S042CJS;LINKAGE=AU

$S_{J/\psi K^{*0}}$ $(B^0 \to J/\psi K^{*0})$

NODE=S042SJS
NODE=S042SJS

VALUE	DOCUMENT ID	TECN	COMMENT
0.601±0.239±0.087	[1,2] AUBERT 09K	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Based on $B^0 \to J/\psi K^{*0}$, $K^{*0} \to K^0_S \pi^0$.

NODE=S042SJS;LINKAGE=AU

[2] This $S_{J/\psi K^{*0}}$ value has been corrected for the dilution of the sin(ΔM Δt) coefficient of the CP asymmetry by a factor of $1-R_\perp$, which arises from the mixture of CP-even and CP-odd B decay amplitudes.

NODE=S042SJS;LINKAGE=UB

$C_{\chi_{c0} K^0_S}$ $(B^0 \to \chi_{c0} K^0_S)$

NODE=S042CC2
NODE=S042CC2

VALUE	DOCUMENT ID	TECN	COMMENT
$\mathbf{-0.29^{+0.53}_{-0.44}\pm0.06}$	[1] AUBERT 09AU	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of $B^0 \to K^0 \pi^+ \pi^-$ decays and the first of two equivalent solutions is used.

NODE=S042CC2;LINKAGE=AU

$S_{\chi_{c0} K^0_S}$ $(B^0 \to \chi_{c0} K^0_S)$

NODE=S042SC2
NODE=S042SC2

VALUE	DOCUMENT ID	TECN	COMMENT
−0.69±0.52±0.08	[1] AUBERT 09AU	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Uses Dalitz plot analysis of $B^0 \to K^0 \pi^+ \pi^-$ decays and the first of two equivalent solutions is used.

NODE=S042SC2;LINKAGE=AU

$C_{\chi_{c1} K^0_S}$ $(B^0 \to \chi_{c1} K^0_S)$

NODE=S042CC1
NODE=S042CC1

VALUE	DOCUMENT ID	TECN	COMMENT
0.06 ±0.07 OUR AVERAGE			
$0.017\pm0.083^{+0.026}_{-0.046}$	ADACHI 12A	BELL	$e^+ e^- \to \Upsilon(4S)$
0.129±0.109±0.025	AUBERT 09K	BABR	$e^+ e^- \to \Upsilon(4S)$

$S_{\chi_{c1} K^0_S}$ $(B^0 \to \chi_{c1} K^0_S)$

NODE=S042SC1
NODE=S042SC1

VALUE	DOCUMENT ID	TECN	COMMENT
0.63 ±0.10 OUR AVERAGE			
0.640±0.117±0.040	ADACHI 12A	BELL	$e^+ e^- \to \Upsilon(4S)$
0.614±0.160±0.040	AUBERT 09K	BABR	$e^+ e^- \to \Upsilon(4S)$

$\sin(2\beta_{\rm eff})(B^0 \to \phi K^0)$

NODE=S042BTF

VALUE	DOCUMENT ID		TECN	COMMENT
0.22±0.27±0.12	AUBERT	07AX	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.50\pm0.25^{+0.07}_{-0.04}$	[1] AUBERT	05T	BABR	Repl. by AUBERT 07AX

[1] Obtained by constraining $C = 0$. NODE=S042BTF;LINKAGE=AU

$\sin(2\beta_{\rm eff})(B^0 \to \phi K^*_0(1430)^0)$

NODE=S042BFK

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.97^{+0.03}_{-0.52}}$	[1] AUBERT	08BG	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Measured using the CP-violation phase difference $\Delta\phi_{00}$ between the B and $\overline{B}$ decay amplitude. NODE=S042BFK;LINKAGE=AU

$\sin(2\beta_{\rm eff})(B^0 \to K^+K^-K^0_S)$

NODE=S042BTK

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.77\pm0.11^{+0.07}_{-0.04}}$	AUBERT	07AX	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.55\pm0.22\pm0.12$	[1] AUBERT	05T	BABR	Repl. by AUBERT 07AX

[1] Obtained by constraining $C = 0$. NODE=S042BTK;LINKAGE=AU

$\sin(2\beta_{\rm eff})(B^0 \to [K^0_S\pi^+\pi^-]_{D^{(*)}} h^0)$

NODE=S042BTM

VALUE	DOCUMENT ID		TECN	COMMENT
0.80±0.14±0.07	[1] ADACHI	18		$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.43\pm0.27\pm0.08$	[2] VOROBYEV	16	BELL	$e^+e^- \to \Upsilon(4S)$
$0.29\pm0.34\pm0.06$	AUBERT	07BH	BABR	$e^+e^- \to \Upsilon(4S)$
$0.78\pm0.44\pm0.22$	KROKOVNY	06	BELL	Repl. by VOROBYEV 16

[1] Analyzes joint data sample of Belle and BaBar using Dalitz plot analysis of $D \to K^0_S\pi^+\pi^-$; the second error combines experimental systematic uncertainty and the Dalitz plot model uncertainty. NODE=S042BTM;LINKAGE=A

[2] A model-independent measurement uses the binned Dalitz plot technique. NODE=S042BTM;LINKAGE=B

$\beta_{\rm eff}(B^0 \to [K^0_S\pi^+\pi^-]_{D^{(*)}} h^0)$

NODE=S042A01

VALUE (°)	DOCUMENT ID		TECN	COMMENT
22.5±4.4±1.3	[1] ADACHI	18		$e^+e^- \to \Upsilon(4S)$ OCCUR=2
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$11.7\pm7.8\pm2.1$	[2] VOROBYEV	16	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Analyzes joint data sample of Belle and BaBar using Dalitz plot analysis of $D \to K^0_S\pi^+\pi^-$; the second error combines experimental systematic uncertainty and the Dalitz plot model uncertainty. NODE=S042A01;LINKAGE=C

[2] A model-independent measurement uses the binned Dalitz plot technique. NODE=S042A01;LINKAGE=A

$2\beta_{\rm eff}(B^0 \to J/\psi\rho^0)$

NODE=S042BEF

VALUE (°)	DOCUMENT ID		TECN	COMMENT
$\mathbf{41.7\pm9.6^{+2.8}_{-6.3}}$	AAIJ	15J	LHCB	pp at 7, 8 TeV

$|\lambda|\ (B^0 \to [K^0_S\pi^+\pi^-]_{D^{(*)}} h^0)$

NODE=S042LDH

VALUE	DOCUMENT ID		TECN	COMMENT
1.01±0.08±0.02	AUBERT	07BH	BABR	$e^+e^- \to \Upsilon(4S)$

$|\sin(2\beta+\gamma)|$

NODE=S042BGA

β (ϕ_1) and γ (ϕ_3) are angles of CKM unitarity triangle, see the review on "*CP* Violation" in the Reviews section. NODE=S042BGA

NODE=S042BGA

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
>0.40	90	[1] AUBERT	06Y	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
>0.77	68	[2] AAIJ	18Z	LHCB	pp at 7, 8 TeV
>0.13	95	[3] RONGA	06	BELL	$e^+e^- \to \Upsilon(4S)$
>0.07	95	[3] RONGA	06	BELL	$e^+e^- \to \Upsilon(4S)$ OCCUR=2
>0.35	90	[4] AUBERT	05Z	BABR	$e^+e^- \to \Upsilon(4S)$
>0.69	68	[5] AUBERT	04V	BABR	$e^+e^- \to \Upsilon(4S)$
>0.58	95	[6] AUBERT	04W	BABR	Repl. by AUBERT 05Z

[1] Uses fully reconstructed $B^0 \to D^{(*)\pm}\pi^\mp$ and $D^\pm\rho^\mp$ decays and some theoretical assumptions. NODE=S042BGA;LINKAGE=AE

[2] Uses a time dependent CP violation measurement in $B^0 \to D^\mp\pi^\pm$ decays with external input and some theoretical assumptions. NODE=S042BGA;LINKAGE=A

[3] Combines the results from fully reconstructed and partially reconstructed $D^{(*)}\pi$ events by taking weighted averages. Assumes that systematic errors from physics parameters and fit biases in the two measurements are 100% correlated. NODE=S042BGA;LINKAGE=RO

[4] Uses partially reconstructed $B^0 \to D^{*\pm}\pi^\mp$ decays and some theoretical assumptions. NODE=S042BGA;LINKAGE=AP

[5] Uses fully reconstructed $B^0 \to D^{(*)\pm}\pi^\mp$ decays and some theoretical assumptions, such as the SU(3) symmetry relation. NODE=S042BGA;LINKAGE=AU

[6] Combining this measurement with the results from AUBERT 04V for fully reconstructed $B^0 \to D^{(*)\pm}\pi^\mp$ and some theoretical assumptions, such as the SU(3) symmetry relation. NODE=S042BGA;LINKAGE=AB

$2\beta+\gamma$

NODE=S042BG0
NODE=S042BG0

VALUE (°)	*DOCUMENT ID*		*TECN*	*COMMENT*
83±53±20	[1] AUBERT	08AC	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Used a time-dependent Dalitz-plot analysis of $B^0 \to D^\mp K^0\pi^\pm$ assuming the ratio of the $b \to u$ and $b \to c$ decay amplitudes to be 0.3. NODE=S042BG0;LINKAGE=AU

α

NODE=S042ALP

For angle $\alpha(\phi_2)$ of the CKM unitarity triangle, see the review on "*CP* violation" in the reviews section. NODE=S042ALP

NODE=S042ALP

VALUE (°)	*DOCUMENT ID*		*TECN*	*COMMENT*
$84.1^{+4.5}_{-3.8}$ OUR EVALUATION (Produced by HFLAV)				
92 ± 5 OUR AVERAGE [(93 ± 5)° OUR 2018 AVERAGE]				
$91.5^{+4.8}_{-5.2}$	[1] ADACHI	25H	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
93.7±10.6	[1] VANHOEFER	16	BELL	$e^+e^- \to \Upsilon(4S)$
84.9±13.5	[1] VANHOEFER	14	BELL	Repl. by VANHOEFER 16
79 ± 7 ±11	[2] AUBERT	10D	BABR	$e^+e^- \to \Upsilon(4S)$
$92.4^{+6.0}_{-6.5}$	[1] AUBERT	09G	BABR	$e^+e^- \to \Upsilon(4S)$
78.6± 7.3	[3] AUBERT	07O	BABR	$e^+e^- \to \Upsilon(4S)$
88 ±17	[4] SOMOV	06	BELL	Repl. by VANHOEFER 14
100 ±13	[5] AUBERT,B	05C	BABR	Repl. by AUBERT 09G
102^{+16}_{-12} ±14	[6] AUBERT,B	04R	BABR	Repl. by AUBERT,B 05C

→ UNCHECKED ←
NEW

[1] Based on an isospin analysis of the $B \to \rho\rho$ system. NODE=S042ALP;LINKAGE=BE

[2] Obtained using the time dependent analysis of $B^0 \to a_1(1260)^\pm\pi^\mp$ and branching fraction measurements of $B \to a_1(1260)K$ and $B \to K_1\pi$. Uses SU(3) flavor relations. NODE=S042ALP;LINKAGE=AE

[3] The angle $\alpha_{\rm eff}$ is obtained using the measured *CP* parameters of $B^0 \to a_1(1260)^\pm\pi^\mp$ and choosing one of the four solutions that is compatible with the result of SM-based fits. NODE=S042ALP;LINKAGE=UB

[4] Obtained using isospin relation and selecting a solution closest to the CKM best fit average; the 90% CL allowed interval is $59^\circ < \phi_2\ (\equiv\alpha) < 115^\circ$. NODE=S042ALP;LINKAGE=SO

[5] Obtained using isospin relation and selecting a solution closest to the CKM best fit average; 90% CL allowed interval is $79^\circ < \alpha < 123^\circ$. NODE=S042ALP;LINKAGE=AB

[6] Obtained from the measured *CP* parameters of the longitudinal polarization by selecting the solution closest to the CKM best fit central value of $\alpha = 95^\circ - 98^\circ$. NODE=S042ALP;LINKAGE=AU

CP VIOLATION PARAMETERS IN $B^0 \to D^0K^{*0}$ DECAY

NODE=S042330

The parameters r_{B^0} and δ_{B^0} are the magnitude ratio and strong phase difference between the amplitudes of A($B^0 \to D^0K^{*0}$) and A($B^0 \to \overline{D}^0K^{*0}$). The measured observables and are defined as $x_\pm = r_{B^0}\cos(\delta_{B^0} \pm \gamma)$ and $y_\pm = r_{B^0}\sin(\delta_{B^0} \pm \gamma)$ where γ is the CKM angle γ. NODE=S042330

"OUR EVALUATION" is provided by the Heavy Flavor Averaging Group (HFLAV). The CKM angle γ is listed in the B^+ section for "*CP* VIOLATION PARAMETERS IN $B^+ \to DK^+$ AND SIMILAR DECAYS."

$x_+(B^0 \to D K^{*0})$

NODE=S042XP
NODE=S042XP

VALUE	DOCUMENT ID		TECN	COMMENT
0.07 ±0.08 OUR AVERAGE				
0.074±0.086±0.012	[1] AAIJ	24U	LHCB	pp at 7, 8, 13 TeV
0.04 ±0.16 ±0.11	[2] AAIJ	16S	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.05 ±0.24 ±0.04	[3] AAIJ	16AA	LHCB	Repl. by AAIJ 16Z
0.05 ±0.35 ±0.02	[4] AAIJ	16Z	LHCB	Repl. by AAIJ 24U

[1] Uses Dalitz plot analysis of $D \to K^0_S \pi^+\pi^-$, $K^0_S K^+ K^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. The second error is the systematic contribution from the D decay strong-phase inputs and from the experimental systematic uncertainties. NODE=S042XP;LINKAGE=C

[2] Uses Dalitz plof of $B^0 \to D K^+\pi^-$ with $D \to K^+K^-$, $\pi^+\pi^-$, or $K^+\pi^-$. NODE=S042XP;LINKAGE=A

[3] Uses Dalitz plot analysis of $D \to K^0_S \pi^+\pi^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. NODE=S042XP;LINKAGE=B

[4] Uses Dalitz plot analysis of $D \to K^0_S \pi^+\pi^-$, $K^0_S K^+ K^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. NODE=S042XP;LINKAGE=D

$x_-(B^0 \to D K^{*0})$

NODE=S042XM
NODE=S042XM

VALUE	DOCUMENT ID		TECN	COMMENT
−0.18 ±0.08 OUR AVERAGE				
−0.215±0.086±0.014	[1] AAIJ	24U	LHCB	pp at 7, 8, 13 TeV
−0.02 ±0.13 ±0.14	[2] AAIJ	16S	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.15 ±0.14 ±0.03	[3] AAIJ	16AA	LHCB	Repl. by AAIJ 16Z
−0.31 ±0.20 ±0.04	[4] AAIJ	16Z	LHCB	Repl. by AAIJ 24U

[1] Uses Dalitz plot analysis of $D \to K^0_S \pi^+\pi^-$, $K^0_S K^+ K^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. The second error is the systematic contribution from the D decay strong-phase inputs and from the experimental systematic uncertainties. NODE=S042XM;LINKAGE=C

[2] Uses Dalitz plot of $B^0 \to D K^+\pi^-$ with $D \to K^+K^-$, $\pi^+\pi^-$, or $K^+\pi^-$. NODE=S042XM;LINKAGE=A

[3] Uses Dalitz plot analysis of $D \to K^0_S \pi^+\pi^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. NODE=S042XM;LINKAGE=B

[4] Uses Dalitz plot analysis of $D \to K^0_S \pi^+\pi^-$, $K^0_S K^+ K^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. NODE=S042XM;LINKAGE=D

$y_+(B^0 \to D K^{*0})$

NODE=S042YP
NODE=S042YP

VALUE	DOCUMENT ID		TECN	COMMENT
−0.35 ±0.10 OUR AVERAGE				
−0.336±0.105±0.019	[1] AAIJ	24U	LHCB	pp at 7, 8, 13 TeV
−0.47 ±0.28 ±0.22	[2] AAIJ	16S	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.65\ ^{+0.24}_{-0.23}\ \pm0.08$	[3] AAIJ	16AA	LHCB	Repl. by AAIJ 16Z
−0.81 ±0.28 ±0.06	[4] AAIJ	16Z	LHCB	Repl. by AAIJ 24U

[1] Uses Dalitz plot analysis of $D \to K^0_S \pi^+\pi^-$, $K^0_S K^+ K^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. The second error is the systematic contribution from the D decay strong-phase inputs and from the experimental systematic uncertainties. NODE=S042YP;LINKAGE=C

[2] Uses Dalitz plof of $B^0 \to D K^+\pi^-$ with $D \to K^+K^-$, $\pi^+\pi^-$, or $K^+\pi^-$. NODE=S042YP;LINKAGE=A

[3] Uses Dalitz plot analysis of $D \to K^0_S \pi^+\pi^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. NODE=S042YP;LINKAGE=B

[4] Uses Dalitz plot analysis of $D \to K^0_S \pi^+\pi^-$, $K^0_S K^+ K^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. NODE=S042YP;LINKAGE=D

$y_-(B^0 \to D K^{*0})$

NODE=S042YM
NODE=S042YM

VALUE	DOCUMENT ID		TECN	COMMENT
−0.03 ±0.13 OUR AVERAGE				
−0.012±0.128±0.026	[1] AAIJ	24U	LHCB	pp at 7, 8, 13 TeV
−0.35 ±0.26 ±0.41	[2] AAIJ	16S	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.25 ±0.15 ±0.06	[3] AAIJ	16AA	LHCB	Repl. by AAIJ 16Z
0.31 ±0.21 ±0.05	[4] AAIJ	16Z	LHCB	Repl. by AAIJ 24U

[1] Uses Dalitz plot analysis of $D \to K^0_S \pi^+\pi^-$, $K^0_S K^+ K^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. The second error is the systematic contribution from the D decay strong-phase inputs and from the experimental systematic uncertainties. NODE=S042YM;LINKAGE=C

[2] Uses Dalitz plof of $B^0 \to D K^+\pi^-$ with $D \to K^+K^-$, $\pi^+\pi^-$, or $K^+\pi^-$. NODE=S042YM;LINKAGE=A

[3] Uses Dalitz plot analysis of $D \to K^0_S \pi^+\pi^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. NODE=S042YM;LINKAGE=B

[4] Uses Dalitz plot analysis of $D \to K^0_S \pi^+\pi^-$, $K^0_S K^+ K^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. NODE=S042YM;LINKAGE=D

$r_{B^0}(B^0 \to D K^{*0})$

NODE=S042AR

VALUE	DOCUMENT ID	TECN	COMMENT
0.250±0.022 OUR EVALUATION	(Produced by HFLAV)		
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.271^{+0.065}_{-0.066}$	[1] AAIJ 24U	LHCB	pp at 7, 8, 13 TeV
0.39 ± 0.13	[2] AAIJ 16AA	LHCB	Repl. by AAIJ 16Z
0.56 ± 0.17	[3,4] AAIJ 16Z	LHCB	Repl. by AAIJ 24U

NODE=S042AR

→ UNCHECKED ←

[1] Uses Dalitz plot analysis of $D \to K^0_S \pi^+ \pi^-$, $K^0_S K^+ K^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. NODE=S042AR;LINKAGE=A

[2] Uses Dalitz plot analysis of $D \to K^0_S \pi^+ \pi^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. NODE=S042AR;LINKAGE=C

[3] Measurement is performed with $K^+ \pi^-$ masses within 50 MeV of the K^{*0} mass and an absolute value of the cosine of the K^{*0} helicity angle greater than 0.4. Angle γ is required to satisfy $0 < \gamma < 180$ degrees. NODE=S042AR;LINKAGE=B

[4] Uses Dalitz plot analysis of $D \to K^0_S \pi^+ \pi^-$, $K^0_S K^+ K^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. NODE=S042AR;LINKAGE=D

$\delta_{B^0}(B^0 \to D K^{*0})$

NODE=S042A00

VALUE (°)	DOCUMENT ID	TECN	COMMENT
$202.8^{+10.3}_{-9.0}$ OUR EVALUATION	(Produced by HFLAV)		
• • • We do not use the following data for averages, fits, limits, etc. • • •			
236^{+19}_{-21}	[1] AAIJ 24U	LHCB	pp at 7, 8, 13 TeV
197^{+24}_{-20}	[2] AAIJ 16AA	LHCB	Repl. by AAIJ 16Z
204^{+21}_{-20}	[3,4] AAIJ 16Z	LHCB	Repl. by AAIJ 24U

NODE=S042A00

→ UNCHECKED ←

[1] Uses Dalitz plot analysis of $D \to K^0_S \pi^+ \pi^-$, $K^0_S K^+ K^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. NODE=S042A00;LINKAGE=A

[2] Uses Dalitz plot analysis of $D \to K^0_S \pi^+ \pi^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. NODE=S042A00;LINKAGE=C

[3] Measurement is performed with $K^+ \pi^-$ masses within 50 MeV of the K^{*0} mass and an absolute value of the cosine of the K^{*0} helicity angle greater than 0.4. Angle γ is required to satisfy $0 < \gamma < 180$ degrees. NODE=S042A00;LINKAGE=B

[4] Uses Dalitz plot analysis of $D \to K^0_S \pi^+ \pi^-$, $K^0_S K^+ K^-$ decays coming from $B^0 \to D K^*(892)^0$ modes. NODE=S042A00;LINKAGE=D

$a_{CP}(B^0 \to p \overline{p} K^+ \pi^-)$

NODE=S042A44

Observable $a_{CP}(B^0 \to p \overline{p} K^+ \pi^-)$ calculated as half of the difference between triple products for B^0 and $\overline{B}^0$, which is sensitive to CP violation. NODE=S042A44

VALUE (%)	DOCUMENT ID	TECN	COMMENT
0.51±0.85±0.08	[1] AAIJ 23AG	LHCB	pp at 7, 8 and 13 TeV

NODE=S042A44

[1] Phase-space integrated asymmetry. NODE=S042A44;LINKAGE=A

$a_P(B^0 \to p \overline{p} K^+ \pi^-)$

NODE=S042A45

Observable $a_P(B^0 \to p \overline{p} K^+ \pi^-)$ calculated as the average of the triple products for B^0 and $\overline{B}^0$, which is sensitive to parity violation. NODE=S042A45

VALUE (%)	DOCUMENT ID	TECN	COMMENT
1.49±0.85±0.08	[1] AAIJ 23AG	LHCB	pp at 7, 8 and 13 TeV

NODE=S042A45

[1] Phase-space integrated asymmetry. NODE=S042A45;LINKAGE=A

T and *CPT* VIOLATION PARAMETERS

NODE=S042235

Measured values of the T-, CP-, and CPT-asymmetry parameters, defined as the differences in $S^{\pm}_{\alpha,\beta}$ and $C^{\pm}_{\alpha,\beta}$ between symmetry-transformed transitions. The indices $\alpha = \ell^+, \ell^-$ and $\beta = K^0_S, K^0_L$ stand for reconstructed the flavor final state and the CP final states from $\Upsilon(4S)$ decay. The sign $\pm$ indicates whether the decay to the flavor final state α occurs before or after the decay to the CP final state. NODE=S042235

Alternatively, violations of CPT symmetry and Lorentz invariance are searched for by studying interference effects in B^0 mixing. Results are expressed in terms of the standard model extension parameter Δa, which describes the difference between the couplings of the valence quarks within B^0 meson with the Lorentz-violating fields.

ΔS^+_T ($S^-_{\ell^-,K^0_S} - S^+_{\ell^+,K^0_S}$)

NODE=S042TVA
NODE=S042TVA

VALUE	DOCUMENT ID		TECN	COMMENT
−1.37±0.14±0.06	LEES	12W	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

ΔS^-_T ($S^+_{\ell^-,K^0_S} - S^-_{\ell^+,K^0_S}$)

NODE=S042TVB
NODE=S042TVB

VALUE	DOCUMENT ID		TECN	COMMENT
1.17±0.18±0.11	LEES	12W	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

ΔC^+_T ($C^-_{\ell^-,K^0_S} - C^+_{\ell^+,K^0_S}$)

NODE=S042TVC
NODE=S042TVC

VALUE	DOCUMENT ID		TECN	COMMENT
0.10±0.14±0.08	LEES	12W	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

ΔC^-_T ($C^+_{\ell^-,K^0_S} - C^-_{\ell^+,K^0_S}$)

NODE=S042TVD
NODE=S042TVD

VALUE	DOCUMENT ID		TECN	COMMENT
0.04±0.14±0.08	LEES	12W	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

ΔS^+_{CP} ($S^+_{\ell^-,K^0_S} - S^+_{\ell^+,K^0_S}$)

NODE=S042TVE
NODE=S042TVE

VALUE	DOCUMENT ID		TECN	COMMENT
−1.30±0.11±0.07	LEES	12W	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

ΔS^-_{CP} ($S^-_{\ell^-,K^0_S} - S^-_{\ell^+,K^0_S}$)

NODE=S042TVF
NODE=S042TVF

VALUE	DOCUMENT ID		TECN	COMMENT
1.33±0.12±0.06	LEES	12W	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

ΔC^+_{CP} ($C^+_{\ell^-,K^0_S} - C^+_{\ell^+,K^0_S}$)

NODE=S042TVG
NODE=S042TVG

VALUE	DOCUMENT ID		TECN	COMMENT
0.07±0.09±0.03	LEES	12W	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

ΔC^-_{CP} ($C^-_{\ell^-,K^0_S} - C^-_{\ell^+,K^0_S}$)

NODE=S042TVH
NODE=S042TVH

VALUE	DOCUMENT ID		TECN	COMMENT
0.08±0.10±0.04	LEES	12W	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

ΔS^+_{CPT} ($S^-_{\ell^+,K^0_S} - S^+_{\ell^+,K^0_S}$)

NODE=S042TVI
NODE=S042TVI

VALUE	DOCUMENT ID		TECN	COMMENT
0.16±0.21±0.09	LEES	12W	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

ΔS^-_{CPT} ($S^+_{\ell^+,K^0_S} - S^-_{\ell^+,K^0_S}$)

NODE=S042TVJ
NODE=S042TVJ

VALUE	DOCUMENT ID		TECN	COMMENT
−0.03±0.13±0.06	LEES	12W	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

ΔC^+_{CPT} ($C^-_{\ell^+,K^0_S} - C^+_{\ell^+,K^0_S}$)

NODE=S042TVK
NODE=S042TVK

VALUE	DOCUMENT ID		TECN	COMMENT
0.14±0.15±0.07	LEES	12W	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

ΔC^-_{CPT} ($C^+_{\ell^+,K^0_S} - C^-_{\ell^+,K^0_S}$)

NODE=S042TVL
NODE=S042TVL

VALUE	DOCUMENT ID		TECN	COMMENT
0.03±0.12±0.08	LEES	12W	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

$\Delta a_{\parallel}$ CPT parameter in B^0 mixing

NODE=S042CT7
NODE=S042CT7

VALUE (10^{-15} GeV)	DOCUMENT ID		TECN	COMMENT
−0.10±0.82±0.54	[1] AAIJ	16E	LHCB	pp at 7, 8 TeV

[1] Uses $B^0 \rightarrow J/\psi K^0_S$ decays.

NODE=S042CT7;LINKAGE=A

$\Delta a_{\perp}$ CPT parameter in B^0 mixing

NODE=S042CT8
NODE=S042CT8

VALUE (10^{-13} GeV)	DOCUMENT ID		TECN	COMMENT
−0.20±0.22±0.04	[1] AAIJ	16E	LHCB	pp at 7, 8 TeV

[1] Uses $B^0 \to J/\psi K^0_S$ decays.

NODE=S042CT8;LINKAGE=A

Δa_X CPT parameter in B^0 mixing

NODE=S042CTX
NODE=S042CTX

VALUE (10^{-15} GeV)	DOCUMENT ID		TECN	COMMENT
+1.97±1.30±0.29	[1] AAIJ	16E	LHCB	pp at 7, 8 TeV

[1] Uses $B^0 \to J/\psi K^0_S$ decays.

NODE=S042CTX;LINKAGE=A

Δa_Y CPT parameter in B^0 mixing

NODE=S042CTY
NODE=S042CTY

VALUE (10^{-15} GeV)	DOCUMENT ID		TECN	COMMENT
+0.44±1.26±0.29	[1] AAIJ	16E	LHCB	pp at 7, 8 TeV

[1] Uses $B^0 \to J/\psi K^0_S$ decays.

NODE=S042CTY;LINKAGE=A

$B^0 \to D^{*-} \ell^+ \nu_\ell$ FORM FACTORS

NODE=S042250

R_1 (form factor ratio $\sim V/A_1$)

NODE=S042RV
NODE=S042RV

VALUE	DOCUMENT ID		TECN	COMMENT
1.239±0.029 OUR AVERAGE				
1.229±0.028±0.009	[1] WAHEED	19	BELL	$e^+e^- \to \Upsilon(4S)$
1.56 ±0.07 ±0.15	AUBERT	09A	BABR	$e^+e^- \to \Upsilon(4S)$
1.18 ±0.30 ±0.12	DUBOSCQ	96	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.401±0.034±0.018	[1] DUNGEL	10	BELL	Repl. by WAHEED 19
1.429±0.061±0.044	AUBERT	08R	BABR	Repl. by AUBERT 09A
1.396±0.060±0.044	AUBERT,B	06Z	BABR	Repl. by AUBERT 08R

[1] Uses fully reconstructed $D^{*-}\ell^+\nu$ events ($\ell = e$ or μ).

NODE=S042RV;LINKAGE=DU

R_2 (form factor ratio $\sim A_2/A_1$)

NODE=S042RA
NODE=S042RA

VALUE	DOCUMENT ID		TECN	COMMENT
0.84 ±0.04 OUR AVERAGE	Error includes scale factor of 1.8.			
0.852±0.021±0.006	[1] WAHEED	19	BELL	$e^+e^- \to \Upsilon(4S)$
0.66 ±0.05 ±0.09	AUBERT	09A	BABR	$e^+e^- \to \Upsilon(4S)$
0.71 ±0.22 ±0.07	DUBOSCQ	96	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.864±0.024±0.008	[1] DUNGEL	10	BELL	Repl. by WAHEED 19
0.827±0.038±0.022	AUBERT	08R	BABR	Repl. by AUBERT 09A
0.885±0.040±0.026	AUBERT,B	06Z	BABR	Repl. by AUBERT 08R

[1] Uses fully reconstructed $D^{*-}\ell^+\nu$ events ($\ell = e$ or μ).

NODE=S042RA;LINKAGE=DU

$\rho^2_{A_1}$ (form factor slope)

NODE=S042RH
NODE=S042RH

VALUE	DOCUMENT ID		TECN	COMMENT
1.12 ±0.04 OUR AVERAGE	Error includes scale factor of 1.5.			
1.106±0.031±0.007	[1] WAHEED	19	BELL	$e^+e^- \to \Upsilon(4S)$
1.22 ±0.02 ±0.07	AUBERT	09A	BABR	$e^+e^- \to \Upsilon(4S)$
0.91 ±0.15 ±0.06	DUBOSCQ	96	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.214±0.034±0.009	[1] DUNGEL	10	BELL	Repl. by WAHEED 19
1.191±0.048±0.028	AUBERT	08R	BABR	Repl. by AUBERT 09A
1.145±0.059±0.046	AUBERT,B	06Z	BABR	Repl. by AUBERT 08R

[1] Uses fully reconstructed $D^{*-}\ell^+\nu$ events ($\ell = e$ or μ).

NODE=S042RH;LINKAGE=DU

PARTIAL BRANCHING FRACTIONS IN $B^0 \to K^{(*)0}\ell^+\ell^-$

NODE=S042240

B($B^0 \to K^{*0} e^+ e^-$) ($0.0009 < q^2 < 1.0$ GeV^2/c^4)

NODE=S042PBH
NODE=S042PBH

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$3.1^{+0.9}_{-0.8}{}^{+0.2}_{-0.3}\pm0.2$	[1] AAIJ	13U	LHCB	pp at 7 TeV

[1] The last uncertainty is due to uncertainties of B($B^0 \to J/\psi K^{*0}$) and B($J/\psi \to e^+e^-$) branching fraction measurements.

NODE=S042PBH;LINKAGE=AA

B($B^0 \to K^{*0} \ell^+ \ell^-$) ($0.1 < q^2 < 2.0$ GeV^2/c^4)

NODE=S042PB1
NODE=S042PB1

VALUE (units 10^{-7})	*DOCUMENT ID*		*TECN*	*COMMENT*
$1.24^{+0.23}_{-0.27}$ OUR AVERAGE	Error includes scale factor of 1.6.			
$1.14 \pm 0.11 ^{+0.11}_{-0.15}$	AAIJ	13Y	LHCB	pp at 7 TeV, $K^{*0} \mu^+ \mu^-$
$1.80 \pm 0.36 \pm 0.11$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.48 ^{+0.14}_{-0.12} \pm 0.04$	[1] CHATRCHYAN	13BL	CMS	pp at 7 TeV
$1.16 \pm 0.23 \pm 0.11$	AAIJ	12U	LHCB	Repl. by AAIJ 13Y

[1] CHATRCHYAN 13BL uses, for this bin, $1.0 < q^2 < 2.0$ GeV^2/c^4.

NODE=S042PB1;LINKAGE=CH

B($B^0 \to K^{*0} \ell^+ \ell^-$) ($2.0 < q^2 < 4.3$ GeV^2/c^4)

NODE=S042PB2
NODE=S042PB2

VALUE (units 10^{-7})	*DOCUMENT ID*		*TECN*	*COMMENT*
0.76 ± 0.07 OUR AVERAGE				
$0.759 \pm 0.115 \pm 0.046$	KHACHATRY...	16D	CMS	pp at 8 TeV
$0.69 \pm 0.07 \pm 0.09$	AAIJ	13Y	LHCB	pp at 7 TeV, $K^{*0} \mu^+ \mu^-$
$0.87 \pm 0.16 \pm 0.07$	CHATRCHYAN	13BL	CMS	pp at 7 TeV
$0.84 \pm 0.28 \pm 0.06$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.78 \pm 0.21 \pm 0.05$	AAIJ	12U	LHCB	Repl. by AAIJ 13Y

B($B^0 \to K^{*0} \ell^+ \ell^-$) ($4.3 < q^2 < 8.68$ GeV^2/c^4)

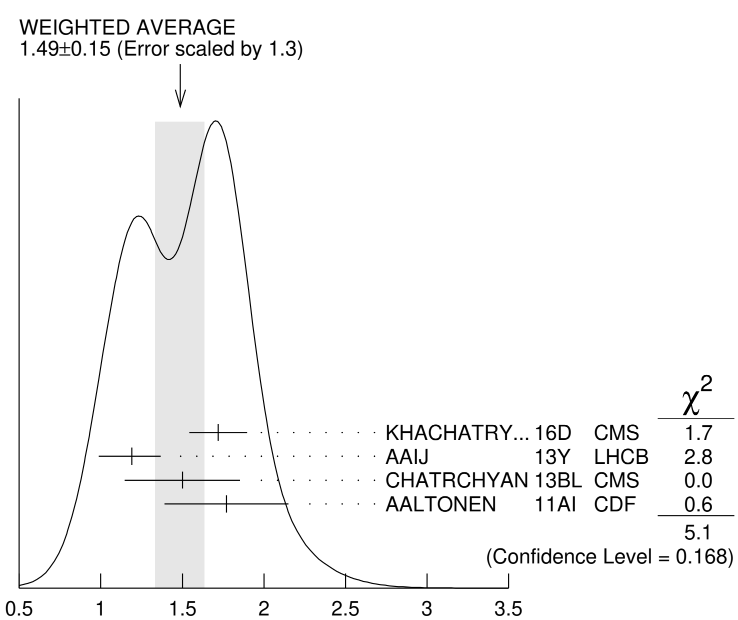
NODE=S042PB3
NODE=S042PB3

VALUE (units 10^{-7})	*DOCUMENT ID*		*TECN*	*COMMENT*
1.87 ± 0.21 OUR AVERAGE				
$2.15 \pm 0.18 ^{+0.22}_{-0.28}$	AAIJ	13Y	LHCB	pp at 7 TeV, $K^{*0} \mu^+ \mu^-$
$1.62 \pm 0.31 \pm 0.18$	CHATRCHYAN	13BL	CMS	pp at 7 TeV
$1.73 \pm 0.43 \pm 0.15$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$3.02 \pm 0.35 \pm 0.22$	AAIJ	12U	LHCB	Repl. by AAIJ 13Y

B($B^0 \to K^{*0} \ell^+ \ell^-$) ($10.09 < q^2 < 12.86$ GeV^2/c^4)

NODE=S042PB4
NODE=S042PB4

VALUE (units 10^{-7})	*DOCUMENT ID*		*TECN*	*COMMENT*
1.49 ± 0.15 OUR AVERAGE	Error includes scale factor of 1.3. See the ideogram below.			
$1.72 \pm 0.11 \pm 0.14$	KHACHATRY...	16D	CMS	pp at 8 TeV
$1.19 \pm 0.11 ^{+0.14}_{-0.17}$	AAIJ	13Y	LHCB	pp at 7 TeV, $K^{*0} \mu^+ \mu^-$
$1.50 \pm 0.25 \pm 0.25$	CHATRCHYAN	13BL	CMS	pp at 7 TeV
$1.77 \pm 0.36 \pm 0.12$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.52 \pm 0.25 \pm 0.19$	AAIJ	12U	LHCB	Repl. by AAIJ 13Y



B($B^0 \to K^{*0} \ell^+ \ell^-$) ($10.09 < q^2 < 12.86$ GeV^2/c^4) (units 10^{-7})

$B(B^0 \to K^{*0} \ell^+ \ell^-)$ ($14.18 < q^2 < 16.0$ GeV^2/c^4)

NODE=S042PB5
NODE=S042PB5

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
1.09±0.10 OUR AVERAGE	Error includes scale factor of 1.1.			
$1.22 \pm 0.11 \pm 0.09$	KHACHATRY...	16D	CMS	pp at 8 TeV
$1.02 \pm 0.11 {}^{+0.11}_{-0.15}$	AAIJ	13Y	LHCB	pp at 7 TeV, $K^{*0} \mu^+ \mu^-$
$0.84 {}^{+0.16}_{-0.15} \pm 0.09$	CHATRCHYAN	13BL	CMS	pp at 7 TeV
$1.34 \pm 0.26 \pm 0.08$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.15 \pm 0.20 \pm 0.09$	AAIJ	12U	LHCB	Repl. by AAIJ 13Y

$B(B^0 \to K^{*0} \ell^+ \ell^-)$ ($16.0 < q^2 < 19.0$ GeV^2/c^4)

NODE=S042PB6
NODE=S042PB6

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
1.27±0.09 OUR AVERAGE				
$1.26 \pm 0.09 \pm 0.09$	KHACHATRY...	16D	CMS	pp at 8 TeV
$1.23 \pm 0.12 {}^{+0.15}_{-0.18}$	AAIJ	13Y	LHCB	pp at 7 TeV, $K^{*0} \mu^+ \mu^-$
$1.56 \pm 0.18 \pm 0.15$	CHATRCHYAN	13BL	CMS	pp at 7 TeV
$0.97 \pm 0.26 \pm 0.07$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.50 \pm 0.24 \pm 0.15$	AAIJ	12U	LHCB	Repl. by AAIJ 13Y

$B(B^0 \to K^*(892)^0 \ell^+ \ell^-)$ ($15.0 < q^2 < 19.0$ GeV^2/c^4)

NODE=S042A02
NODE=S042A02

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
1.80 ±0.13 OUR AVERAGE				
$2.2 {}^{+0.5}_{-0.4} \pm 0.2$	[1] WEHLE	21	BELL	$e^+ e^- \to \Upsilon(4S)$
$2.0 {}^{+0.6}_{-0.5} \pm 0.2$	[2] WEHLE	21	BELL	$e^+ e^- \to \Upsilon(4S)$
$1.744 {}^{+0.072}_{-0.076} \pm 0.123$	[1] AAIJ	17Q	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.95 {}^{+0.08}_{-0.09} \pm 0.13$	[1] AAIJ	16AO	LHCB	Repl. by AAIJ 17Q

OCCUR=2

[1] Measured with $\mu^+ \mu^-$ as lepton pair. NODE=S042A02;LINKAGE=A

[2] Measured with $e^+ e^-$ as lepton pair. NODE=S042A02;LINKAGE=B

$B(B^0 \to K^{*0} \ell^+ \ell^-)$ ($1.0 < q^2 < 6.0$ GeV^2/c^4)

NODE=S042PB7
NODE=S042PB7

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
1.74±0.11 OUR AVERAGE				
$1.9 {}^{+0.6}_{-0.5} \pm 0.3$	[1,2] WEHLE	21	BELL	$e^+ e^- \to \Upsilon(4S)$
$1.8 {}^{+0.6}_{-0.6} \pm 0.2$	[1,3] WEHLE	21	BELL	$e^+ e^- \to \Upsilon(4S)$
$1.68 \pm 0.083 \pm 0.12$	[1,2] AAIJ	17Q	LHCB	pp at 7, 8 TeV
1.90 ± 0.20	[2] KHACHATRY...	16D	CMS	pp at 7, 8 TeV
$1.42 \pm 0.41 \pm 0.12$	[2] AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.92 {}^{+0.10}_{-0.09} \pm 0.14$	AAIJ	16AO	LHCB	Repl. by AAIJ 17Q
$1.70 \pm 0.15 {}^{+0.20}_{-0.25}$	AAIJ	13Y	LHCB	Repl. by AAIJ 16AO
$2.20 \pm 0.30 \pm 0.20$	CHATRCHYAN	13BL	CMS	Repl. by KHACHATRYAN 16D
$2.10 \pm 0.30 \pm 0.15$	AAIJ	12U	LHCB	Repl. by AAIJ 13Y

OCCUR=2

[1] Result is determined for the range $1.1 < q^2 < 6.0$ GeV^4/c^2. NODE=S042PB7;LINKAGE=A

[2] Measured with $\mu^+ \mu^-$ as lepton pair. NODE=S042PB7;LINKAGE=B

[3] Measured with $e^+ e^-$ as lepton pair. NODE=S042PB7;LINKAGE=C

$B(B^0 \to K^{*0} \ell^+ \ell^-)$ ($0.0 < q^2 < 4.3$ GeV^2/c^4)

NODE=S042PB8
NODE=S042PB8

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
2.60±0.45±0.17	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

$B(B^0 \to K^{*0}\mu^+\mu^-)/B(B^0 \to K^{*0}e^+e^-)$ $(0.045 < q^2 < 1.1\ \mathrm{GeV}^2/c^4)$

NODE=S042A05
NODE=S042A05

VALUE		DOCUMENT ID		TECN	COMMENT
0.91 ±0.09 OUR AVERAGE					
$0.927^{+0.093}_{-0.087}{}^{+0.036}_{-0.035}$	[1]	AAIJ	23AB	LHCB	pp at 7, 8, 13 TeV
$0.46\ ^{+0.55}_{-0.27}\ \pm0.13$		WEHLE	21	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.66\ ^{+0.11}_{-0.07}\ \pm0.03$	[2]	AAIJ	17W	LHCB	pp at 7, 8 TeV

[1] Measured for the region $0.1 < q^2 < 1.1\ \mathrm{GeV}^2/c^4$. NODE=S042A05;LINKAGE=A
[2] Superseded by AAIJ 23AB. NODE=S042A05;LINKAGE=C

$B(B^0 \to K^{*0}\mu^+\mu^-)/B(B^0 \to K^{*0}e^+e^-)$ $(1.1 < q^2 < 6.0\ \mathrm{GeV}^2/c^4)$

NODE=S042A04
NODE=S042A04

VALUE		DOCUMENT ID		TECN	COMMENT
1.03 ±0.07 OUR AVERAGE					
$1.027^{+0.072}_{-0.068}{}^{+0.027}_{-0.026}$		AAIJ	23AB	LHCB	pp at 7, 8, 13 TeV
$1.06\ ^{+0.63}_{-0.38}\ \pm0.13$		WEHLE	21	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.69\ ^{+0.11}_{-0.07}\ \pm0.05$	[1]	AAIJ	17W	LHCB	pp at 7, 8 TeV

[1] Superseded by AAIJ 23AB. NODE=S042A04;LINKAGE=D

$B(B^0 \to K^{*0}\mu^+\mu^-)/B(B^0 \to K^{*0}e^+e^-)$ $(15.0 < q^2 < 19.0\ \mathrm{GeV}^2/c^4)$

NODE=S042A36
NODE=S042A36

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{1.12^{+0.61}_{-0.36}\pm0.10}$	WEHLE	21	BELL	$e^+e^- \to \Upsilon(4S)$

$B(B^0 \to K^0\ell^+\ell^-)$ $(q^2 < 2.0\ \mathrm{GeV}^2/c^4)$

NODE=S042PB9
NODE=S042PB9

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.24^{+0.22}_{-0.20}}$ **OUR AVERAGE**				
$0.21^{+0.27}_{-0.23}$	AAIJ	12AH	LHCB	pp at 7 TeV
$0.31\pm0.37\pm0.02$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

$B(B^0 \to K^0\ell^+\ell^-)$ $(2.0 < q^2 < 4.3\ \mathrm{GeV}^2/c^4)$

NODE=S042PBA
NODE=S042PBA

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.24^{+0.35}_{-0.30}}$ **OUR AVERAGE** Error includes scale factor of 1.6.				
$0.07^{+0.25}_{-0.21}$	AAIJ	12AH	LHCB	pp at 7 TeV
$0.93\pm0.49\pm0.07$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

$B(B^0 \to K^0\ell^+\ell^-)$ $(4.3 < q^2 < 8.68\ \mathrm{GeV}^2/c^4)$

NODE=S042PBB
NODE=S042PBB

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
1.08±0.27 OUR AVERAGE				
1.23 ± 0.31	AAIJ	12AH	LHCB	pp at 7 TeV
$0.66\pm0.51\pm0.05$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

$B(B^0 \to K^0\ell^+\ell^-)$ $(10.09 < q^2 < 12.86\ \mathrm{GeV}^2/c^4)$

NODE=S042PBC
NODE=S042PBC

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
0.27±0.27 OUR AVERAGE Error includes scale factor of 1.8.				
$0.50^{+0.22}_{-0.19}$	AAIJ	12AH	LHCB	pp at 7 TeV
$-0.03\pm0.22\pm0.01$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

$B(B^0 \to K^0\ell^+\ell^-)$ $(14.18 < q^2 < 16.0\ \mathrm{GeV}^2/c^4)$

NODE=S042PBD
NODE=S042PBD

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.29^{+0.21}_{-0.15}}$ **OUR AVERAGE** Error includes scale factor of 1.8.				
$0.20^{+0.13}_{-0.09}$	AAIJ	12AH	LHCB	pp at 7 TeV
$0.73\pm0.26\pm0.06$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

B($B^0 \to K^0 \ell^+ \ell^-$) ($q^2 > 16.0$ GeV^2/c^4)

NODE=S042PBE
NODE=S042PBE

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
$0.31^{+0.16}_{-0.12}$ OUR AVERAGE			
$0.35^{+0.21}_{-0.14}$	AAIJ 12AH	LHCB	pp at 7 TeV
$0.21 \pm 0.18 \pm 0.16$	AALTONEN 11AI	CDF	$p\overline{p}$ at 1.96 TeV

B($B^0 \to K^0 \ell^+ \ell^-$) ($1.0 < q^2 < 6.0$ GeV^2/c^4)

NODE=S042PBF
NODE=S042PBF

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
$0.91\ ^{+0.15}_{-0.13}$ OUR AVERAGE			
$0.62\ ^{+0.44}_{-0.32} \pm 0.02$	[1] CHOUDHURY 21	BELL	$e^+ e^- \to \Upsilon(4S)$
$1.12\ ^{+0.50}_{-0.40} \pm 0.04$	[2] CHOUDHURY 21	BELL	$e^+ e^- \to \Upsilon(4S)$
$0.916^{+0.172}_{-0.157} \pm 0.004$	[3] AAIJ 14M	LHCB	pp at 7, 8 TeV
$0.98 \pm 0.61 \pm 0.08$	AALTONEN 11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.65\ ^{+0.45}_{-0.35}$	AAIJ 12AH	LHCB	Repl. by AAIJ 14M

OCCUR=2

[1] Measured for $B^0 \to K^0_S \mu^+ \mu^-$ decays. Measurements in other q^2 bins are also reported. NODE=S042PBF;LINKAGE=B

[2] Measured for $B^0 \to K^0_S e^+ e^-$ decays. Measurements in other q^2 bins are also reported. NODE=S042PBF;LINKAGE=C

[3] Uses B($B^0 \to J/\psi(1S) K^0$) = $(0.928 \pm 0.013 \pm 0.037) \times 10^{-3}$ for normalisation and $\mu^+ \mu^-$ as a lepton pair. Measured in $1.1 < q^2 < 6.0$ GeV^2/c^4. NODE=S042PBF;LINKAGE=A

B($B^0 \to K^0 \mu^+ \mu^-$) / B($B^0 \to K^0 e^+ e^-$) ($1.0 < q^2 < 6.0$ GeV^2/c^4)

NODE=S042A34
NODE=S042A34

VALUE	DOCUMENT ID	TECN	COMMENT
$0.64^{+0.18}_{-0.13}$ OUR AVERAGE			
$0.66^{+0.20}_{-0.14}{}^{+0.02}_{-0.04}$	[1] AAIJ 22J	LHCB	pp at 7, 8, 13 TeV
$0.55^{+0.46}_{-0.34} \pm 0.01$	[2] CHOUDHURY 21	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Measured in the range $1.1 < q^2 < 6.0$ GeV^2/c^4. NODE=S042A34;LINKAGE=B

[2] Measured from the ratio of $K^0_S \mu^+ \mu^-$ and $K^0_S e^+ e^-$. Measurements in other q^2 bins are also reported. NODE=S042A34;LINKAGE=A

B($B^0 \to K^0 \ell^+ \ell^-$) ($0.0 < q^2 < 4.3$ GeV^2/c^4)

NODE=S042PBG
NODE=S042PBG

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
$1.27 \pm 0.62 \pm 0.10$	AALTONEN 11AI	CDF	$p\overline{p}$ at 1.96 TeV

B($B^0 \to K^0 \ell^+ \ell^-$) ($15.0 < q^2 < 22.0$ GeV^2/c^4)

NODE=S042PBK
NODE=S042PBK

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
$0.67^{+0.11}_{-0.11} \pm 0.04$	[1] AAIJ 14M	LHCB	pp at 7, 8 TeV

[1] Uses B($B^0 \to J/\psi(1S) K^0$) = $(0.928 \pm 0.013 \pm 0.037) \times 10^{-3}$ for normalisation and $\mu^+ \mu^-$ as a lepton pair. NODE=S042PBK;LINKAGE=A

B($B^0 \to K^0 e^+ e^-$) ($1.1 < q^2 < 6.0$ GeV^2/c^4)

NODE=S042A41
NODE=S042A41

VALUE (units 10^{-8})	DOCUMENT ID	TECN	COMMENT
$13 \pm 3 \pm 1$	[1] AAIJ 22J	LHCB	pp at 7, 8, 13 TeV

[1] The reported value is converted from the measured $dB/dq^2 = (2.6 \pm 0.6 \pm 0.1) \times 10^{-8}$ (GeV^2/c^4)$^{-1}$ by multiplying by the $\Delta q^2 = 4.9$ GeV^2/c^4 range. NODE=S042A41;LINKAGE=A

B($B^0 \to K^*_{0,2}(1430)^0 \mu^+ \mu^-$) ($1.10 < q^2 < 6.00$ GeV^2/c^4)

NODE=S042A03
NODE=S042A03

VALUE (units 10^{-8})	DOCUMENT ID	TECN	COMMENT
$4.02 \pm 0.44 \pm 0.31$	[1,2] AAIJ 16AP	LHCB	pp at 7, 8 TeV

[1] Measured the differential branching fraction and angular moments of the decay $B^0 \to K^+ \pi^- \mu^+ \mu^-$ in the $K^+ \pi^-$ invariant mass range $1330 < m(K^+ \pi^-) < 1530$ MeV/c^2. NODE=S042A03;LINKAGE=A

[2] The reported value is converted from the measured $dB/dq^2 = (0.82 \pm 0.09 \pm 0.063) \times 10^{-8}$ (GeV^2/c^4)$^{-1}$ by multiplying by the $\Delta q^2 = 4.9$ GeV^2/c^4 range. NODE=S042A03;LINKAGE=B

$F_H(B^0 \to K^0 \mu^+ \mu^-)$ ($1.1 < q^2 < 6.0$ GeV^2/c^4)

NODE=S042PBI

F_H is a fractional contribution of (pseudo) scalar and tensor amplitudes to the decay width in the massless muon approximation.

NODE=S042PBI

VALUE	DOCUMENT ID		TECN	COMMENT
0.78±0.46±0.09	[1] AAIJ	14O	LHCB	pp at 7, 8 TeV

NODE=S042PBI

[1] AAIJ 14O reports 68% C.L. interval, which we encode as midpoint with uncertainty as half of the width of interval.

NODE=S042PBI;LINKAGE=A

$F_H(B^0 \to K^0 \mu^+ \mu^-)$ ($15.0 < q^2 < 22.0$ GeV^2/c^4)

NODE=S042PBJ
NODE=S042PBJ

VALUE	DOCUMENT ID		TECN	COMMENT
0.34±0.25±0.03	[1] AAIJ	14O	LHCB	pp at 7, 8 TeV

[1] AAIJ 14O reports 68% C.L. interval, which we encode as midpoint with uncertainty as half of the width of interval.

NODE=S042PBJ;LINKAGE=A

PRODUCTION ASYMMETRIES

NODE=S042270

$A_P(B^0)$

NODE=S042PAX

$A_P(B^0) = [\sigma(\overline{B}^0) - \sigma(B^0)] \ / \ [\sigma(\overline{B}^0) + \sigma(B^0)]$

NODE=S042PAX
NODE=S042PAX

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
−0.3 ±0.6 OUR AVERAGE	Error includes scale factor of 1.7. See the ideogram below.			
0.44±0.88±0.11	[1] AAIJ	17BF	LHCB	pp at 7 TeV
−1.40±0.55±0.10	[1] AAIJ	17BF	LHCB	pp at 8 TeV
0.25±0.48±0.05	[2] AABOUD	16G	ATLS	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.35±0.76±0.28	[3] AAIJ	14BP	LHCB	Repl. by AAIJ 17BF, pp at 7 TeV

OCCUR=2

[1] AAIJ 17BF uses $B^0 \to J/\psi K^{*0}$ decays with B^0 transverse momenta p_T and rapidities y in the region of $0 < p_T < 30$ GeV/c and $2.1 < y < 4.5$.

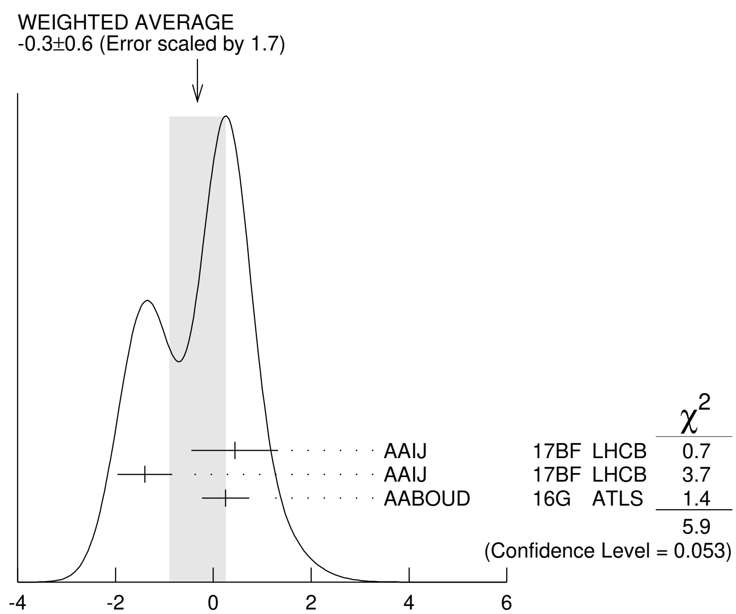
NODE=S042PAX;LINKAGE=C

[2] Based on time-dependent analysis of $B^0 \to J/\psi K^{*0}$ decay in kinematic range $p_T >$ 10 GeV/c and $|\eta| < 2.5$.

NODE=S042PAX;LINKAGE=B

[3] Based on time-dependent analysis of $B^0 \to J/\psi K^{*0}$ and $B^0 \to D^- \pi^+$ in kinematic range $4 < p_T < 30$ GeV/c and $2.5 < \eta < 4.5$.

NODE=S042PAX;LINKAGE=A



$A_P(B^0)$ (units 10^{-2})

$A(B^0 + \overline{B}^0)$ in $K^0_S K^\mp \pi^\pm$

NODE=S042A13

$A(B^0+\overline{B}^0) = [n(K^0_S K^- \pi^+) - n(K^0_S K^+ \pi^-)] \ / \ [n(K^0_S K^- \pi^+) + n(K^0_S K^+ \pi^-)]$

NODE=S042A13
NODE=S042A13

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
−8.5±8.9±0.2	LAI	19	BELL	$e^+ e^- \to \Upsilon(4S)$

FORWARD-BACKWARD ASYMMETRIES

NODE=S042280

A_{FB} in $B^0 \to D^{*-} e^+ \nu_e$

NODE=S042A50

VALUE	DOCUMENT ID		TECN	COMMENT
0.225±0.018 OUR AVERAGE				
0.228±0.012±0.018	ADACHI	23J	BELL	$e^+ e^- \to \Upsilon(4S)$
0.218±0.030±0.009	PRIM	23	BELL	$e^+ e^- \to \Upsilon(4S)$

NODE=S042A50

A_{FB} in $B^0 \to D^{*-} \mu^+ \nu_\mu$

NODE=S042A51

VALUE	DOCUMENT ID		TECN	COMMENT
0.235±0.033 OUR AVERAGE	Error includes scale factor of 1.7.			
0.211±0.011±0.021	ADACHI	23J	BELL	$e^+ e^- \to \Upsilon(4S)$
0.281±0.032±0.007	PRIM	23	BELL	$e^+ e^- \to \Upsilon(4S)$

NODE=S042A51

$\Delta(A_{FB}) = (A^{\mu}_{FB} - A^{e}_{FB})$ in $B^0 \to D^{*-} \ell^+ \nu_\ell$

NODE=S042A52

VALUE	DOCUMENT ID		TECN	COMMENT
−0.018±0.020 OUR AVERAGE				
−0.024±0.043±0.016	[1] ADACHI	23H	BELL	$e^+ e^- \to \Upsilon(4S)$
−0.017±0.016±0.016	ADACHI	23J	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.063±0.044±0.012	PRIM	23	BELL	$e^+ e^- \to \Upsilon(4S)$

NODE=S042A52

[1] ADACHI 23H measurement is based on the angular asymmetries of $B^0 \to D^{*-} \ell^+ \nu_\ell$ decays using explicit reconstruction of the B tag. Other asymmetries from $\Delta(S_3)$, $\Delta(S_5)$, $\Delta(S_7)$, and $\Delta(S_9)$ are also reported.

NODE=S042A52;LINKAGE=A

B^0 REFERENCES

NODE=S042

AAD	25AM	EPJ C85 736	G. Aad *et al.*	(ATLAS Collab.)	REFID=63508
AAIJ	25A	JHEP 2501 061	R. Aaij *et al.*	(LHCb Collab.)	REFID=63227
AAIJ	25G	PRL 134 061801	R. Aaij *et al.*	(LHCb Collab.)	REFID=63306
AAIJ	25W	JHEP 2506 140	R. Aaij *et al.*	(LHCb Collab.)	REFID=63480
AAIJ	25X	JHEP 2507 121	R. Aaij *et al.*	(LHCb Collab.)	REFID=63486
ADACHI	25	PRL 134 011802	I. Adachi *et al.*	(BELLE II Collab.)	REFID=63163
ADACHI	25B	PRL 135 041801	I. Adachi *et al.*	(BELLE and BELLE II Collab.)	REFID=63351
ADACHI	25C	PR D111 012011	I. Adachi *et al.*	(BELLE II Collab.)	REFID=63368
ADACHI	25E	PR D111 032012	I. Adachi *et al.*	(BELLE II Collab.)	REFID=63375
ADACHI	25F	PR D111 L071102	I. Adachi *et al.*	(BELLE II Collab.)	REFID=63384
ADACHI	25G	PR D111 L071103	I. Adachi *et al.*	(BELLE and BELLE II Collab.)	REFID=63385
ADACHI	25H	PR D111 092001	I. Adachi *et al.*	(BELLE II Collab.)	REFID=63397
ADACHI	25I	PR D111 112009	I. Adachi *et al.*	(BELLE II Collab.)	REFID=63408
ADACHI	25R	PR D112 032010	I. Adachi *et al.*	(BELLE II Collab.)	REFID=63545
ADACHI	25S	JHEP 2508 184	I. Adachi *et al.*	(BELLE Collab.)	REFID=63548
HAYRAPETY...	25AE	PL B864 139406	A. Hayrapetyan *et al.*	(CMS collaboration)	REFID=63556
AAIJ	24	PRL 132 021801	R. Aaij *et al.*	(LHCb Collab.)	REFID=62568
AAIJ	24AN	PR D110 092007	R. Aaij *et al.*	(LHCb Collab.)	REFID=63186
AAIJ	24F	JHEP 2402 032	R. Aaij *et al.*	(LHCb Collab.)	REFID=62831
AAIJ	24M	JHEP 2405 025	R. Aaij *et al.*	(LHCb Collab.)	REFID=62849
AAIJ	24N	JHEP 2405 065	R. Aaij *et al.*	(LHCb Collab.)	REFID=62852
AAIJ	24U	EPJ C84 206	R. Aaij *et al.*	(LHCb Collab.)	REFID=62884
ADACHI	24	PR D109 012001	I. Adachi *et al.*	(BELLE II Collab.)	REFID=62572
ADACHI	24G	PR D109 112020	I. Adachi *et al.*	(BELLE II Collab.)	REFID=62816
ADACHI	24H	PR D110 012001	I. Adachi *et al.*	(BELLE II Collab.)	REFID=62819
ADACHI	24J	PR D110 L031106	I. Adachi *et al.*	(BELLE and BELLE II Collab.)	REFID=62929
ADACHI	24L	JHEP 2408 206	I. Adachi *et al.*	(BELLE II Collab.)	REFID=62947
ADACHI	24N	PRL 133 101804	I. Adachi *et al.*	(BELLE and BELLE II Collab.)	REFID=63043
ADACHI	24P	PR D110 112002	I. Adachi *et al.*	(BELLE II Collab.)	REFID=63104
ALONSO-ALV...	24	EPJ C84 553	G. Alonso-Alvarez, M.E. Abenza	(MCGI, TNTO+)	REFID=62892
GUAN	24	PRL 133 081801	Y. Guan *et al.*	(BELLE Collab.)	REFID=62923
SAVINOV	24	PR D110 L031102	V. Savinov *et al.*	(BELLE Collab.)	REFID=62927
AAIJ	23AB	PRL 131 051803	R. Aaij *et al.*	(LHCb Collab.)	REFID=62318
Also		PR D108 032002	R. Aaij *et al.*	(LHCb Collab.)	REFID=62342
AAIJ	23AD	PRL 131 091901	R. Aaij *et al.*	(LHCb Collab.)	REFID=62327
AAIJ	23AG	PR D108 032007	R. Aaij *et al.*	(LHCb Collab.)	REFID=62346
AAIJ	23AR	PRL 131 111802	R. Aaij *et al.*	(LHCb Collab.)	REFID=62445
AAIJ	23AY	JHEP 2310 106	R. Aaij *et al.*	(LHCb Collab.)	REFID=62541
AAIJ	23AZ	JHEP 2310 123	R. Aaij *et al.*	(LHCb Collab.)	REFID=62542
AAIJ	23B	PR D108 012017	R. Aaij *et al.*	(LHCb Collab.)	REFID=62091
AAIJ	23F	JHEP 2306 143	R. Aaij *et al.*	(LHCb Collab.)	REFID=62123
AAIJ	23G	JHEP 2306 073	R. Aaij *et al.*	(LHCb Collab.)	REFID=62129
AAIJ	23T	PR D108 012007	R. Aaij *et al.*	(LHCb Collab.)	REFID=62291
AAIJ	23W	PR D108 012018	R. Aaij *et al.*	(LHCb Collab.)	REFID=62299
Also		PR D109 119902 (errat.)	R. Aaij *et al.*	(LHCb Collab.)	REFID=62817
AAIJ	23Y	PR D108 012021	R. Aaij *et al.*	(LHCb Collab.)	REFID=62301
ABUDINEN	23D	PR D107 L091102	F. Abudinen *et al.*	(BELLE II Collab.)	REFID=62270
ABUDINEN	23E	PR D107 112009	F. Abudinen *et al.*	(BELLE II Collab.)	REFID=62280
ADACHI	23E	PRL 131 111803	I. Adachi *et al.*	(BELLE II Collab.)	REFID=62446
ADACHI	23H	PRL 131 181801	I. Adachi *et al.*	(BELLE II Collab.)	REFID=62460
ADACHI	23I	PR D108 072012	I. Adachi *et al.*	(BELLE II Collab.)	REFID=62493
ADACHI	23J	PR D108 092013	I. Adachi *et al.*	(BELLE II Collab.)	REFID=62502
CAO	23	PRL 131 211801	L. Cao *et al.*	(BELLE Collab.)	REFID=62467
CHANG	23	PR D108 052011	C.-Y. Chang *et al.*	(BELLE Collab.)	REFID=62590
CHOUDHURY	23	PR D107 L031102	S. Choudhury *et al.*	(BELLE Collab.)	REFID=62074
DONG	23	PR D108 L011102	T.V. Dong *et al.*	(BELLE Collab.)	REFID=62286
HIRATA	23	PR D107 112011	H. Hirata *et al.*	(BELLE Collab.)	REFID=62281
KROHN	23	PR D107 012003	J.-F. Krohn *et al.*	(BELLE Collab.)	REFID=62241
KUMAR	23	PR D107 L031101	M. Kumar *et al.*	(BELLE Collab.)	REFID=62246
LEES	23B	PR D107 092001	J.P. Lees *et al.*	(BABAR Collab.)	REFID=62271

LI	23E	PRL 130 031901	Y.B. Li *et al.*	(BELLE Collab.)	REFID=62197
MEIER	23	PR D107 092003	F. Meier *et al.*	(BELLE Collab.)	REFID=62272
PRIM	23	PR D108 012002	M.T. Prim *et al.*	(BELLE Collab.)	REFID=62303
TUMASYAN	23A	PL B842 137955	A. Tumasyan *et al.*	(CMS Collab.)	REFID=62102
AAIJ	22	PRL 128 041801	R. Aaij *et al.*	(LHCb Collab.)	REFID=61624
Also		PR D105 012010	R. Aaij *et al.*	(LHCb Collab.)	REFID=61625
AAIJ	22J	PRL 128 191802	R. Aaij *et al.*	(LHCb Collab.)	REFID=61677
AAIJ	22N	PR D105 072005	R. Aaij *et al.*	(LHCb Collab.)	REFID=61737
AAIJ	22Q	JHEP 2203 109	R. Aaij *et al.*	(LHCb Collab.)	REFID=61780
AAIJ	22S	JHEP 2205 067	R. Aaij *et al.*	(LHCb Collab.)	REFID=61798
BLOOMFIELD	22	PR D105 072007	T. Bloomfield *et al.*	(BELLE Collab.)	REFID=61738
HADJIVASILIOU	22	PR D105 L051101	C. Hadjivasiliou *et al.*	(BELLE Collab.)	REFID=61725
JEON	22	PR D106 012006	H.B. Jeon *et al.*	(BELLE Collab.)	REFID=61759
TUMASYAN	22AI	EPJ C82 499	A. Tumasyan *et al.*	(CMS Collab.)	REFID=61833
WAHEED	22	PR D105 012003	E. Waheed *et al.*	(BELLE Collab.)	REFID=61541
AAIJ	21K	CP C45 043001	R. Aaij *et al.*	(LHCb Collab.)	REFID=61262
AAIJ	21O	JHEP 2103 075	R. Aaij *et al.*	(LHCb Collab.)	REFID=61290
AAIJ	21Q	JHEP 2104 081	R. Aaij *et al.*	(LHCb Collab.)	REFID=61300
AAIJ	21S	JHEP 2106 177	R. Aaij *et al.*	(LHCb Collab.)	REFID=61307
AAIJ	21W	EPJ C81 314	R. Aaij *et al.*	(LHCb Collab.)	REFID=61334
ATMACAN	21	PR D104 L091105	H. Atmacan *et al.*	(BELLE Collab.)	REFID=61525
CAO	21A	PR D104 012008	L. Cao *et al.*	(BELLE Collab.)	REFID=61361
CHOUDHURY	21	JHEP 2103 105	S. Choudhury *et al.*	(BELLE Collab.)	REFID=61037
KANG	21	PR D103 032003	K.H. Kang *et al.*	(BELLE Collab.)	REFID=61206
MOHANTY	21	PR D103 052013	S. Mohanty *et al.*	(BELLE Collab.)	REFID=61222
WAHEED	21	PR D103 079901	E. Waheed *et al.*	(BELLE Collab.)	REFID=61232
WEHLE	21	PRL 126 161801	S. Wehle *et al.*	(BELLE Collab.)	REFID=61178
AAIJ	20AG	PR D102 051102	R. Aaij *et al.*	(LHCb Collab.)	REFID=60713
AAIJ	20AN	JHEP 2012 139	R. Aaij *et al.*	(LHCb Collab.)	REFID=60765
AAIJ	20AO	JHEP 2012 081	R. Aaij *et al.*	(LHCb Collab.)	REFID=60767
AAIJ	20F	PR D102 012011	R. Aaij *et al.*	(LHCb Collab.)	REFID=60339
AAIJ	20L	JHEP 2003 147	R. Aaij *et al.*	(LHCb Collab.)	REFID=60486
AAIJ	20W	PRL 124 211802	R. Aaij *et al.*	(LHCb Collab.)	REFID=60562
CHILIKIN	20	JHEP 2005 034	K. Chilikin *et al.*	(BELLE Collab.)	REFID=60493
CHU	20	PR D101 052012	K. Chu *et al.*	(BELLE Collab.)	REFID=60275
KU	20	PR D102 012003	Y. Ku *et al.*	(BELLE Collab.)	REFID=60334
SIRUNYAN	20AG	JHEP 2004 188	A.M. Sirunyan *et al.*	(CMS Collab.)	REFID=60490
AABOUD	19L	JHEP 1904 098	M. Aaboud *et al.*	(ATLAS Collab.)	REFID=59640
AAIJ	19AK	PRL 123 211801	R. Aaij *et al.*	(LHCb Collab.)	REFID=60068
AAIJ	19AP	JHEP 1912 155	R. Aaij *et al.*	(LHCb Collab.)	REFID=60103
AAIJ	19J	JHEP 1905 026	R. Aaij *et al.*	(LHCb Collab.)	REFID=59679
AAIJ	19L	JHEP 1907 032	R. Aaij *et al.*	(LHCb Collab.)	REFID=59696
AAIJ	19N	JHEP 1908 041	R. Aaij *et al.*	(LHCb Collab.)	REFID=59701
AAIJ	19U	PRL 122 191804	R. Aaij *et al.*	(LHCb Collab.)	REFID=59783
CHILIKIN	19	PR D100 012001	K. Chilikin *et al.*	(BELLE Collab.)	REFID=59899
CHOU	19	PR D100 012002	P.-C. Chou *et al.*	(BELLE Collab.)	REFID=59900
GARG	19	PR D99 071102	R. Garg *et al.*	(BELLE Collab.)	REFID=59851
LAI	19	PR D100 011101	Y.-T. Lai *et al.*	(BELLE Collab.)	REFID=59897
LI	19C	PR D100 031101	Y.B. Li *et al.*	(BELLE Collab.)	REFID=59906
PAL	19	PR D99 091104	B. Pal *et al.*	(BELLE Collab.)	REFID=59872
WAHEED	19	PR D100 052007	E. Waheed *et al.*	(BELLE Collab.)	REFID=59994
WATANUKI	19	PR D99 032012	S. Watanuki *et al.*	(BELLE Collab.)	REFID=59618
YUSA	19	PR D99 011102	Y. Yusa *et al.*	(BELLE Collab.)	REFID=59597
AABOUD	18BY	JHEP 1810 047	M. Aaboud *et al.*	(ATLAS Collab.)	REFID=59350
AAIJ	18AN	EPJ C78 1019	R. Aaij *et al.*	(LHCb Collab.)	REFID=59335
AAIJ	18AY	PR D98 071103	R. Aaij *et al.*	(LHCb Collab.)	REFID=59452
AAIJ	18AZ	PR D98 072006	R. Aaij *et al.*	(LHCb Collab.)	REFID=59457
AAIJ	18D	PRL 120 171802	R. Aaij *et al.*	(LHCb Collab.)	REFID=58822
AAIJ	18F	PRL 120 261801	R. Aaij *et al.*	(LHCb Collab.)	REFID=58844
AAIJ	18O	PR D98 032004	R. Aaij *et al.*	(LHCb Collab.)	REFID=58973
AAIJ	18T	JHEP 1803 078	R. Aaij *et al.*	(LHCb Collab.)	REFID=59088
AAIJ	18Z	JHEP 1806 084	R. Aaij *et al.*	(LHCb Collab.)	REFID=59118
ABAZOV	18B	PR D98 052010	V.M. Abazov *et al.*	(D0 Collab.)	REFID=59442
ADACHI	18	PR D98 112012	I. Adachi *et al.*	(BELLE and BABAR Collab.)	REFID=59502
Also		PRL 121 261801	I. Adachi *et al.*	(BELLE and BABAR Collab.)	REFID=59543
LEES	18C	PR D98 071102	J.P. Lees *et al.*	(BABAR Collab.)	REFID=59451
LI	18D	EPJ C78 928	Y.B. Li *et al.*	(BELLE Collab.)	REFID=59326
NAKANO	18	PR D97 092003	H. Nakano *et al.*	(BELLE Collab.)	REFID=58936
PAL	18	PR D98 112008	B. Pal *et al.*	(BELLE Collab.)	REFID=59499
PDG	18	PR D98 030001	M. Tanabashi *et al.*	(PDG Collab.)	REFID=59304
SANDILYA	18	PR D98 071101	S. Sandilya *et al.*	(BELLE Collab.)	REFID=59450
SIRUNYAN	18BY	EPJ C78 457	A.M. Sirunyan *et al.*	(CMS Collab.)	REFID=59185
SIRUNYAN	18DF	EPJ C78 939	A.M. Sirunyan *et al.*	(CMS Collab.)	REFID=59328
VOSSEN	18	PR D98 012005	A. Vossen *et al.*	(BELLE Collab.)	REFID=58961
AAIJ	17A	PR D95 012006	R. Aaij *et al.*	(LHCb Collab.)	REFID=57640
AAIJ	17AI	PRL 118 191801	R. Aaij *et al.*	(LHCb Collab.)	REFID=57928
AAIJ	17AJ	PRL 118 251802	R. Aaij *et al.*	(LHCb Collab.)	REFID=57938
AAIJ	17BD	PR D96 051103	R. Aaij *et al.*	(LHCb Collab.)	REFID=58214
AAIJ	17BF	PL B774 139	R. Aaij *et al.*	(LHCb Collab.)	REFID=58252
AAIJ	17BJ	PRL 119 232001	R. Aaij *et al.*	(LHCb Collab.)	REFID=58281
AAIJ	17BN	JHEP 1711 170	R. Aaij *et al.*	(LHCb Collab.)	REFID=58342
AAIJ	17BP	JHEP 1711 027	R. Aaij *et al.*	(LHCb Collab.)	REFID=58347
AAIJ	17G	PRL 118 081801	R. Aaij *et al.*	(LHCb Collab.)	REFID=57757
AAIJ	17N	JHEP 1703 001	R. Aaij *et al.*	(LHCb Collab.)	REFID=57797
AAIJ	17Q	JHEP 1704 142	R. Aaij *et al.*	(LHCb Collab.)	REFID=57809
AAIJ	17W	JHEP 1708 055	R. Aaij *et al.*	(LHCb Collab.)	REFID=57830
GRYGIER	17	PR D96 091101	J. Grygier *et al.*	(BELLE Collab.)	REFID=58302
HORIGUCHI	17	PRL 119 191802	T. Horiguchi *et al.*	(BELLE Collab.)	REFID=58275
JULIUS	17	PR D96 032007	T. Julius *et al.*	(BELLE Collab.)	REFID=58030
AABOUD	16G	JHEP 1606 081	M. Aaboud *et al.*	(ATLAS Collab.)	REFID=57337
AABOUD	16L	EPJ C76 513	M. Aaboud *et al.*	(ATLAS Collab.)	REFID=57469
AAIJ	16	JHEP 1601 012	R. Aaij *et al.*	(LHCb Collab.)	REFID=57025
AAIJ	16AA	JHEP 1608 137	R. Aaij *et al.*	(LHCb Collab.)	REFID=57349
AAIJ	16AN	PRL 117 261801	R. Aaij *et al.*	(LHCb Collab.)	REFID=57647
AAIJ	16AO	JHEP 1611 047	R. Aaij *et al.*	(LHCb Collab.)	REFID=57660
AAIJ	16AP	JHEP 1612 065	R. Aaij *et al.*	(LHCb Collab.)	REFID=57663
AAIJ	16AV	EPJ C76 412	R. Aaij *et al.*	(LHCb Collab.)	REFID=57778
AAIJ	16E	PRL 116 241601	R. Aaij *et al.*	(LHCb Collab.)	REFID=57191
AAIJ	16S	PR D93 112018	R. Aaij *et al.*	(LHCb Collab.)	REFID=57300

AAIJ	16Z	JHEP 1606 131	R. Aaij *et al.*	(LHCb Collab.)	REFID=57338
BHARDWAJ	16	PR D93 052016	V. Bhardwaj *et al.*	(BELLE Collab.)	REFID=57272
CHOBANOVA	16	PR D93 031101	V. Chobanova *et al.*	(BELLE Collab.)	REFID=57133
DEL-AMO-SA...	16	PR D93 052013	P. del Amo Sanchez *et al.*	(BABAR Collab.)	REFID=57269
GLATTAUER	16	PR D93 032006	R. Glattauer *et al.*	(BELLE Collab.)	REFID=57132
HAMER	16	PR D93 032007	P. Hamer *et al.*	(BELLE Collab.)	REFID=57130
KHACHATRY...	16D	PL B753 424	V. Khachatryan *et al.*	(CMS Collab.)	REFID=57008
KING	16	PR D93 111101	Z. King *et al.*	(BELLE Collab.)	REFID=57292
LEES	16	PRL 116 041801	J.P. Lees *et al.*	(BABAR Collab.)	REFID=57108
LEES	16E	PR D94 011101	J.P. Lees *et al.*	(BABAR Collab.)	REFID=57303
LEES	16H	PR D94 091101	J.P. Lees *et al.*	(BABAR Collab.)	REFID=57535
SATO	16B	PR D94 072007	Y. Sato *et al.*	(BELLE Collab.)	REFID=57523
VANHOEFER	16	PR D93 032010	P. Vanhoefer *et al.*	(BELLE Collab.)	REFID=57131
Also		PR D94 099903 (errat.)	P. Vanhoefer *et al.*	(BELLE Collab.)	REFID=57543
VOROBYEV	16	PR D94 052004	V. Vorobyev *et al.*	(BELLE Collab.)	REFID=57427
AAIJ	15AC	JHEP 1505 019	R. Aaij *et al.*	(LHCb Collab.)	REFID=56629
AAIJ	15AS	JHEP 1510 053	R. Aaij *et al.*	(LHCb Collab.)	REFID=56857
AAIJ	15AZ	PRL 115 161802	R. Aaij *et al.*	(LHCb Collab.)	REFID=56922
AAIJ	15BB	PR D92 112002	R. Aaij *et al.*	(LHCb Collab.)	REFID=57010
AAIJ	15D	JHEP 1501 024	R. Aaij *et al.*	(LHCb Collab.)	REFID=56299
AAIJ	15F	PRL 114 041601	R. Aaij *et al.*	(LHCb Collab.)	REFID=56369
AAIJ	15J	PL B742 38	R. Aaij *et al.*	(LHCb Collab.)	REFID=56378
AAIJ	15N	PRL 115 031601	R. Aaji *et al.*	(LHCb Collab.)	REFID=56480
AAIJ	15Q	PRL 115 111803	R. Aaij *et al.*	(LHCb Collab.)	REFID=56493
AAIJ	15S	PL B743 46	R. Aaij *et al.*	(LHCb Collab.)	REFID=56499
AAIJ	15T	PL B747 468	R. Aaij *et al.*	(LHCb Collab.)	REFID=56518
AAIJ	15X	PR D92 012012	R. Aaij *et al.*	(LHCb Collab.)	REFID=56588
AAIJ	15Y	PR D92 032002	R. Aaij *et al.*	(LHCb Collab.)	REFID=56609
AAIJ	15Z	JHEP 1504 064	R. Aaij *et al.*	(LHCb Collab.)	REFID=56615
ABAZOV	15A	PRL 114 062001	V.M. Abazov *et al.*	(D0 Collab.)	REFID=56380
ABDESSALAM	15	PRL 115 121604	A. Abdessalam *et al.*	(BABAR and BELLE Collabs.)	REFID=56916
BALA	15	PR D91 051101	A. Bala *et al.*	(BELLE Collab.)	REFID=56408
CHANG	15	PRL 115 221803	Y.-Y. Chang *et al.*	(BELLE Collab.)	REFID=56926
CHOI	15A	PR D91 092011	S.-K. Choi *et al.*	(BELLE Collab.)	REFID=56577
KHACHATRY...	15BE	NAT 522 68	V. Khachatryan *et al.*	(CMS and LHCb Collab.)	REFID=56946
LEES	15	PR D91 012003	J.P. Lees *et al.*	(BABAR Collab.)	REFID=56289
LEES	15A	PRL 114 081801	J.P. Lees *et al.*	(BABAR Collab.)	REFID=56410
LEES	15B	PR D91 031102	J.P. Lees *et al.*	(BABAR Collab.)	REFID=56411
LEES	15C	PR D91 052002	J.P. Lees *et al.*	(BABAR Collab.)	REFID=56412
MATVIENKO	15	PR D92 012013	D. Matvienko *et al.*	(BELLE Collab.)	REFID=56601
PAL	15	PR D92 011101	B. Pal *et al.*	(BELLE Collab.)	REFID=56597
WIECHCZYN...	15	PR D91 032008	J. Wiechczynski *et al.*	(BELLE Collab.)	REFID=56407
AAIJ	14AA	PRL 112 202001	R. Aaij *et al.*	(LHCb Collab.)	REFID=55843
AAIJ	14AM	JHEP 1405 069	R. Aaij *et al.*	(LHCb Collab.)	REFID=55996
AAIJ	14AN	JHEP 1409 177	R. Aaij *et al.*	(LHCb Collab.)	REFID=56009
AAIJ	14BM	NJP 16 123001	R. Aaij *et al.*	(LHCb Collab.)	REFID=56322
AAIJ	14BN	PR D90 112002	R. Aaij *et al.*	(LHCb Collab.)	REFID=56328
AAIJ	14BP	PL B739 218	R. Aaij *et al.*	(LHCb Collab.)	REFID=56336
AAIJ	14E	JHEP 1404 114	R. Aaij *et al.*	(LHCb Collab.)	REFID=55689
AAIJ	14L	JHEP 1407 140	R. Aaij *et al.*	(LHCb Collab.)	REFID=55725
AAIJ	14M	JHEP 1406 133	R. Aaij *et al.*	(LHCb Collab.)	REFID=55726
AAIJ	14O	JHEP 1405 082	R. Aaij *et al.*	(LHCb Collab.)	REFID=55728
AAIJ	14R	PL B736 446	R. Aaij *et al.*	(LHCb Collab.)	REFID=55760
AAIJ	14X	PR D90 012003	R. Aaij *et al.*	(LHCb Collab.)	REFID=55818
AAIJ	14Y	PRL 112 091802	R. Aaij *et al.*	(LHCb Collab.)	REFID=55837
AALTONEN	14P	PRL 113 242001	T. Aaltonen *et al.*	(CDF Collab.)	REFID=56259
ABAZOV	14	PR D89 012002	V.M. Abazov *et al.*	(D0 Collab.)	REFID=55621
CHILIKIN	14	PR D90 112009	K. Chilikin *et al.*	(BELLE Collab.)	REFID=56344
CHOBANOVA	14	PR D90 012002	V. Chobanova *et al.*	(BELLE Collab.)	REFID=55819
IWASHITA	14	PTEP 2014 043C01	T. Iwashita *et al.*	(BELLE Collab.)	REFID=55925
LAI	14	PR D89 051103	Y.-T. Lai *et al.*	(BELLE Collab.)	REFID=55794
LEES	14	PR D89 051101	J.P. Lees *et al.*	(BABAR Collab.)	REFID=55690
LEES	14B	PR D89 112002	J.P. Lees *et al.*	(BABAR Collab.)	REFID=55799
LEES	14C	PR D89 071102	J.P. Lees *et al.*	(BABAR Collab.)	REFID=55800
PDG	14	CP C38 070001	K. Olive *et al.*	(PDG Collab.)	REFID=55687
SANTELJ	14	JHEP 1410 165	L. Santelj *et al.*	(BELLE Collab.)	REFID=56161
SATO	14	PR D90 072009	S. Sato *et al.*	(BELLE Collab.)	REFID=56217
VANHOEFER	14	PR D89 072008	P. Vanhoefer *et al.*	(BELLE Collab.)	REFID=55811
AAD	13U	PR D87 032002	G. Aad *et al.*	(ATLAS Collab.)	REFID=54939
AAIJ	13	NP B867 1	R. Aaij *et al.*	(LHCb Collab.)	REFID=54596
AAIJ	13A	NP B867 547	R. Aaij *et al.*	(LHCb Collab.)	REFID=54670
AAIJ	13AA	NP B871 403	R. Aaij *et al.*	(LHCb Collab.)	REFID=55062
AAIJ	13AC	NP B874 663	R. Aaij *et al.*	(LHCb Collab.)	REFID=55064
AAIJ	13AO	PR D87 092001	R. Aaij *et al.*	(LHCb Collab.)	REFID=55149
AAIJ	13AP	PR D87 092007	R. Aaij *et al.*	(LHCb Collab.)	REFID=55150
AAIJ	13AQ	PR D87 112009	R. Aaij *et al.*	(LHCb Collab.)	REFID=55158
AAIJ	13AT	PR D88 052002	R. Aaij *et al.*	(LHCb Collab.)	REFID=55180
AAIJ	13AW	PRL 110 211801	R. Aaij *et al.*	(LHCb Collab.)	REFID=55207
AAIJ	13AX	PRL 110 221601	R. Aaij *et al.*	(LHCb Collab.)	REFID=55208
AAIJ	13B	PRL 110 021801	R. Aaij *et al.*	(LHCb Collab.)	REFID=54767
AAIJ	13BA	PRL 111 101805	R. Aaij *et al.*	(LHCb Collab.)	REFID=55227
AAIJ	13BM	PRL 111 141801	R. Aaij *et al.*	(LHCb Collab.)	REFID=55413
AAIJ	13BO	JHEP 1310 183	R. Aaij *et al.*	(LHCb Collab.)	REFID=55423
AAIJ	13BP	JHEP 1310 143	R. Aaij *et al.*	(LHCb Collab.)	REFID=55427
AAIJ	13BQ	JHEP 1310 005	R. Aaij *et al.*	(LHCb Collab.)	REFID=55429
AAIJ	13BT	PR D88 072005	R. Aaij *et al.*	(LHCb Collab.)	REFID=55457
AAIJ	13CF	EPJ C73 2655	R. Aaij *et al.*	(LHCb Collab.)	REFID=55617
AAIJ	13E	PRL 110 031801	R. Aaij *et al.*	(LHCb Collab.)	REFID=54856
AAIJ	13F	PL B719 318	R. Aaij *et al.*	(LHCb Collab.)	REFID=54857
AAIJ	13K	PL B721 24	R. Aaij *et al.*	(LHCb Collab.)	REFID=54974
AAIJ	13L	JHEP 1303 067	R. Aaij *et al.*	(LHCb Collab.)	REFID=54950
AAIJ	13M	PR D87 052001	R. Aaij *et al.*	(LHCb Collab.)	REFID=54951
AAIJ	13P	JHEP 1304 001	R. Aaij *et al.*	(LHCb Collab.)	REFID=54975
AAIJ	13U	JHEP 1305 159	R. Aaij *et al.*	(LHCb Collab.)	REFID=55032
AAIJ	13Y	JHEP 1308 131	R. Aaij *et al.*	(LHCb Collab.)	REFID=55047
AAIJ	13Z	JHEP 1309 006	R. Aaij *et al.*	(LHCb Collab.)	REFID=55048
AALTONEN	13F	PR D87 072003	T. Aaltonen *et al.*	(CDF Collab.)	REFID=55142
CHATRCHYAN	13AW	PRL 111 101804	S. Chatrchyan *et al.*	(CMS Collab.)	REFID=55225
CHATRCHYAN	13BL	PL B727 77	S. Chatrchyan *et al.*	(CMS Collab.)	REFID=55439

CHILIKIN	13	PR D88 074026	K. Chilikin *et al.*	(BELLE Collab.)	REFID=55551
DALSENO	13	PR D88 092003	J. Dalseno *et al.*	(BELLE Collab.)	REFID=55488
DUH	13	PR D87 031103	Y. T. Duh *et al.*	(BELLE Collab.)	REFID=54957
GAUR	13	PR D87 091101	V. Gaur *et al.*	(BELLE Collab.)	REFID=55146
LEES	13D	PR D87 052009	J.P. Lees *et al.*	(BABAR Collab.)	REFID=54958
LEES	13H	PR D87 092004	J.P. Lees *et al.*	(BABAR Collab.)	REFID=55148
LEES	13I	PR D87 112005	J.P. Lees *et al.*	(BABAR Collab.)	REFID=55161
LEES	13J	PR D88 012003	J.P. Lees *et al.*	(BABAR Collab.)	REFID=55165
LEES	13M	PR D88 032012	J.P. Lees *et al.*	(BABAR Collab.)	REFID=55178
LEES	13N	PRL 111 101802	J.P. Lees *et al.*	(BABAR Collab.)	REFID=55224
Also		PRL 111 159901(errat.)	J.P. Lees *et al.*	(BABAR Collab.)	REFID=55468
Also		PR D93 032001	J.P. Lees *et al.*	(BABAR Collab.)	REFID=57247
LUTZ	13	PR D87 111103	O. Lutz *et al.*	(BELLE Collab.)	REFID=55147
PRIM	13	PR D88 072004	M. Prim *et al.*	(BELLE Collab.)	REFID=55415
SIBIDANOV	13	PR D88 032005	A. Sibidanov *et al.*	(BELLE Collab.)	REFID=55176
AAIJ	12A	PL B708 55	R. Aaij *et al.*	(LHCb Collab.)	REFID=54033
AAIJ	12AH	JHEP 1207 133	R. Aaij *et al.*	(LHCb Collab.)	REFID=54472
AAIJ	12AM	PRL 109 131801	R. Aaij *et al.*	(LHCb Collab.)	REFID=54590
AAIJ	12AR	JHEP 1210 037	R. Aaij *et al.*	(LHCb Collab.)	REFID=54595
AAIJ	12AX	PR D86 112005	R. Aaij *et al.*	(LHCb Collab.)	REFID=54765
AAIJ	12E	PL B708 241	R. Aaij *et al.*	(LHCb Collab.)	REFID=54043
AAIJ	12I	PL B709 177	R. Aaij *et al.*	(LHCb Collab.)	REFID=54061
AAIJ	12L	EPJ C72 2118	R. Aaij *et al.*	(LHCb Collab.)	REFID=54136
AAIJ	12T	PRL 108 161801	R. Aaij *et al.*	(LHCb Collab.)	REFID=54214
AAIJ	12U	PRL 108 181806	R. Aaij *et al.*	(LHCb Collab.)	REFID=54215
AAIJ	12V	PRL 108 201601	R. Aaij *et al.*	(LHCb Collab.)	REFID=54216
AAIJ	12W	PRL 108 231801	R. Aaij *et al.*	(LHCb Collab.)	REFID=54217
AALTONEN	12L	PRL 108 211803	T. Aaltonen *et al.*	(CDF Collab.)	REFID=54241
ABAZOV	12AC	PR D86 072009	V.M. Abazov *et al.*	(D0 Collab.)	REFID=54605
ABAZOV	12U	PR D85 112003	V.M. Abazov *et al.*	(D0 Collab.)	REFID=54350
ADACHI	12A	PRL 108 171802	I. Adachi *et al.*	(BELLE Collab.)	REFID=54222
CHANG	12	PR D85 091102	M.-C. Chang *et al.*	(BELLE Collab.)	REFID=54403
CHATRCHYAN	12A	JHEP 1204 033	S. Chatrchyan *et al.*	(CMS Collab.)	REFID=54060
DALSENO	12	PR D86 092012	J. Dalseno *et al.*	(BELLE Collab.)	REFID=54709
DEL-AMO-SA...	12	PR D85 092017	P. del Amo Sanchez *et al.*	(BABAR Collab.)	REFID=54286
HIGUCHI	12	PR D85 071105	T. Higuchi *et al.*	(BELLE Collab.)	REFID=54069
HOI	12	PRL 108 031801	C.-T. Hoi *et al.*	(BELLE Collab.)	REFID=54011
HSU	12	PR D86 032002	C.-L. Hsu *et al.*	(BELLE Collab.)	REFID=54427
KIM	12A	PR D86 031101	J.H. Kim *et al.*	(BELLE Collab.)	REFID=54426
KRONENBIT...	12	PR D86 071103	B. Kronenbitter *et al.*	(BELLE Collab.)	REFID=54630
LEES	12AA	PR D86 092004	J.P. Lees *et al.*	(BABAR Collab.)	REFID=54717
LEES	12AF	PR D86 112006	J.P. Lees *et al.*	(BABAR Collab.)	REFID=54801
LEES	12B	PR D85 052003	J.P. Lees *et al.*	(BABAR Collab.)	REFID=54042
LEES	12D	PRL 109 101802	J.P. Lees *et al.*	(BABAR Collab.)	REFID=54261
Also		PR D88 072012	J.P. Lees *et al.*	(BABAR Collab.)	REFID=55461
LEES	12I	PR D85 054023	J.P. Lees *et al.*	(BABAR Collab.)	REFID=54376
LEES	12K	PR D85 072005	J.P. Lees *et al.*	(BABAR Collab.)	REFID=54378
LEES	12O	PR D85 112010	J.P. Lees *et al.*	(BABAR Collab.)	REFID=54382
LEES	12T	PR D86 051105	J.P. Lees *et al.*	(BABAR Collab.)	REFID=54612
LEES	12W	PRL 109 211801	J.P. Lees *et al.*	(BABAR Collab.)	REFID=54682
NEGISHI	12	PR D86 011101	K. Negishi *et al.*	(BELLE Collab.)	REFID=54415
PDG	12	PR D86 010001	J. Beringer *et al.*	(PDG Collab.)	REFID=54066
ROHRKEN	12	PR D85 091106	M. Rohrken *et al.*	(BELLE Collab.)	REFID=54404
SATO	12	PRL 108 171801	Y. Sato *et al.*	(BELLE Collab.)	REFID=54221
AAIJ	11B	PL B699 330	R. Aaij *et al.*	(LHCb Collab.)	REFID=16667
AAIJ	11E	PR D84 092001	R. Aaij *et al.*	(LHCb Collab.)	REFID=53856
Also		PR D85 039904 (errat.)	R. Aaij *et al.*	(LHCb Collab.)	REFID=54371
AALTONEN	11	PRL 106 121804	T. Aaltonen *et al.*	(CDF Collab.)	REFID=53674
AALTONEN	11AG	PRL 107 191801	T. Aaltonen *et al.*	(CDF Collab.)	REFID=53834
Also		PRL 107 239903 (errat.)	T. Aaltonen *et al.*	(CDF Collab.)	REFID=54005
AALTONEN	11AI	PRL 107 201802	T. Aaltonen *et al.*	(CDF Collab.)	REFID=53836
AALTONEN	11L	PRL 106 161801	T. Aaltonen *et al.*	(CDF Collab.)	REFID=16443
AALTONEN	11N	PRL 106 181802	T. Aaltonen *et al.*	(CDF Collab.)	REFID=16447
ABAZOV	11U	PR D84 052007	V.M. Abazov *et al.*	(D0 Collab.)	REFID=53796
AUSHEV	11	PR D83 051102	T. Aushev *et al.*	(BELLE Collab.)	REFID=16505
BAHINIPATI	11	PR D84 021101	S. Bahinipati *et al.*	(BELLE Collab.)	REFID=16601
BHARDWAJ	11	PRL 107 091803	V. Bhardwaj *et al.*	(BELLE Collab.)	REFID=53779
CHATRCHYAN	11T	PRL 107 191802	S. Chatrchyan *et al.*	(CMS Collab.)	REFID=53839
CHOI	11	PR D84 052004	S.-K. Choi *et al.*	(BELLE Collab.)	REFID=53934
DEL-AMO-SA...	11A	PR D83 032006	P. del Amo Sanchez *et al.*	(BABAR Collab.)	REFID=53664
DEL-AMO-SA...	11B	PR D83 032004	P. del Amo Sanchez *et al.*	(BABAR Collab.)	REFID=53665
DEL-AMO-SA...	11C	PR D83 032007	P. del Amo Sanchez *et al.*	(BABAR Collab.)	REFID=53666
DEL-AMO-SA...	11F	PR D83 052011	P. del Amo Sanchez *et al.*	(BABAR Collab.)	REFID=53673
DEL-AMO-SA...	11K	PR D83 091101	P. del Amo Sanchez *et al.*	(BABAR Collab.)	REFID=16497
HA	11	PR D83 071101	H. Ha *et al.*	(BELLE Collab.)	REFID=16513
LEES	11	PR D83 112010	J.P. Lees *et al.*	(BABAR Collab.)	REFID=16579
LEES	11A	PR D84 012001	J.P. Lees *et al.*	(BABAR Collab.)	REFID=16595
LEES	11F	PR D84 071102	J.P. Lees *et al.*	(BABAR Collab.)	REFID=53807
LEES	11M	PR D84 112007	J.P. Lees *et al.*	(BABAR Collab.)	REFID=53991
Also		PR D87 039901 (errat.)	J.P. Lees *et al.*	(BABAR Collab.)	REFID=55128
SAHOO	11A	PR D84 071101	H. Sahoo *et al.*	(BELLE Collab.)	REFID=53810
AUBERT	10	PRL 104 011802	B. Aubert *et al.*	(BABAR Collab.)	REFID=53189
AUBERT	10D	PR D81 052009	B. Aubert *et al.*	(BABAR Collab.)	REFID=53217
AUBERT	10H	PR D82 031102	B. Aubert *et al.*	(BABAR Collab.)	REFID=53363
AUSHEV	10	PR D81 031103	T. Aushev *et al.*	(BELLE Collab.)	REFID=53225
CHIANG	10	PR D81 071101	C.-C. Chiang *et al.*	(BELLE Collab.)	REFID=53288
DAS	10	PR D82 051103	A. Das *et al.*	(BELLE Collab.)	REFID=53498
DEL-AMO-SA...	10A	PR D82 011502	P. del Amo Sanchez *et al.*	(BABAR Collab.)	REFID=53325
DEL-AMO-SA...	10B	PR D82 011101	P. del Amo Sanchez *et al.*	(BABAR Collab.)	REFID=53362
DEL-AMO-SA...	10E	PR D82 031101	P. del Amo Sanchez *et al.*	(BABAR Collab.)	REFID=53371
DEL-AMO-SA...	10Q	PR D82 112002	P. del Amo Sanchez *et al.*	(BABAR Collab.)	REFID=53575
DUNGEL	10	PR D82 112007	W. Dungel *et al.*	(BELLE Collab.)	REFID=53579
FUJIKAWA	10A	PR D81 011101	M. Fujikawa *et al.*	(BELLE Collab.)	REFID=53200
HYUN	10	PRL 105 091801	H.J. Hyun *et al.*	(BELLE Collab.)	REFID=53372
JOSHI	10	PR D81 031101	N.J. Joshi *et al.*	(BELLE Collab.)	REFID=53227
NAKAHAMA	10	PR D82 073011	Y. Nakahama *et al.*	(BELLE Collab.)	REFID=53467
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KYEONG	09	PR D80 051103	S.-H. Kyeong *et al.*	(BELLE Collab.)	REFID=53017
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CHOI	08	PRL 100 142001	S.-K. Choi *et al.*	(BELLE Collab.)	REFID=52178
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KIM	08	PL B669 287	H.O. Kim *et al.*	(BELLE Collab.)	REFID=52525
KUMAR	08	PR D78 091104	R. Kumar *et al.*	(BELLE Collab.)	REFID=52539
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SAHOO	08	PR D77 091103	H. Sahoo *et al.*	(BELLE Collab.)	REFID=52346
TANIGUCHI	08	PRL 101 111801	N. Taniguchi *et al.*	(BELLE Collab.)	REFID=52449
UCHIDA	08	PR D77 051101	Y. Uchida *et al.*	(BELLE Collab.)	REFID=52224
USHIRODA	08	PRL 100 021602	Y. Ushiroda *et al.*	(BELLE Collab.)	REFID=52147
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GARMASH	07	PR D75 012006	A. Garmash *et al.*	(BELLE Collab.)	REFID=51594
HOKUUE	07	PL B648 139	T. Hokuue *et al.*	(BELLE Collab.)	REFID=51672
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KUSAKA	07	PRL 98 221602	A. Kusaka *et al.*	(BELLE Collab.)	REFID=51809
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MATYJA	07	PRL 99 191807	A. Matyja *et al.*	(BELLE Collab.)	REFID=52022
MEDVEDEVA	07	PR D76 051102	T. Medvedeva *et al.*	(BELLE Collab.)	REFID=51931
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SCHUEMANN	07	PR D75 092002	J. Schuemann *et al.*	(BELLE Collab.)	REFID=51793
SOMOV	07	PR D76 011104	A. Somov *et al.*	(BELLE Collab.)	REFID=51851
TSAI	07	PR D75 111101	Y.-T. Tsai *et al.*	(BELLE Collab.)	REFID=51800
URQUIJO	07	PR D75 032001	P. Urquijo *et al.*	(BELLE Collab.)	REFID=51647
WANG	07B	PR D75 092005	C.H. Wang *et al.*	(BELLE Collab.)	REFID=51796
WANG	07C	PR D76 052004	M.-Z. Wang *et al.*	(BELLE Collab.)	REFID=51935
XIE	07	PR D75 017101	Q.L. Xie *et al.*	(BELLE Collab.)	REFID=51732
ZUPANC	07	PR D75 091102	A. Zupanc *et al.*	(BELLE Collab.)	REFID=51790
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BLYTH	06	PR D74 092002	S. Blyth *et al.*	(BELLE Collab.)	REFID=51500
CHISTOV	06A	PR D74 111105	R. Chistov *et al.*	(BELLE Collab.)	REFID=51588
DRAGIC	06	PR D73 111105	J. Dragic *et al.*	(BELLE Collab.)	REFID=51278

GABYSHEV	06	PRL 97 202003	N. Gabyshev *et al.*	(BELLE Collab.)	REFID=51488
GOKHROO	06	PRL 97 162002	G. Gokhroo *et al.*	(BELLE Collab.)	REFID=51432
JEN	06	PR D74 111101	C.-M. Jen *et al.*	(BELLE Collab.)	REFID=51573
KROKOVNY	06	PRL 97 081801	P. Krokovny *et al.*	(BELLE Collab.)	REFID=51363
MOHAPATRA	06	PRL 96 221601	D. Mohapatra *et al.*	(BELLE Collab.)	REFID=51235
NAKANO	06	PR D73 112002	E. Nakano *et al.*	(BELLE Collab.)	REFID=51281
RONGA	06	PR D73 092003	F.J. Ronga *et al.*	(BELLE Collab.)	REFID=51307
SCHUEMANN	06	PRL 97 061802	J. Schuemann *et al.*	(BELLE Collab.)	REFID=51250
SOMOV	06	PRL 96 171801	A. Somov *et al.*	(BELLE Collab.)	REFID=51096
SONI	06	PL B634 155	N. Soni *et al.*	(BELLE Collab.)	REFID=51093
USHIRODA	06	PR D74 111104	Y. Ushiroda *et al.*	(BELLE Collab.)	REFID=51587
VILLA	06	PR D73 051107	S. Villa *et al.*	(BELLE Collab.)	REFID=51094
ABAZOV	05B	PRL 94 042001	V.M. Abazov *et al.*	(D0 Collab.)	REFID=50492
ABAZOV	05C	PRL 94 102001	V.M. Abazov *et al.*	(D0 Collab.)	REFID=50511
ABAZOV	05D	PRL 94 182001	V.M. Abazov *et al.*	(D0 Collab.)	REFID=50518
ABAZOV	05W	PRL 95 171801	V.M. Abazov *et al.*	(D0 Collab.)	REFID=50929
ABE	05A	PRL 94 221805	K. Abe *et al.*	(BELLE Collab.)	REFID=50755
ABE	05B	PR D71 072003	K. Abe *et al.*	(BELLE Collab.)	REFID=50517
Also		PR D71 079903 (errat.)	K. Abe *et al.*	(BELLE Collab.)	REFID=50555
ABE	05D	PRL 95 101801	K. Abe *et al.*	(BELLE Collab.)	REFID=50561
ABE	05G	PRL 95 231802	K. Abe *et al.*	(BELLE Collab.)	REFID=50936
ACOSTA	05	PRL 94 101803	D. Acosta *et al.*	(CDF Collab.)	REFID=50519
AUBERT	05	PRL 94 011801	B. Aubert *et al.*	(BABAR Collab.)	REFID=50366
AUBERT	05B	PR D71 031501	B. Aubert *et al.*	(BABAR Collab.)	REFID=50498
AUBERT	05E	PR D71 051502	B. Aubert *et al.*	(BABAR Collab.)	REFID=50510
AUBERT	05F	PRL 94 161803	B. Aubert *et al.*	(BABAR Collab.)	REFID=50545
AUBERT	05I	PRL 94 131801	B. Aubert *et al.*	(BABAR Collab.)	REFID=50589
AUBERT	05J	PRL 94 141801	B. Aubert *et al.*	(BABAR Collab.)	REFID=50590
AUBERT	05K	PRL 94 171801	B. Aubert *et al.*	(BABAR Collab.)	REFID=50591
AUBERT	05L	PRL 94 181802	B. Aubert *et al.*	(BABAR Collab.)	REFID=50593
AUBERT	05M	PRL 94 191802	B. Aubert *et al.*	(BABAR Collab.)	REFID=50606
AUBERT	05O	PR D71 031103	B. Aubert *et al.*	(BABAR Collab.)	REFID=50617
AUBERT	05P	PR D71 032005	B. Aubert *et al.*	(BABAR Collab.)	REFID=50620
AUBERT	05T	PR D71 091102	B. Aubert *et al.*	(BABAR Collab.)	REFID=50634
AUBERT	05U	PR D71 091103	B. Aubert *et al.*	(BABAR Collab.)	REFID=50635
AUBERT	05V	PR D71 091104	B. Aubert *et al.*	(BABAR Collab.)	REFID=50636
AUBERT	05W	PRL 94 221803	B. Aubert *et al.*	(BABAR Collab.)	REFID=50658
AUBERT	05Y	PR D71 111102	B. Aubert *et al.*	(BABAR Collab.)	REFID=50663
AUBERT	05Z	PR D71 112003	B. Aubert *et al.*	(BABAR Collab.)	REFID=50665
AUBERT,B	05	PRL 95 011801	B. Aubert *et al.*	(BABAR Collab.)	REFID=50683
AUBERT,B	05C	PRL 95 041805	B. Aubert *et al.*	(BABAR Collab.)	REFID=50687
AUBERT,B	05K	PRL 95 131803	B. Aubert *et al.*	(BABAR Collab.)	REFID=50826
AUBERT,B	05O	PR D72 051102	B. Aubert *et al.*	(BABAR Collab.)	REFID=50892
AUBERT,B	05P	PR D72 051103	B. Aubert *et al.*	(BABAR Collab.)	REFID=50894
AUBERT,B	05Q	PR D72 051106	B. Aubert *et al.*	(BABAR Collab.)	REFID=50893
AUBERT,B	05Z	PRL 95 131802	B. Aubert *et al.*	(BABAR Collab.)	REFID=50920
AUBERT,BE	05	PRL 95 151803	B. Aubert *et al.*	(BABAR Collab.)	REFID=50921
AUBERT,BE	05A	PRL 95 151804	B. Aubert *et al.*	(BABAR Collab.)	REFID=50922
AUBERT,BE	05B	PRL 95 171802	B. Aubert *et al.*	(BABAR Collab.)	REFID=50923
AUBERT,BE	05C	PR D72 091103	B. Aubert *et al.*	(BABAR Collab.)	REFID=50944
AUBERT,BE	05E	PRL 95 221801	B. Aubert *et al.*	(BABAR Collab.)	REFID=50948
AUBERT,BE	05F	PR D72 111101	B. Aubert *et al.*	(BABAR Collab.)	REFID=51006
CHANG	05	PR D71 072007	M.-C. Chang *et al.*	(BELLE Collab.)	REFID=50631
CHANG	05A	PR D71 091106	P. Chang *et al.*	(BELLE Collab.)	REFID=50638
CHAO	05	PRL 94 181803	Y. Chao *et al.*	(BELLE Collab.)	REFID=50594
CHAO	05A	PR D71 031502	Y. Chao *et al.*	(BELLE Collab.)	REFID=50619
CHEN	05A	PRL 94 221804	K.-F. Chen *et al.*	(BELLE Collab.)	REFID=50659
CHEN	05B	PR D72 012004	K.-F. Chen *et al.*	(BELLE Collab.)	REFID=50706
DRUTSKOY	05	PRL 94 061802	A. Drutskoy *et al.*	(BELLE Collab.)	REFID=50573
GERSHON	05	PL B624 11	T. Gershon *et al.*	(BELLE Collab.)	REFID=50569
ITOH	05	PRL 95 091601	R. Itoh *et al.*	(BELLE Collab.)	REFID=50559
LIVENTSEV	05	PR D72 051109	D. Liventsev *et al.*	(BELLE Collab.)	REFID=50903
MAJUMDER	05	PRL 95 041803	G. Majumder *et al.*	(BELLE Collab.)	REFID=50689
MIYAKE	05	PL B618 34	H. Miyake *et al.*	(BELLE Collab.)	REFID=50654
MOHAPATRA	05	PR D72 011101	D. Mohapatra *et al.*	(BELLE Collab.)	REFID=50700
NISHIDA	05	PL B610 23	S. Nishida *et al.*	(BELLE Collab.)	REFID=50596
OKABE	05	PL B614 27	T. Okabe *et al.*	(BELLE Collab.)	REFID=50601
PARK	05	PRL 94 021801	H.K. Park *et al.*	(FNAL HyperCP Collab.)	REFID=50480
SCHUMANN	05	PR D72 011103	J. Schumann *et al.*	(BELLE Collab.)	REFID=50702
SUMISAWA	05	PRL 95 061801	K. Sumisawa *et al.*	(BELLE Collab.)	REFID=50695
USHIRODA	05	PRL 94 231601	Y. Ushiroda *et al.*	(BELLE Collab.)	REFID=50660
WANG	05	PRL 94 121801	C.C. Wang *et al.*	(BELLE Collab.)	REFID=50587
WANG	05A	PL B617 141	M.-Z. Wang *et al.*	(BELLE Collab.)	REFID=50651
XIE	05	PR D72 051105	Q.L. Xie *et al.*	(BELLE Collab.)	REFID=50902
YANG	05	PRL 94 111802	H. Yang *et al.*	(BELLE Collab.)	REFID=50585
ZHANG	05B	PR D71 091107	L.M. Zhang *et al.*	(BELLE Collab.)	REFID=50639
ABDALLAH	04D	EPJ C33 213	J. Abdallah *et al.*	(DELPHI Collab.)	REFID=49916
ABDALLAH	04E	EPJ C33 307	J. Abdallah *et al.*	(DELPHI Collab.)	REFID=49917
ABE	04E	PRL 93 021601	K. Abe *et al.*	(BELLE Collab.)	REFID=50056
AUBERT	04A	PR D69 011102	B. Aubert *et al.*	(BABAR Collab.)	REFID=49719
AUBERT	04B	PR D69 032004	B. Aubert *et al.*	(BABAR Collab.)	REFID=49720
AUBERT	04C	PRL 92 111801	B. Aubert *et al.*	(BABAR Collab.)	REFID=49670
AUBERT	04G	PR D69 031102	B. Aubert *et al.*	(BABAR Collab.)	REFID=49864
AUBERT	04H	PRL 92 061801	B. Aubert *et al.*	(BABAR Collab.)	REFID=49867
AUBERT	04M	PRL 92 201802	B. Aubert *et al.*	(BABAR Collab.)	REFID=49928
AUBERT	04R	PR D69 052001	B. Aubert *et al.*	(BABAR Collab.)	REFID=49956
AUBERT	04U	PR D69 091503	B. Aubert *et al.*	(BABAR Collab.)	REFID=49959
AUBERT	04V	PRL 92 251801	B. Aubert *et al.*	(BABAR Collab.)	REFID=49986
AUBERT	04W	PRL 92 251802	B. Aubert *et al.*	(BABAR Collab.)	REFID=49987
AUBERT	04Y	PRL 93 041801	B. Aubert *et al.*	(BABAR Collab.)	REFID=49997
AUBERT	04Z	PRL 93 051802	B. Aubert *et al.*	(BABAR Collab.)	REFID=50001
AUBERT,B	04B	PR D70 011101	B. Aubert *et al.*	(BABAR Collab.)	REFID=50043
AUBERT,B	04C	PR D70 012007	B. Aubert *et al.*	(BABAR Collab.)	REFID=50046
Also		PRL 92 181801	B. Aubert *et al.*	(BABAR Collab.)	REFID=49927
AUBERT,B	04D	PR D70 032006	B. Aubert *et al.*	(BABAR Collab.)	REFID=50051
AUBERT,B	04G	PRL 93 071801	B. Aubert *et al.*	(BABAR Collab.)	REFID=50070
AUBERT,B	04H	PRL 93 081801	B. Aubert *et al.*	(BABAR Collab.)	REFID=50071

AUBERT,B	04J	PRL 93 091802	B. Aubert *et al.*	(BABAR Collab.)	REFID=50074
AUBERT,B	04K	PRL 93 131801	B. Aubert *et al.*	(BABAR Collab.)	REFID=50084
AUBERT,B	04M	PRL 93 131805	B. Aubert	(BABAR Collab.)	REFID=50088
AUBERT,B	04O	PR D70 091103	B. Aubert *et al.*	(BABAR Collab.)	REFID=50190
AUBERT,B	04R	PRL 93 231801	B. Aubert *et al.*	(BABAR Collab.)	REFID=50361
AUBERT,B	04S	PRL 93 181801	B. Aubert *et al.*	(BABAR Collab.)	REFID=50195
AUBERT,B	04T	PR D70 091104	B. Aubert *et al.*	(BABAR Collab.)	REFID=50240
AUBERT,B	04U	PR D70 091105	B. Aubert *et al.*	(BABAR Collab.)	REFID=50241
AUBERT,B	04V	PRL 93 181805	B. Aubert *et al.*	(BABAR Collab.)	REFID=50265
AUBERT,B	04W	PRL 93 231804	B. Aubert *et al.*	(BABAR Collab.)	REFID=50362
AUBERT,B	04X	PRL 93 181806	B. Aubert *et al.*	(BABAR Collab.)	REFID=50266
AUBERT,B	04Z	PRL 93 201801	B. Aubert *et al.*	(BABAR Collab.)	REFID=50273
AUBERT,BE	04	PR D70 111102	B. Aubert *et al.*	(BABAR Collab.)	REFID=50371
AUBERT,BE	04A	PR D70 112006	B. Aubert *et al.*	(BABAR Collab.)	REFID=50377
AUBERT,BE	04B	PR D70 091106	B. Aubert *et al.*	(BABAR Collab.)	REFID=50416
AUSHEV	04	PRL 93 201802	T. Aushev *et al.*	(BELLE Collab.)	REFID=50274
BORNHEIM	04	PRL 93 241802	A. Bornheim *et al.*	(CLEO Collab.)	REFID=50363
CHANG	04	PL B599 148	P. Chang *et al.*	(BELLE Collab.)	REFID=50123
CHAO	04	PR D69 111102	Y. Chao *et al.*	(BELLE Collab.)	REFID=50006
CHAO	04B	PRL 93 191802	Y. Chao *et al.*	(BELLE Collab.)	REFID=50272
DRAGIC	04	PRL 93 131802	J. Dragic	(BELLE Collab.)	REFID=50085
DRUTSKOY	04	PRL 92 051801	A. Drutskoy *et al.*	(BELLE Collab.)	REFID=49717
GARMASH	04	PR D69 012001	A. Garmash *et al.*	(BELLE Collab.)	REFID=49642
KATAOKA	04	PRL 93 261801	S.U. Kataoka *et al.*	(BELLE Collab.)	REFID=50364
MAJUMDER	04	PR D70 111103	G. Majumder *et al.*	(BELLE Collab.)	REFID=50372
NAKAO	04	PR D69 112001	M. Nakao *et al.*	(BELLE Collab.)	REFID=50010
SARANGI	04	PRL 93 031802	T.R. Sarangi *et al.*	(BELLE Collab.)	REFID=49993
WANG	04	PRL 92 131801	M.Z. Wang *et al.*	(BELLE Collab.)	REFID=49936
WANG	04A	PR D70 012001	C.H. Wang *et al.*	(BELLE Collab.)	REFID=50045
ABDALLAH	03B	EPJ C28 155	J. Abdallah *et al.*	(DELPHI Collab.)	REFID=49242
ABE	03B	PR D67 032003	K. Abe *et al.*	(BELLE Collab.)	REFID=49205
ABE	03C	PR D67 031102	K. Abe *et al.*	(BELLE Collab.)	REFID=49208
ABE	03G	PR D68 012001	K. Abe *et al.*	(BELLE Collab.)	REFID=49506
ABE	03H	PRL 91 261602	K. Abe *et al.*	(BELLE Collab.)	REFID=49635
ADAM	03	PR D67 032001	N.E. Adam *et al.*	(CLEO Collab.)	REFID=49204
ATHAR	03	PR D68 072003	S.B. Athar *et al.*	(CLEO Collab.)	REFID=49666
AUBERT	03B	PRL 90 091801	B. Aubert *et al.*	(BABAR Collab.)	REFID=49207
AUBERT	03C	PR D67 072002	B. Aubert *et al.*	(BABAR Collab.)	REFID=49210
AUBERT	03D	PRL 90 181803	B. Aubert *et al.*	(BABAR Collab.)	REFID=49212
AUBERT	03E	PRL 90 181801	B. Aubert *et al.*	(BABAR Collab.)	REFID=49359
AUBERT	03H	PR D67 091101	B. Aubert *et al.*	(BABAR Collab.)	REFID=49430
AUBERT	03I	PR D67 092003	B. Aubert *et al.*	(BABAR Collab.)	REFID=49431
AUBERT	03J	PRL 90 221801	B. Aubert *et al.*	(BABAR Collab.)	REFID=49438
AUBERT	03K	PRL 90 231801	B. Aubert *et al.*	(BABAR Collab.)	REFID=49439
AUBERT	03L	PRL 91 021801	B. Aubert *et al.*	(BABAR Collab.)	REFID=49493
AUBERT	03N	PRL 91 061802	B. Aubert *et al.*	(BABAR Collab.)	REFID=49514
AUBERT	03O	PRL 91 071801	B. Aubert *et al.*	(BABAR Collab.)	REFID=49515
AUBERT	03Q	PRL 91 131801	B. Aubert *et al.*	(BABAR Collab.)	REFID=49542
AUBERT	03S	PRL 91 241801	B. Aubert *et al.*	(BABAR Collab.)	REFID=49646
AUBERT	03T	PRL 91 201802	B. Aubert *et al.*	(BABAR Collab.)	REFID=49647
AUBERT	03U	PRL 91 221802	B. Aubert *et al.*	(BABAR Collab.)	REFID=49648
AUBERT	03V	PRL 91 171802	B. Aubert *et al.*	(BABAR Collab.)	REFID=49663
AUBERT	03W	PRL 91 161801	B. Aubert *et al.*	(BABAR Collab.)	REFID=49664
AUBERT	03X	PR D68 092001	B. Aubert *et al.*	(BABAR Collab.)	REFID=49665
BORNHEIM	03	PR D68 052002	A. Bornheim *et al.*	(CLEO Collab.)	REFID=49546
CHANG	03	PR D68 111101	M.-C. Chang *et al.*	(BELLE Collab.)	REFID=49640
CHEN	03B	PRL 91 201801	K.-F. Chen *et al.*	(BELLE Collab.)	REFID=49639
CSORNA	03	PR D67 112002	S.E. Csorna *et al.*	(CLEO Collab.)	REFID=49435
EISENSTEIN	03	PR D68 017101	B.I. Eisenstein *et al.*	(CLEO Collab.)	REFID=49509
FANG	03	PRL 90 071801	F. Fang *et al.*	(BELLE Collab.)	REFID=49206
GABYSHEV	03	PRL 90 121802	N. Gabyshev *et al.*	(BELLE Collab.)	REFID=49201
HASTINGS	03	PR D67 052004	N.C. Hastings *et al.*	(BELLE Collab.)	REFID=49209
ISHIKAWA	03	PRL 91 261601	A. Ishikawa *et al.*	(BELLE Collab.)	REFID=49641
KROKOVNY	03	PRL 90 141802	P. Krokovny *et al.*	(BELLE Collab.)	REFID=49218
KROKOVNY	03B	PRL 91 262002	P. Krokovny *et al.*	(BELLE Collab.)	REFID=49615
LEE	03	PRL 91 261801	S.H. Lee *et al.*	(BELLE Collab.)	REFID=49636
SATPATHY	03	PL B553 159	A. Satpathy *et al.*	(BELLE Collab.)	REFID=49157
WANG	03	PRL 90 201802	M.-Z. Wang *et al.*	(BELLE Collab.)	REFID=49437
ZHENG	03	PR D67 092004	Y. Zheng *et al.*	(BELLE Collab.)	REFID=49219
ABE	02	PRL 88 021801	K. Abe *et al.*	(BELLE Collab.)	REFID=48518
ABE	02E	PL B526 258	K. Abe *et al.*	(BELLE Collab.)	REFID=48601
ABE	02F	PL B526 247	K. Abe *et al.*	(BELLE Collab.)	REFID=48602
ABE	02H	PRL 88 171801	K. Abe *et al.*	(BELLE Collab.)	REFID=48633
ABE	02J	PRL 88 052002	K. Abe *et al.*	(BELLE Collab.)	REFID=48689
ABE	02K	PRL 88 181803	K. Abe *et al.*	(BELLE Collab.)	REFID=48690
ABE	02M	PRL 89 071801	K. Abe *et al.*	(BELLE Collab.)	REFID=48757
ABE	02N	PL B538 11	K. Abe *et al.*	(BELLE Collab.)	REFID=48769
ABE	02O	PR D65 091103	K. Abe *et al.*	(BELLE Collab.)	REFID=48790
ABE	02Q	PRL 89 122001	K. Abe *et al.*	(BELLE Collab.)	REFID=48808
ABE	02U	PR D66 032007	K. Abe *et al.*	(BELLE Collab.)	REFID=48905
ABE	02W	PRL 89 151802	K. Abe *et al.*	(BELLE Collab.)	REFID=48980
ABE	02Z	PR D66 071102	K. Abe *et al.*	(BELLE Collab.)	REFID=49062
ACOSTA	02C	PR D65 092009	D. Acosta *et al.*	(CDF Collab.)	REFID=48794
ACOSTA	02G	PR D66 112002	D. Acosta *et al.*	(CDF Collab.)	REFID=49132
AFFOLDER	02B	PRL 88 071801	T. Affolder *et al.*	(CDF Collab.)	REFID=48603
AHMED	02B	PR D66 031101	S. Ahmed *et al.*	(CLEO Collab.)	REFID=48901
ASNER	02	PR D65 031103	D.M. Asner *et al.*	(CLEO Collab.)	REFID=48515
AUBERT	02	PR D65 032001	B. Aubert *et al.*	(BABAR Collab.)	REFID=48514
AUBERT	02C	PRL 88 101805	B. Aubert *et al.*	(BABAR Collab.)	REFID=48600
AUBERT	02D	PR D65 051502	B. Aubert *et al.*	(BABAR Collab.)	REFID=48635
AUBERT	02E	PR D65 051101	B. Aubert *et al.*	(BABAR Collab.)	REFID=48636
AUBERT	02H	PRL 89 011802	B. Aubert *et al.*	(BABAR Collab.)	REFID=48639
Also		PRL 89 169903 (errat.)	B. Aubert *et al.*	(BABAR Collab.)	REFID=48983
AUBERT	02I	PRL 88 221802	B. Aubert *et al.*	(BABAR Collab.)	REFID=48640

AUBERT	02J	PRL 88 221803	B. Aubert *et al.*	(BABAR Collab.)	REFID=48641
AUBERT	02K	PRL 88 231801	B. Aubert *et al.*	(BABAR Collab.)	REFID=48708
AUBERT	02L	PRL 88 241801	B. Aubert *et al.*	(BABAR Collab.)	REFID=48751
AUBERT	02M	PRL 89 061801	B. Aubert *et al.*	(BABAR Collab.)	REFID=48755
AUBERT	02N	PR D66 032003	B. Aubert *et al.*	(BABAR Collab.)	REFID=48902
AUBERT	02P	PRL 89 201802	B. Aubert *et al.*	(BABAR Collab.)	REFID=48995
AUBERT	02Q	PRL 89 281802	B. Aubert *et al.*	(BABAR Collab.)	REFID=49243
BRIERE	02	PRL 89 081803	R. Briere *et al.*	(CLEO Collab.)	REFID=48758
CASEY	02	PR D66 092002	B.C.K. Casey *et al.*	(BELLE Collab.)	REFID=49071
CHEN	02B	PL B546 196	K.-F. Chen *et al.*	(BELLE Collab.)	REFID=48992
COAN	02	PRL 88 062001	T.E. Coan *et al.*	(CLEO Collab.)	REFID=48604
Also		PRL 88 069902 (errat.)	T.E. Coan *et al.*	(CLEO Collab.)	REFID=48696
DRUTSKOY	02	PL B542 171	A. Drutskoy *et al.*	(BELLE Collab.)	REFID=48780
DYTMAN	02	PR D66 091101	S.A. Dytman *et al.*	(CLEO Collab.)	REFID=49070
ECKHART	02	PRL 89 251801	E. Eckhart *et al.*	(CLEO Collab.)	REFID=49080
EDWARDS	02	PR D65 012002	K.W. Edwards *et al.*	(CLEO Collab.)	REFID=48512
GABYSHEV	02	PR D66 091102	N. Gabyshev *et al.*	(BELLE Collab.)	REFID=49102
GODANG	02	PRL 88 021802	R. Godang *et al.*	(CLEO Collab.)	REFID=48519
GORDON	02	PL B542 183	A. Gordon *et al.*	(BELLE Collab.)	REFID=48781
HARA	02	PRL 89 251803	K. Hara *et al.*	(BELLE Collab.)	REFID=49082
KROKOVNY	02	PRL 89 231804	P. Korkovny *et al.*	(BELLE Collab.)	REFID=49079
MAHAPATRA	02	PRL 88 101803	R. Mahapatra *et al.*	(CLEO Collab.)	REFID=48599
NISHIDA	02	PRL 89 231801	S. Nishida *et al.*	(BELLE Collab.)	REFID=49078
TOMURA	02	PL B542 207	T. Tomura *et al.*	(BELLE Collab.)	REFID=48782
ABASHIAN	01	PRL 86 2509	A. Abashian *et al.*	(BELLE Collab.)	REFID=48105
ABE	01D	PRL 86 3228	K. Abe *et al.*	(BELLE Collab.)	REFID=48061
ABE	01G	PRL 87 091802	K. Abe *et al.*	(BELLE Collab.)	REFID=48246
ABE	01H	PRL 87 101801	K. Abe *et al.*	(BELLE Collab.)	REFID=48247
ABE	01I	PRL 87 111801	K. Abe *et al.*	(BELLE Collab.)	REFID=48248
ABE	01K	PR D64 071101	K. Abe *et al.*	(BELLE Collab.)	REFID=48367
ABE	01L	PRL 87 161601	K. Abe *et al.*	(BELLE Collab.)	REFID=48379
ABE	01M	PL B517 309	K. Abe *et al.*	(BELLE Collab.)	REFID=48382
ABREU	01H	PL B510 55	P. Abreu *et al.*	(DELPHI Collab.)	REFID=48075
ALEXANDER	01B	PR D64 092001	J.P. Alexander *et al.*	(CLEO Collab.)	REFID=48391
AMMAR	01B	PRL 87 271801	R. Ammar *et al.*	(CLEO Collab.)	REFID=48534
ANDERSON	01	PRL 86 2732	S. Anderson *et al.*	(CLEO Collab.)	REFID=48093
ANDERSON	01B	PRL 87 181803	S. Anderson *et al.*	(CLEO Collab.)	REFID=48389
AUBERT	01	PRL 86 2515	B. Aubert *et al.*	(BABAR Collab.)	REFID=48106
AUBERT	01B	PRL 87 091801	B. Aubert *et al.*	(BABAR Collab.)	REFID=48245
AUBERT	01D	PRL 87 151801	B. Aubert *et al.*	(BABAR Collab.)	REFID=48377
AUBERT	01E	PRL 87 151802	B. Aubert *et al.*	(BABAR Collab.)	REFID=48378
AUBERT	01F	PRL 87 201803	B. Aubert *et al.*	(BABAR Collab.)	REFID=48432
AUBERT	01G	PRL 87 221802	B. Aubert *et al.*	(BABAR Collab.)	REFID=48434
AUBERT	01H	PRL 87 241801	B. Aubert *et al.*	(BABAR Collab.)	REFID=48435
AUBERT	01I	PRL 87 241803	B. Aubert *et al.*	(BABAR Collab.)	REFID=48436
BARATE	01D	EPJ C20 431	R. Barate *et al.*	(ALEPH Collab.)	REFID=48076
BARATE	01E	EPJ C19 213	R. Barate *et al.*	(ALEPH Collab.)	REFID=48135
BRIERE	01	PRL 86 3718	R.A. Biere *et al.*	(CLEO Collab.)	REFID=48119
EDWARDS	01	PRL 86 30	K.W. Edwards *et al.*	(CLEO Collab.)	REFID=47903
JAFFE	01	PRL 86 5000	D. Jaffe *et al.*	(CLEO Collab.)	REFID=48139
RICHICHI	01	PR D63 031103	S.J. Richichi *et al.*	(CLEO Collab.)	REFID=48226
ABBIENDI	00Q	PL B482 15	G. Abbiendi *et al.*	(OPAL Collab.)	REFID=47640
ABBIENDI,G	00B	PL B493 266	G. Abbiendi *et al.*	(OPAL Collab.)	REFID=47835
ABE	00C	PR D62 071101	K. Abe *et al.*	(SLD Collab.)	REFID=47762
AFFOLDER	00C	PR D61 072005	T. Affolder *et al.*	(CDF Collab.)	REFID=47438
AFFOLDER	00N	PRL 85 4668	T. Affolder *et al.*	(CDF Collab.)	REFID=47875
AHMED	00B	PR D62 112003	S. Ahmed *et al.*	(CLEO Collab.)	REFID=47822
ANASTASSOV	00	PRL 84 1393	A. Anastassov *et al.*	(CLEO Collab.)	REFID=47574
ARTUSO	00	PRL 84 4292	M. Artuso *et al.*	(CLEO Collab.)	REFID=47626
AVERY	00	PR D62 051101	P. Avery *et al.*	(CLEO Collab.)	REFID=47693
BARATE	00Q	PL B492 259	R. Barate *et al.*	(ALEPH Collab.)	REFID=47826
BARATE	00R	PL B492 275	R. Barate *et al.*	(ALEPH Collab.)	REFID=47827
BEHRENS	00	PR D61 052001	B.H. Behrens *et al.*	(CLEO Collab.)	REFID=47558
BEHRENS	00B	PL B490 36	B.H. Behrens *et al.*	(CLEO Collab.)	REFID=47776
BERGFELD	00B	PR D62 091102	T. Bergfeld *et al.*	(CLEO Collab.)	REFID=47814
CHEN	00	PRL 85 525	S. Chen *et al.*	(CLEO Collab.)	REFID=47669
COAN	00	PRL 84 5283	T.E. Coan *et al.*	(CLEO Collab.)	REFID=47633
CRONIN-HEN...	00	PRL 85 515	D. Cronin-Hennessy *et al.*	(CLEO Collab.)	REFID=47659
CSORNA	00	PR D61 111101	S.E. Csorna *et al.*	(CLEO Collab.)	REFID=47435
JESSOP	00	PRL 85 2881	C.P. Jessop *et al.*	(CLEO Collab.)	REFID=47771
LIPELES	00	PR D62 032005	E. Lipeles *et al.*	(CLEO Collab.)	REFID=47690
RICHICHI	00	PRL 85 520	S.J. Richichi *et al.*	(CLEO Collab.)	REFID=47660
ABBIENDI	99J	EPJ C12 609	G. Abbiendi *et al.*	(OPAL Collab.)	REFID=46738
ABE	99K	PR D60 051101	F. Abe *et al.*	(CDF Collab.)	REFID=47134
ABE	99Q	PR D60 072003	F. Abe *et al.*	(CDF Collab.)	REFID=47263
AFFOLDER	99B	PRL 83 3378	T. Affolder *et al.*	(CDF Collab.)	REFID=47213
AFFOLDER	99C	PR D60 112004	T. Affolder *et al.*	(CDF Collab.)	REFID=47269
ARTUSO	99	PRL 82 3020	M. Artuso *et al.*	(CLEO Collab.)	REFID=46984
BARTELT	99	PRL 82 3746	J. Bartelt *et al.*	(CLEO Collab.)	REFID=47004
COAN	99	PR D59 111101	T.E. Coan *et al.*	(CLEO Collab.)	REFID=47019
ABE	98B	PR D57 5382	F. Abe *et al.*	(CDF Collab.)	REFID=45880
ABE	98C	PRL 80 2057	F. Abe *et al.*	(CDF Collab.)	REFID=45884
Also		PR D59 032001	F. Abe *et al.*	(CDF Collab.)	REFID=46704
ABE	98O	PR D58 072001	F. Abe *et al.*	(CDF Collab.)	REFID=46156
ABE	98Q	PR D58 092002	F. Abe *et al.*	(CDF Collab.)	REFID=46475
ABE	98U	PRL 81 5513	F. Abe *et al.*	(CDF Collab.)	REFID=46693
ABE	98V	PRL 81 5742	F. Abe *et al.*	(CDF Collab.)	REFID=46697
ACCIARRI	98D	EPJ C5 195	M. Acciarri *et al.*	(L3 Collab.)	REFID=45947
ACCIARRI	98S	PL B438 417	M. Acciarri *et al.*	(L3 Collab.)	REFID=46503
ACKERSTAFF	98Z	EPJ C5 379	K. Ackerstaff *et al.*	(OPAL Collab.)	REFID=46262
BARATE	98Q	EPJ C4 387	R. Barate *et al.*	(ALEPH Collab.)	REFID=46146
BEHRENS	98	PRL 80 3710	B.H. Behrens *et al.*	(CLEO Collab.)	REFID=45936
BERGFELD	98	PRL 81 272	T. Bergfeld *et al.*	(CLEO Collab.)	REFID=46091
BRANDENB...	98	PRL 80 2762	G. Brandenbrug *et al.*	(CLEO Collab.)	REFID=45874
GODANG	98	PRL 80 3456	R. Godang *et al.*	(CLEO Collab.)	REFID=45935
NEMATI	98	PR D57 5363	B. Nemati *et al.*	(CLEO Collab.)	REFID=45871

ABE 97J PRL 79 590 K. Abe *et al.* (SLD Collab.) REFID=45413
ABREU 97F ZPHY C74 19 P. Abreu *et al.* (DELPHI Collab.) REFID=45412
Also ZPHY C75 579 (errat.) P. Abreu *et al.* (DELPHI Collab.) REFID=45614
ABREU 97N ZPHY C76 579 P. Abreu *et al.* (DELPHI Collab.) REFID=45789
ACCIARRI 97B PL B391 474 M. Acciarri *et al.* (L3 Collab.) REFID=45248
ACCIARRI 97C PL B391 481 M. Acciarri *et al.* (L3 Collab.) REFID=45249
ACKERSTAFF 97G PL B395 128 K. Ackerstaff *et al.* (OPAL Collab.) REFID=45260
ACKERSTAFF 97U ZPHY C76 401 K. Ackerstaff *et al.* (OPAL Collab.) REFID=45786
ACKERSTAFF 97V ZPHY C76 417 K. Ackerstaff *et al.* (OPAL Collab.) REFID=45787
ARTUSO 97 PL B399 321 M. Artuso *et al.* (CLEO Collab.) REFID=45327
ASNER 97 PRL 79 799 D. Asner *et al.* (CLEO Collab.) REFID=45441
ATHANAS 97 PRL 79 2208 M. Athanas *et al.* (CLEO Collab.) REFID=45598
BUSKULIC 97 PL B395 373 D. Buskulic *et al.* (ALEPH Collab.) REFID=45291
BUSKULIC 97D ZPHY C75 397 D. Buskulic *et al.* (ALEPH Collab.) REFID=45611
FU 97 PRL 79 3125 X. Fu *et al.* (CLEO Collab.) REFID=45625
JESSOP 97 PRL 79 4533 C.P. Jessop *et al.* (CLEO Collab.) REFID=45744
ABE 96B PR D53 3496 F. Abe *et al.* (CDF Collab.) REFID=44688
ABE 96C PRL 76 4462 F. Abe *et al.* (CDF Collab.) REFID=44700
ABE 96H PRL 76 2015 F. Abe *et al.* (CDF Collab.) REFID=44798
ABE 96Q PR D54 6596 F. Abe *et al.* (CDF Collab.) REFID=44974
ABREU 96P ZPHY C71 539 P. Abreu *et al.* (DELPHI Collab.) REFID=44932
ABREU 96Q ZPHY C72 17 P. Abreu *et al.* (DELPHI Collab.) REFID=44934
ACCIARRI 96E PL B383 487 M. Acciarri *et al.* (L3 Collab.) REFID=44857
ADAM 96D ZPHY C72 207 W. Adam *et al.* (DELPHI Collab.) REFID=45276
ALBRECHT 96D PL B374 256 H. Albrecht *et al.* (ARGUS Collab.) REFID=44891
ALEXANDER 96T PRL 77 5000 J.P. Alexander *et al.* (CLEO Collab.) REFID=44972
ALEXANDER 96V ZPHY C72 377 G. Alexander *et al.* (OPAL Collab.) REFID=45279
ASNER 96 PR D53 1039 D.M. Asner *et al.* (CLEO Collab.) REFID=44734
BARISH 96B PRL 76 1570 B.C. Barish *et al.* (CLEO Collab.) REFID=44693
BISHAI 96 PL B369 186 M. Bishai *et al.* (CLEO Collab.) REFID=44832
BUSKULIC 96J ZPHY C71 31 D. Buskulic *et al.* (ALEPH Collab.) REFID=44824
BUSKULIC 96V PL B384 471 D. Buskulic *et al.* (ALEPH Collab.) REFID=44909
DUBOSCQ 96 PRL 76 3898 J.E. Duboscq *et al.* (CLEO Collab.) REFID=44803
GIBAUT 96 PR D53 4734 D. Gibaut *et al.* (CLEO Collab.) REFID=44784
PDG 96 PR D54 1 R. M. Barnett *et al.* (PDG Collab.) REFID=44495
ABE 95Z PRL 75 3068 F. Abe *et al.* (CDF Collab.) REFID=44490
ABREU 95N PL B357 255 P. Abreu *et al.* (DELPHI Collab.) REFID=44417
ABREU 95Q ZPHY C68 13 P. Abreu *et al.* (DELPHI Collab.) REFID=44460
ACCIARRI 95H PL B363 127 M. Acciarri *et al.* (L3 Collab.) REFID=44544
ACCIARRI 95I PL B363 137 M. Acciarri *et al.* (L3 Collab.) REFID=44545
ADAM 95 ZPHY C68 363 W. Adam *et al.* (DELPHI Collab.) REFID=44465
AKERS 95J ZPHY C66 555 R. Akers *et al.* (OPAL Collab.) REFID=44289
AKERS 95T ZPHY C67 379 R. Akers *et al.* (OPAL Collab.) REFID=44379
ALEXANDER 95 PL B341 435 J. Alexander *et al.* (CLEO Collab.) REFID=44113
Also PL B347 469 (errat.) J. Alexander *et al.* (CLEO Collab.) REFID=44211
BARISH 95 PR D51 1014 B.C. Barish *et al.* (CLEO Collab.) REFID=44139
BUSKULIC 95N PL B359 236 D. Buskulic *et al.* (ALEPH Collab.) REFID=44475
ABE 94D PRL 72 3456 F. Abe *et al.* (CDF Collab.) REFID=43761
ABREU 94M PL B338 409 P. Abreu *et al.* (DELPHI Collab.) REFID=44022
AKERS 94C PL B327 411 R. Akers *et al.* (OPAL Collab.) REFID=43762
AKERS 94H PL B336 585 R. Akers *et al.* (OPAL Collab.) REFID=43968
AKERS 94J PL B337 196 R. Akers *et al.* (OPAL Collab.) REFID=44014
AKERS 94L PL B337 393 R. Akers *et al.* (OPAL Collab.) REFID=44018
ALAM 94 PR D50 43 M.S. Alam *et al.* (CLEO Collab.) REFID=43738
ALBRECHT 94 PL B324 249 H. Albrecht *et al.* (ARGUS Collab.) REFID=43782
ALBRECHT 94G PL B340 217 H. Albrecht *et al.* (ARGUS Collab.) REFID=44045
AMMAR 94 PR D49 5701 R. Ammar *et al.* (CLEO Collab.) REFID=43736
ATHANAS 94 PRL 73 3503 M. Athanas *et al.* (CLEO Collab.) REFID=44064
Also PRL 74 3090 (errat.) M. Athanas *et al.* (CLEO Collab.) REFID=44196
BUSKULIC 94B PL B322 441 D. Buskulic *et al.* (ALEPH Collab.) REFID=43741
PDG 94 PR D50 1173 L. Montanet *et al.* (CERN, LBL, BOST+) REFID=43653
PROCARIO 94 PRL 73 1472 M. Procario *et al.* (CLEO Collab.) REFID=43735
STONE 94 HEPSY 93-11 S. Stone REFID=43737
Published in B Decays, 2nd Edition, World Scientific, Singapore
ABREU 93D ZPHY C57 181 P. Abreu *et al.* (DELPHI Collab.) REFID=43267
ABREU 93G PL B312 253 P. Abreu *et al.* (DELPHI Collab.) REFID=43443
ACTON 93C PL B307 247 P.D. Acton *et al.* (OPAL Collab.) REFID=43352
ALBRECHT 93 ZPHY C57 533 H. Albrecht *et al.* (ARGUS Collab.) REFID=43269
ALBRECHT 93E ZPHY C60 11 H. Albrecht *et al.* (ARGUS Collab.) REFID=43514
ALEXANDER 93B PL B319 365 J. Alexander *et al.* (CLEO Collab.) REFID=43725
AMMAR 93 PRL 71 674 R. Ammar *et al.* (CLEO Collab.) REFID=43452
BARTELT 93 PRL 71 1680 J.E. Bartelt *et al.* (CLEO Collab.) REFID=43507
BATTLE 93 PRL 71 3922 M. Battle *et al.* (CLEO Collab.) REFID=43640
BEAN 93B PRL 70 2681 A. Bean *et al.* (CLEO Collab.) REFID=43356
BUSKULIC 93D PL B307 194 D. Buskulic *et al.* (ALEPH Collab.) REFID=43349
Also PL B325 537 (errat.) D. Buskulic *et al.* (ALEPH Collab.) REFID=43945
BUSKULIC 93K PL B313 498 D. Buskulic *et al.* (ALEPH Collab.) REFID=43523
SANGHERA 93 PR D47 791 S. Sanghera *et al.* (CLEO Collab.) REFID=43098
ALBRECHT 92C PL B275 195 H. Albrecht *et al.* (ARGUS Collab.) REFID=41928
ALBRECHT 92G ZPHY C54 1 H. Albrecht *et al.* (ARGUS Collab.) REFID=42037
ALBRECHT 92L ZPHY C55 357 H. Albrecht *et al.* (ARGUS Collab.) REFID=42201
BORTOLETTO 92 PR D45 21 D. Bortoletto *et al.* (CLEO Collab.) REFID=41920
HENDERSON 92 PR D45 2212 S. Henderson *et al.* (CLEO Collab.) REFID=42014
KRAMER 92 PL B279 181 G. Kramer, W.F. Palmer (HAMB, OSU) REFID=43834
ALBAJAR 91E PL B273 540 C. Albajar *et al.* (UA1 Collab.) REFID=41642
ALBRECHT 91B PL B254 288 H. Albrecht *et al.* (ARGUS Collab.) REFID=41451
ALBRECHT 91C PL B255 297 H. Albrecht *et al.* (ARGUS Collab.) REFID=41454
ALBRECHT 91E PL B262 148 H. Albrecht *et al.* (ARGUS Collab.) REFID=41549
BERKELMAN 91 ARNPS 41 1 K. Berkelman, S. Stone (CORN, SYRA) REFID=41929
"Decays of *B* Mesons"
FULTON 91 PR D43 651 R. Fulton *et al.* (CLEO Collab.) REFID=41391
ALBRECHT 90B PL B241 278 H. Albrecht *et al.* (ARGUS Collab.) REFID=41216
ALBRECHT 90J ZPHY C48 543 H. Albrecht *et al.* (ARGUS Collab.) REFID=41437
ANTREASYAN 90B ZPHY C48 553 D. Antreasyan *et al.* (Crystal Ball Collab.) REFID=41438
BORTOLETTO 90 PRL 64 2117 D. Bortoletto *et al.* (CLEO Collab.) REFID=41178
ELSEN 90 ZPHY C46 349 E. Elsen *et al.* (JADE Collab.) REFID=41049
ROSNER 90 PR D42 3732 J.L. Rosner REFID=41464
WAGNER 90 PRL 64 1095 S.R. Wagner *et al.* (Mark II Collab.) REFID=41096
ALBRECHT 89C PL B219 121 H. Albrecht *et al.* (ARGUS Collab.) REFID=40809

ALBRECHT	89G	PL B229 304	H. Albrecht *et al.*	(ARGUS Collab.)	REFID=40942
ALBRECHT	89J	PL B229 175	H. Albrecht *et al.*	(ARGUS Collab.)	REFID=41099
ALBRECHT	89L	PL B232 554	H. Albrecht *et al.*	(ARGUS Collab.)	REFID=41275
ARTUSO	89	PRL 62 2233	M. Artuso *et al.*	(CLEO Collab.)	REFID=40785
AVERILL	89	PR D39 123	D.A. Averill *et al.*	(HRS Collab.)	REFID=40691
AVERY	89B	PL B223 470	P. Avery *et al.*	(CLEO Collab.)	REFID=40820
BEBEK	89	PRL 62 8	C. Bebek *et al.*	(CLEO Collab.)	REFID=40626
BORTOLETTO	89	PRL 62 2436	D. Bortoletto *et al.*	(CLEO Collab.)	REFID=40787
BORTOLETTO	89B	PRL 63 1667	D. Bortoletto *et al.*	(CLEO Collab.)	REFID=40800
ALBRECHT	88F	PL B209 119	H. Albrecht *et al.*	(ARGUS Collab.)	REFID=40649
ALBRECHT	88K	PL B215 424	H. Albrecht *et al.*	(ARGUS Collab.)	REFID=40662
ALBRECHT	87C	PL B185 218	H. Albrecht *et al.*	(ARGUS Collab.)	REFID=40323
ALBRECHT	87D	PL B199 451	H. Albrecht *et al.*	(ARGUS Collab.)	REFID=40325
ALBRECHT	87I	PL B192 245	H. Albrecht *et al.*	(ARGUS Collab.)	REFID=40389
ALBRECHT	87J	PL B197 452	H. Albrecht *et al.*	(ARGUS Collab.)	REFID=40391
AVERY	87	PL B183 429	P. Avery *et al.*	(CLEO Collab.)	REFID=40387
BEAN	87B	PRL 58 183	A. Bean *et al.*	(CLEO Collab.)	REFID=40384
BEBEK	87	PR D36 1289	C. Bebek *et al.*	(CLEO Collab.)	REFID=40270
ALAM	86	PR D34 3279	M.S. Alam *et al.*	(CLEO Collab.)	REFID=40324
ALBRECHT	86F	PL B182 95	H. Albrecht *et al.*	(ARGUS Collab.)	REFID=40388
PDG	86	PL 170B 1	M. Aguilar-Benitez *et al.*	(CERN, CIT+)	REFID=40122
CHEN	85	PR D31 2386	A. Chen *et al.*	(CLEO Collab.)	REFID=11574
HAAS	85	PRL 55 1248	J. Haas *et al.*	(CLEO Collab.)	REFID=11611
AVERY	84	PRL 53 1309	P. Avery *et al.*	(CLEO Collab.)	REFID=11572
GILES	84	PR D30 2279	R. Giles *et al.*	(CLEO Collab.)	REFID=11570
BEHRENDS	83	PRL 50 881	S. Behrends *et al.*	(CLEO Collab.)	REFID=11569