$B^{\pm}$

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

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.

$B^{\pm}$ MASS

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.

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
5279.32±0.14 OUR FIT	Error includes scale factor of 1.1.				
5279.25±0.26 OUR AVERAGE					
5279.38±0.11±0.33		[1] AAIJ	12E	LHCB	pp at 7 TeV
5279.10±0.41±0.36		[2] ACOSTA	06	CDF	$p\overline{p}$ at 1.96 TeV
5279.1 ±0.4 ±0.4	526	[3] CSORNA	00	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
5279.1 ±1.7 ±1.4	147	ABE	96B	CDF	$p\overline{p}$ at 1.8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
5278.8 ±0.54±2.0	362	ALAM	94	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
5278.3 ±0.4 ±2.0		BORTOLETTO	92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
5280.5 ±1.0 ±2.0		[4] ALBRECHT	90J	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
5275.8 ±1.3 ±3.0	32	ALBRECHT	87C	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
5278.2 ±1.8 ±3.0	12	[5] ALBRECHT	87D	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
5278.6 ±0.8 ±2.0		BEBEK	87	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Uses $B^+ \rightarrow J/\psi K^+$ fully reconstructed decays.

[2] Uses exclusively reconstructed final states containing a $J/\psi \rightarrow \mu^+\mu^-$ decays.

[3] CSORNA 00 uses fully reconstructed 526 $B^+ \rightarrow J/\psi^{(\prime)} K^+$ events and invariant masses without beam constraint.

[4] ALBRECHT 90J assumes 10580 for $\Upsilon(4S)$ mass. Supersedes ALBRECHT 87C and ALBRECHT 87D.

[5] Found using fully reconstructed decays with $J/\psi(1S)$. ALBRECHT 87D assume $m_{\Upsilon(4S)}$ = 10577 MeV.

$B^{\pm}$ MEAN LIFE

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.

"OUR EVALUATION" is an average using rescaled values of the data listed below. The average and rescaling were performed by the Heavy Flavor Averaging Group (HFLAV) and are described at http://www.slac.stanford.edu/xorg/hflav/. The averaging/rescaling procedure takes into account correlations between the measurements and asymmetric lifetime errors.

VALUE (10^{-12} s)	EVTS	DOCUMENT ID		TECN	COMMENT
1.638±0.004 OUR EVALUATION					
1.637±0.004±0.003		AAIJ	14E	LHCB	pp at 7 TeV
1.639±0.009±0.009		[1] AALTONEN	11	CDF	$p\overline{p}$ at 1.96 TeV
1.663±0.023±0.015		[2] AALTONEN	11B	CDF	$p\overline{p}$ at 1.96 TeV
1.635±0.011±0.011		[3] ABE	05B	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
1.624±0.014±0.018		[4] ABDALLAH	04E	DLPH	$e^+e^- \rightarrow Z$
1.636±0.058±0.025		[5] ACOSTA	02C	CDF	$p\overline{p}$ at 1.8 TeV
1.673±0.032±0.023		[6] AUBERT	01F	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
1.648±0.049±0.035		[7] BARATE	00R	ALEP	$e^+e^- \rightarrow Z$
1.643±0.037±0.025		[8] ABBIENDI	99J	OPAL	$e^+e^- \rightarrow Z$
$1.637 \pm 0.058 ^{+0.045}_{-0.043}$		[7] ABE	98Q	CDF	$p\overline{p}$ at 1.8 TeV
1.66 ±0.06 ±0.03		[8] ACCIARRI	98S	L3	$e^+e^- \rightarrow Z$
1.66 ±0.06 ±0.05		[8] ABE	97J	SLD	$e^+e^- \rightarrow Z$
$1.58 ^{+0.21}_{-0.18} {}^{+0.04}_{-0.03}$	94	[5] BUSKULIC	96J	ALEP	$e^+e^- \rightarrow Z$
1.61 ±0.16 ±0.12		[7,9] ABREU	95Q	DLPH	$e^+e^- \rightarrow Z$
1.72 ±0.08 ±0.06		[10] ADAM	95	DLPH	$e^+e^- \rightarrow Z$
1.52 ±0.14 ±0.09		[7] AKERS	95T	OPAL	$e^+e^- \rightarrow Z$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.695±0.026±0.015		[6] ABE	02H	BELL	Repl. by ABE 05B
1.68 ±0.07 ±0.02		[5] ABE	98B	CDF	Repl. by ACOSTA 02C
1.56 ±0.13 ±0.06		[7] ABE	96C	CDF	Repl. by ABE 98Q
1.58 ±0.09 ±0.03		[11] BUSKULIC	96J	ALEP	$e^+e^- \rightarrow Z$
1.58 ±0.09 ±0.04		[7] BUSKULIC	96J	ALEP	Repl. by BARATE 00R
1.70 ±0.09		[12] ADAM	95	DLPH	$e^+e^- \rightarrow Z$
1.61 ±0.16 ±0.05	148	[5] ABE	94D	CDF	Repl. by ABE 98B
$1.30 ^{+0.33}_{-0.29} \pm 0.16$	92	[7] ABREU	93D	DLPH	Sup. by ABREU 95Q
1.56 ±0.19 ±0.13	134	[10] ABREU	93G	DLPH	Sup. by ADAM 95
$1.51 ^{+0.30}_{-0.28} {}^{+0.12}_{-0.14}$	59	[7] ACTON	93C	OPAL	Sup. by AKERS 95T
$1.47 ^{+0.22}_{-0.19} {}^{+0.15}_{-0.14}$	77	[7] BUSKULIC	93D	ALEP	Sup. by BUSKULIC 96J

[1] Measured mean life using fully reconstructed decays ($J/\psi K^{(*)}$).
[2] Measured using $B^- \rightarrow D^0 \pi^-$ with $D^0 \rightarrow K^- \pi^+$ events that were selected using a silicon vertex trigger.
[3] Measurement performed using a combined fit of CP-violation, mixing and lifetimes.
[4] Measurement performed using an inclusive reconstruction and B flavor identification technique.
[5] Measured mean life using fully reconstructed decays.
[6] Events are selected in which one B meson is fully reconstructed while the second B meson is reconstructed inclusively.
[7] Data analyzed using $D/D^* \ell$X event vertices.
[8] Data analyzed using charge of secondary vertex.
[9] ABREU 95Q assumes B($B^0 \rightarrow D^{**-} \ell^+ \nu_\ell$) = 3.2 ± 1.7%.
[10] Data analyzed using vertex-charge technique to tag B charge.
[11] Combined result of $D/D^* \ell$X analysis and fully reconstructed B analysis.
[12] Combined ABREU 95Q and ADAM 95 result.

τ_{B^+}/τ_{B^-}

VALUE	DOCUMENT ID		TECN	COMMENT
1.002±0.004±0.002	[1] AAIJ	14E	LHCB	pp at 7 TeV

[1] Measured using $B^{\pm} \to J/\psi K^{\pm}$ decays.

B^+ DECAY MODES

B^- modes are charge conjugates of the modes below. Modes which do not identify the charge state of the B are listed in the $B^{\pm}/B^0$ ADMIXTURE section.

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.*, $B \to D^{\pm}$ anything, the values usually are multiplicities, not branching fractions. They can be greater than one.

	Mode		Fraction (Γ_i/Γ)	Scale factor/ Confidence level
	Semileptonic and leptonic modes			
Γ_1	$\ell^+\nu_\ell$ anything	[a]	(10.99 ± 0.28) %	
Γ_2	$e^+\nu_e X_c$		(10.8 ± 0.4) %	
Γ_3	$D\ell^+\nu_\ell$ anything		(9.8 ± 0.7) %	
Γ_4	$\overline{D}^0\ell^+\nu_\ell$	[a]	(2.27 ± 0.11) %	
Γ_5	$\overline{D}^0\tau^+\nu_\tau$		$(7.7 \pm 2.5) \times 10^{-3}$	
Γ_6	$\overline{D}^*(2007)^0\ell^+\nu_\ell$	[a]	(5.69 ± 0.19) %	
Γ_7	$\overline{D}^*(2007)^0\tau^+\nu_\tau$		(1.88 ± 0.20) %	
Γ_8	$D^-\pi^+\ell^+\nu_\ell$		$(4.2 \pm 0.5) \times 10^{-3}$	
Γ_9	$\overline{D}_0^*(2420)^0\ell^+\nu_\ell$, $\overline{D}_0^{*0} \to D^-\pi^+$		$(2.5 \pm 0.5) \times 10^{-3}$	
Γ_{10}	$\overline{D}_2^*(2460)^0\ell^+\nu_\ell$, $\overline{D}_2^{*0} \to D^-\pi^+$		$(1.53 \pm 0.16) \times 10^{-3}$	
Γ_{11}	$D^{(*)}n\pi\ell^+\nu_\ell (n \geq 1)$		(1.87 ± 0.26) %	
Γ_{12}	$D^{*-}\pi^+\ell^+\nu_\ell$		$(6.1 \pm 0.6) \times 10^{-3}$	
Γ_{13}	$\overline{D}_1(2420)^0\ell^+\nu_\ell$, $\overline{D}_1^0 \to D^{*-}\pi^+$		$(3.03 \pm 0.20) \times 10^{-3}$	
Γ_{14}	$\overline{D}_1'(2430)^0\ell^+\nu_\ell$, $\overline{D}_1'^0 \to D^{*-}\pi^+$		$(2.7 \pm 0.6) \times 10^{-3}$	

Γ_{15}	$\overline{D}{}_2^*(2460)^0 \ell^+ \nu_\ell$, $\overline{D}{}_2^{*0} \to D^{*-}\pi^+$		$(1.01 \pm 0.24) \times 10^{-3}$	S=2.0
Γ_{16}	$\overline{D}{}^0 \pi^+ \pi^- \ell^+ \nu_\ell$		$(1.6 \pm 0.4) \times 10^{-3}$	
Γ_{17}	$\overline{D}{}^{*0} \pi^+ \pi^- \ell^+ \nu_\ell$		$(8 \pm 5) \times 10^{-4}$	
Γ_{18}	$D_s^{(*)-} K^+ \ell^+ \nu_\ell$		$(6.1 \pm 1.0) \times 10^{-4}$	
Γ_{19}	$D_s^- K^+ \ell^+ \nu_\ell$		$(3.0 {}^{+1.4}_{-1.2}) \times 10^{-4}$	
Γ_{20}	$D_s^{*-} K^+ \ell^+ \nu_\ell$		$(2.9 \pm 1.9) \times 10^{-4}$	
Γ_{21}	$\pi^0 \ell^+ \nu_\ell$		$(7.80 \pm 0.27) \times 10^{-5}$	
Γ_{22}	$\pi^0 e^+ \nu_e$			
Γ_{23}	$\eta \ell^+ \nu_\ell$		$(3.8 \pm 0.6) \times 10^{-5}$	
Γ_{24}	$\eta' \ell^+ \nu_\ell$		$(2.3 \pm 0.8) \times 10^{-5}$	
Γ_{25}	$\omega \ell^+ \nu_\ell$	[a]	$(1.19 \pm 0.09) \times 10^{-4}$	
Γ_{26}	$\omega \mu^+ \nu_\mu$			
Γ_{27}	$\rho^0 \ell^+ \nu_\ell$	[a]	$(1.58 \pm 0.11) \times 10^{-4}$	
Γ_{28}	$p \overline{p} \ell^+ \nu_\ell$		$(5.8 {}^{+2.6}_{-2.3}) \times 10^{-6}$	
Γ_{29}	$p \overline{p} \mu^+ \nu_\mu$		$< 8.5 \times 10^{-6}$	CL=90%
Γ_{30}	$p \overline{p} e^+ \nu_e$		$(8.2 {}^{+4.0}_{-3.3}) \times 10^{-6}$	
Γ_{31}	$e^+ \nu_e$		$< 9.8 \times 10^{-7}$	CL=90%
Γ_{32}	$\mu^+ \nu_\mu$		$< 1.0 \times 10^{-6}$	CL=90%
Γ_{33}	$\tau^+ \nu_\tau$		$(1.09 \pm 0.24) \times 10^{-4}$	S=1.2
Γ_{34}	$\ell^+ \nu_\ell \gamma$		$< 3.5 \times 10^{-6}$	CL=90%
Γ_{35}	$e^+ \nu_e \gamma$		$< 6.1 \times 10^{-6}$	CL=90%
Γ_{36}	$\mu^+ \nu_\mu \gamma$		$< 3.4 \times 10^{-6}$	CL=90%

Inclusive modes

Γ_{37}	$D^0 X$	(8.6 ± 0.7) %
Γ_{38}	$\overline{D}{}^0 X$	(79 ± 4) %
Γ_{39}	$D^+ X$	(2.5 ± 0.5) %
Γ_{40}	$D^- X$	(9.9 ± 1.2) %
Γ_{41}	$D_s^+ X$	$(7.9 {}^{+1.4}_{-1.3})$ %
Γ_{42}	$D_s^- X$	$(1.10 {}^{+0.40}_{-0.32})$ %
Γ_{43}	$\Lambda_c^+ X$	$(2.1 {}^{+0.9}_{-0.6})$ %
Γ_{44}	$\overline{\Lambda}{}_c^- X$	$(2.8 {}^{+1.1}_{-0.9})$ %
Γ_{45}	$\overline{c} X$	(97 ± 4) %
Γ_{46}	$c X$	$(23.4 {}^{+2.2}_{-1.8})$ %
Γ_{47}	$c / \overline{c} X$	(120 ± 6) %

D, D^*, or D_s modes

Γ_{48}	$\overline{D}^0\pi^+$		$(4.80 \pm 0.15) \times 10^{-3}$	
Γ_{49}	$D_{CP(+1)}\pi^+$	[b]	$(2.11 \pm 0.22) \times 10^{-3}$	
Γ_{50}	$D_{CP(-1)}\pi^+$	[b]	$(2.1 \pm 0.4) \times 10^{-3}$	
Γ_{51}	$\overline{D}^0\rho^+$		(1.34 ± 0.18) %	
Γ_{52}	$\overline{D}^0 K^+$		$(3.74 \pm 0.16) \times 10^{-4}$	
Γ_{53}	$D_{CP(+1)} K^+$	[b]	$(1.86 \pm 0.12) \times 10^{-4}$	
Γ_{54}	$D_{CP(-1)} K^+$	[b]	$(2.02 \pm 0.19) \times 10^{-4}$	
Γ_{55}	$[K^-\pi^+]_D K^+$	[c]	$< 2.8 \times 10^{-7}$	CL=90%
Γ_{56}	$[K^+\pi^-]_D K^+$	[c]	$< 1.5 \times 10^{-5}$	CL=90%
Γ_{57}	$[K^-\pi^+\pi^0]_D K^+$		seen	
Γ_{58}	$[K^+\pi^-\pi^0]_D K^+$		seen	
Γ_{59}	$[K^-\pi^+\pi^+\pi^-]_D K^+$		seen	
Γ_{60}	$[K^+\pi^-\pi^+\pi^-]_D K^+$		seen	
Γ_{61}	$[\pi^+\pi^+\pi^-\pi^-] K^+$			
Γ_{62}	$[K^-\pi^+]_D K^*(892)^+$	[c]		
Γ_{63}	$[K^+\pi^-]_D K^*(892)^+$	[c]		
Γ_{64}	$[K^-\pi^+]_D \pi^+$	[c]	$(6.3 \pm 1.1) \times 10^{-7}$	
Γ_{65}	$[K^+\pi^-]_D \pi^+$		$(1.78 \pm 0.32) \times 10^{-4}$	
Γ_{66}	$[K^-\pi^+\pi^0]_D \pi^+$		seen	
Γ_{67}	$[K^+\pi^-\pi^0]_D \pi^+$		seen	
Γ_{68}	$[K^-\pi^+\pi^+\pi^-]_D \pi^+$		seen	
Γ_{69}	$[K^+\pi^-\pi^+\pi^-]_D \pi^+$		seen	
Γ_{70}	$[K^-\pi^+]_{(D\pi)} \pi^+$			
Γ_{71}	$[K^+\pi^-]_{(D\pi)} \pi^+$			
Γ_{72}	$[K^-\pi^+]_{(D\gamma)} \pi^+$			
Γ_{73}	$[K^+\pi^-]_{(D\gamma)} \pi^+$			
Γ_{74}	$[K^-\pi^+]_{(D\pi)} K^+$			
Γ_{75}	$[K^+\pi^-]_{(D\pi)} K^+$			
Γ_{76}	$[K^-\pi^+]_{(D\gamma)} K^+$			
Γ_{77}	$[K^+\pi^-]_{(D\gamma)} K^+$			
Γ_{78}	$[\pi^+\pi^-\pi^0]_D K^-$		$(4.6 \pm 0.9) \times 10^{-6}$	
Γ_{79}	$[K_S^0 K^+\pi^-]_D K^+$		seen	
Γ_{80}	$[K_S^0 K^-\pi^+]_D K^+$		seen	
Γ_{81}	$[K^*(892)^+ K^-]_D K^+$		seen	
Γ_{82}	$[K_S^0 K^-\pi^+]_D \pi^+$		seen	
Γ_{83}	$[K^*(892)^+ K^-]_D \pi^+$		seen	
Γ_{84}	$[K_S^0 K^+\pi^-]_D \pi^+$		seen	
Γ_{85}	$[K^*(892)^- K^+]_D \pi^+$		seen	
Γ_{86}	$[K^+ K^-\pi^0]_D K^+$			
Γ_{87}	$[K^+ K^-\pi^0]_D \pi^+$			
Γ_{88}	$[\pi^+\pi^-\pi^0]_D K^+$			

Γ_{89}	$[\pi^+\pi^-\pi^0]_D\,\pi^+$			
Γ_{90}	$\overline{D}^0\,K^*(892)^+$		$(5.3 \pm 0.4) \times 10^{-4}$	
Γ_{91}	$D_{CP(-1)}\,K^*(892)^+$	[b]	$(2.7 \pm 0.8) \times 10^{-4}$	
Γ_{92}	$D_{CP(+1)}\,K^*(892)^+$	[b]	$(5.8 \pm 1.1) \times 10^{-4}$	
Γ_{93}	$\overline{D}^0\,K^+\pi^+\pi^-$		$(5.4 \pm 2.2) \times 10^{-4}$	
Γ_{94}	$[K^+\pi^-]_D\,K^+\pi^-\pi^+$			
Γ_{95}	$[K^-\pi^+]_D\,K^+\pi^-\pi^+$			
Γ_{96}	$D_{CP(+1)}\,K^+\pi^-\pi^+$			
Γ_{97}	$\overline{D}^0\,K^+\overline{K}^0$		$(5.5 \pm 1.6) \times 10^{-4}$	
Γ_{98}	$\overline{D}^0\,K^+\overline{K}^*(892)^0$		$(7.5 \pm 1.7) \times 10^{-4}$	
Γ_{99}	$\overline{D}^0\,\pi^+\pi^+\pi^-$		$(5.7 \pm 2.2) \times 10^{-3}$	S=3.6
Γ_{100}	$[K^-\pi^+]_D\,\pi^+\pi^-\pi^+$			
Γ_{101}	$\overline{D}^0\,\pi^+\pi^+\pi^-$ nonresonant		$(5 \pm 4) \times 10^{-3}$	
Γ_{102}	$\overline{D}^0\,\pi^+\rho^0$		$(4.2 \pm 3.0) \times 10^{-3}$	
Γ_{103}	$\overline{D}^0\,a_1(1260)^+$		$(4 \pm 4) \times 10^{-3}$	
Γ_{104}	$\overline{D}^0\,\omega\pi^+$		$(4.1 \pm 0.9) \times 10^{-3}$	
Γ_{105}	$D^*(2010)^-\,\pi^+\pi^+$		$(1.35 \pm 0.22) \times 10^{-3}$	
Γ_{106}	$\overline{D}_1(2420)^0\,\pi^+,\ \overline{D}_1^0 \to D^*(2010)^-\,\pi^+$		$(5.3 \pm 2.3) \times 10^{-4}$	
Γ_{107}	$D^-\,\pi^+\pi^+$		$(1.07 \pm 0.05) \times 10^{-3}$	
Γ_{108}	$D^-\,K^+\pi^+$		$(7.7 \pm 0.5) \times 10^{-5}$	
Γ_{109}	$D_0^*(2400)^0\,K^+,\ D_0^{*0} \to D^-\,\pi^+$		$(6.1 \pm 2.4) \times 10^{-6}$	
Γ_{110}	$D_2^*(2460)^0\,K^+,\ D_2^{*0} \to D^-\,\pi^+$		$(2.32 \pm 0.23) \times 10^{-5}$	
Γ_{111}	$D_1^*(2760)^0\,K^+,\ D_1^{*0} \to D^-\,\pi^+$		$(3.6 \pm 1.2) \times 10^{-6}$	
Γ_{112}	$D^+\,K^0$		$< 2.9 \times 10^{-6}$	CL=90%
Γ_{113}	$D^+\,K^+\pi^-$		$(5.6 \pm 1.1) \times 10^{-6}$	
Γ_{114}	$D_2^*(2460)^0\,K^+,\ D_2^{*0} \to D^+\,\pi^-$		$< 6.3 \times 10^{-7}$	CL=90%
Γ_{115}	$D^+\,K^{*0}$		$< 4.9 \times 10^{-7}$	CL=90%
Γ_{116}	$D^+\,\overline{K}^{*0}$		$< 1.4 \times 10^{-6}$	CL=90%
Γ_{117}	$\overline{D}^*(2007)^0\,\pi^+$		$(5.18 \pm 0.26) \times 10^{-3}$	
Γ_{118}	$\overline{D}^{*0}_{CP(+1)}\,\pi^+$	[d]	$(2.9 \pm 0.7) \times 10^{-3}$	
Γ_{119}	$D^{*0}_{CP(-1)}\,\pi^+$	[d]	$(2.6 \pm 1.0) \times 10^{-3}$	
Γ_{120}	$\overline{D}^*(2007)^0\,\omega\pi^+$		$(4.5 \pm 1.2) \times 10^{-3}$	
Γ_{121}	$\overline{D}^*(2007)^0\,\rho^+$		$(9.8 \pm 1.7) \times 10^{-3}$	
Γ_{122}	$\overline{D}^*(2007)^0\,K^+$		$(4.20 \pm 0.34) \times 10^{-4}$	
Γ_{123}	$\overline{D}^{*0}_{CP(+1)}\,K^+$	[d]	$(2.8 \pm 0.4) \times 10^{-4}$	
Γ_{124}	$\overline{D}^{*0}_{CP(-1)}\,K^+$	[d]	$(2.31 \pm 0.33) \times 10^{-4}$	
Γ_{125}	$\overline{D}^*(2007)^0\,K^*(892)^+$		$(8.1 \pm 1.4) \times 10^{-4}$	
Γ_{126}	$\overline{D}^*(2007)^0\,K^+\overline{K}^0$		$< 1.06 \times 10^{-3}$	CL=90%

Γ_{127}	$\overline{D}^*(2007)^0 K^+ \overline{K}^*(892)^0$		$(1.5 \pm 0.4) \times 10^{-3}$		
Γ_{128}	$\overline{D}^*(2007)^0 \pi^+ \pi^+ \pi^-$		(1.03 ± 0.12) %		
Γ_{129}	$\overline{D}^*(2007)^0 a_1(1260)^+$		(1.9 ± 0.5) %		
Γ_{130}	$\overline{D}^*(2007)^0 \pi^- \pi^+ \pi^+ \pi^0$		(1.8 ± 0.4) %		
Γ_{131}	$\overline{D}^{*0} 3\pi^+ 2\pi^-$		$(5.7 \pm 1.2) \times 10^{-3}$		
Γ_{132}	$D^*(2010)^+ \pi^0$		$< 3.6 \times 10^{-6}$		
Γ_{133}	$D^*(2010)^+ K^0$		$< 9.0 \times 10^{-6}$		CL=90%
Γ_{134}	$D^*(2010)^- \pi^+ \pi^+ \pi^0$		(1.5 ± 0.7) %		
Γ_{135}	$D^*(2010)^- \pi^+ \pi^+ \pi^+ \pi^-$		$(2.6 \pm 0.4) \times 10^{-3}$		
Γ_{136}	$\overline{D}^{**0} \pi^+$	[e]	$(5.9 \pm 1.3) \times 10^{-3}$		
Γ_{137}	$\overline{D}_1^*(2420)^0 \pi^+$		$(1.5 \pm 0.6) \times 10^{-3}$	S=1.3	
Γ_{138}	$\overline{D}_1(2420)^0 \pi^+ \times$ B$(\overline{D}_1^0 \rightarrow \overline{D}^0 \pi^+ \pi^-)$		$(2.5 {}^{+1.6}_{-1.4}) \times 10^{-4}$	S=4.0	
Γ_{139}	$\overline{D}_1(2420)^0 \pi^+ \times$ B$(\overline{D}_1^0 \rightarrow \overline{D}^0 \pi^+ \pi^-$ (nonresonant))		$(2.3 \pm 1.0) \times 10^{-4}$		
Γ_{140}	$\overline{D}_2^*(2462)^0 \pi^+ \times$ B$(\overline{D}_2^*(2462)^0 \rightarrow D^- \pi^+)$		$(3.56 \pm 0.24) \times 10^{-4}$		
Γ_{141}	$\overline{D}_2^*(2462)^0 \pi^+ \times$B$(\overline{D}_2^{*0} \rightarrow \overline{D}^0 \pi^- \pi^+)$		$(2.3 \pm 1.1) \times 10^{-4}$		
Γ_{142}	$\overline{D}_2^*(2462)^0 \pi^+ \times$B$(\overline{D}_2^{*0} \rightarrow \overline{D}^0 \pi^- \pi^+$ (nonresonant))		$< 1.7 \times 10^{-4}$		CL=90%
Γ_{143}	$\overline{D}_2^*(2462)^0 \pi^+ \times$B$(\overline{D}_2^{*0} \rightarrow D^*(2010)^- \pi^+)$		$(2.2 \pm 1.1) \times 10^{-4}$		
Γ_{144}	$\overline{D}_0^*(2400)^0 \pi^+ \times$ B$(\overline{D}_0^*(2400)^0 \rightarrow D^- \pi^+)$		$(6.4 \pm 1.4) \times 10^{-4}$		
Γ_{145}	$\overline{D}_1(2421)^0 \pi^+ \times$ B$(\overline{D}_1(2421)^0 \rightarrow D^{*-} \pi^+)$		$(6.8 \pm 1.5) \times 10^{-4}$		
Γ_{146}	$\overline{D}_2^*(2462)^0 \pi^+ \times$ B$(\overline{D}_2^*(2462)^0 \rightarrow D^{*-} \pi^+)$		$(1.8 \pm 0.5) \times 10^{-4}$		
Γ_{147}	$\overline{D}_1'(2427)^0 \pi^+ \times$ B$(\overline{D}_1'(2427)^0 \rightarrow D^{*-} \pi^+)$		$(5.0 \pm 1.2) \times 10^{-4}$		
Γ_{148}	$\overline{D}_1(2420)^0 \pi^+ \times$B$(\overline{D}_1^0 \rightarrow \overline{D}^{*0} \pi^+ \pi^-)$		$< 6 \times 10^{-6}$		CL=90%
Γ_{149}	$\overline{D}_1^*(2420)^0 \rho^+$		$< 1.4 \times 10^{-3}$		CL=90%
Γ_{150}	$\overline{D}_2^*(2460)^0 \pi^+$		$< 1.3 \times 10^{-3}$		CL=90%
Γ_{151}	$\overline{D}_2^*(2460)^0 \pi^+ \times$B$(\overline{D}_2^{*0} \rightarrow \overline{D}^{*0} \pi^+ \pi^-)$		$< 2.2 \times 10^{-5}$		CL=90%
Γ_{152}	$\overline{D}_1^*(2680)^0 \pi^+$, $\overline{D}_1^*(2680)^0 \rightarrow D^- \pi^+$		$(8.4 \pm 2.1) \times 10^{-5}$		
Γ_{153}	$\overline{D}_3^*(2760)^0 \pi^+$, $\overline{D}_3^*(2760)^0 \pi^+ \rightarrow D^- \pi^+$		$(1.00 \pm 0.22) \times 10^{-5}$		

Γ_{154}	$\overline{D}_2^*(3000)^0 \pi^+$, $\overline{D}_2^*(3000)^0 \pi^+ \to D^- \pi^+$	$(2.0 \pm 1.4) \times 10^{-6}$	
Γ_{155}	$\overline{D}_2^*(2460)^0 \rho^+$	$< 4.7 \times 10^{-3}$	CL=90%
Γ_{156}	$\overline{D}^0 D_s^+$	$(9.0 \pm 0.9) \times 10^{-3}$	
Γ_{157}	$D_{s0}^*(2317)^+ \overline{D}^0$, $D_{s0}^{*+} \to D_s^+ \pi^0$	$(7.9 {}^{+1.5}_{-1.3}) \times 10^{-4}$	
Γ_{158}	$D_{s0}(2317)^+ \overline{D}^0 \times$ B$(D_{s0}(2317)^+ \to D_s^{*+} \gamma)$	$< 7.6 \times 10^{-4}$	CL=90%
Γ_{159}	$D_{s0}(2317)^+ \overline{D}^*(2007)^0 \times$ B$(D_{s0}(2317)^+ \to D_s^+ \pi^0)$	$(9 \pm 7) \times 10^{-4}$	
Γ_{160}	$D_{sJ}(2457)^+ \overline{D}^0$	$(3.1 {}^{+1.0}_{-0.9}) \times 10^{-3}$	
Γ_{161}	$D_{sJ}(2457)^+ \overline{D}^0 \times$ B$(D_{sJ}(2457)^+ \to D_s^+ \gamma)$	$(4.6 {}^{+1.3}_{-1.1}) \times 10^{-4}$	
Γ_{162}	$D_{sJ}(2457)^+ \overline{D}^0 \times$ B$(D_{sJ}(2457)^+ \to D_s^+ \pi^+ \pi^-)$	$< 2.2 \times 10^{-4}$	CL=90%
Γ_{163}	$D_{sJ}(2457)^+ \overline{D}^0 \times$ B$(D_{sJ}(2457)^+ \to D_s^+ \pi^0)$	$< 2.7 \times 10^{-4}$	CL=90%
Γ_{164}	$D_{sJ}(2457)^+ \overline{D}^0 \times$ B$(D_{sJ}(2457)^+ \to D_s^{*+} \gamma)$	$< 9.8 \times 10^{-4}$	CL=90%
Γ_{165}	$D_{sJ}(2457)^+ \overline{D}^*(2007)^0$	(1.20 ± 0.30) %	
Γ_{166}	$D_{sJ}(2457)^+ \overline{D}^*(2007)^0 \times$ B$(D_{sJ}(2457)^+ \to D_s^+ \gamma)$	$(1.4 {}^{+0.7}_{-0.6}) \times 10^{-3}$	
Γ_{167}	$\overline{D}^0 D_{s1}(2536)^+ \times$ B$(D_{s1}(2536)^+ \to D^*(2007)^0 K^+ + D^*(2010)^+ K^0)$	$(4.0 \pm 1.0) \times 10^{-4}$	
Γ_{168}	$\overline{D}^0 D_{s1}(2536)^+ \times$ B$(D_{s1}(2536)^+ \to D^*(2007)^0 K^+)$	$(2.2 \pm 0.7) \times 10^{-4}$	
Γ_{169}	$\overline{D}^*(2007)^0 D_{s1}(2536)^+ \times$ B$(D_{s1}(2536)^+ \to D^*(2007)^0 K^+)$	$(5.5 \pm 1.6) \times 10^{-4}$	
Γ_{170}	$\overline{D}^0 D_{s1}(2536)^+ \times$ B$(D_{s1}(2536)^+ \to D^{*+} K^0)$	$(2.3 \pm 1.1) \times 10^{-4}$	
Γ_{171}	$\overline{D}^0 D_{sJ}(2700)^+ \times$ B$(D_{sJ}(2700)^+ \to D^0 K^+)$	$(5.6 \pm 1.8) \times 10^{-4}$	S=1.7
Γ_{172}	$\overline{D}^{*0} D_{s1}(2536)^+$, $D_{s1}^+ \to D^{*+} K^0$	$(3.9 \pm 2.6) \times 10^{-4}$	
Γ_{173}	$\overline{D}^0 D_{sJ}(2573)^+$, $D_{sJ}^+ \to D^0 K^+$	$(8 \pm 15) \times 10^{-6}$	

Γ_{174}	$\overline{D}^{*0} D_{sJ}(2573)$, $D^+_{sJ} \to D^0 K^+$	$<$ 2	$\times 10^{-4}$	CL=90%
Γ_{175}	$\overline{D}^*(2007)^0 D_{sJ}(2573)$, $D^+_{sJ} \to D^0 K^+$	$<$ 5	$\times 10^{-4}$	CL=90%
Γ_{176}	$\overline{D}^0 D_s^{*+}$	(7.6 $\pm$ 1.6)	$\times 10^{-3}$	
Γ_{177}	$\overline{D}^*(2007)^0 D_s^+$	(8.2 $\pm$ 1.7)	$\times 10^{-3}$	
Γ_{178}	$\overline{D}^*(2007)^0 D_s^{*+}$	(1.71 $\pm$ 0.24)	%	
Γ_{179}	$D_s^{(*)+} \overline{D}^{**0}$	(2.7 $\pm$ 1.2)	%	
Γ_{180}	$\overline{D}^*(2007)^0 D^*(2010)^+$	(8.1 $\pm$ 1.7)	$\times 10^{-4}$	
Γ_{181}	$\overline{D}^0 D^*(2010)^+ + \overline{D}^*(2007)^0 D^+$	$<$ 1.30	%	CL=90%
Γ_{182}	$\overline{D}^0 D^*(2010)^+$	(3.9 $\pm$ 0.5)	$\times 10^{-4}$	
Γ_{183}	$\overline{D}^0 D^+$	(3.8 $\pm$ 0.4)	$\times 10^{-4}$	
Γ_{184}	$\overline{D}^0 D^+ K^0$	(1.55 $\pm$ 0.21)	$\times 10^{-3}$	
Γ_{185}	$D^+ \overline{D}^*(2007)^0$	(6.3 $\pm$ 1.7)	$\times 10^{-4}$	
Γ_{186}	$\overline{D}^*(2007)^0 D^+ K^0$	(2.1 $\pm$ 0.5)	$\times 10^{-3}$	
Γ_{187}	$\overline{D}^0 D^*(2010)^+ K^0$	(3.8 $\pm$ 0.4)	$\times 10^{-3}$	
Γ_{188}	$\overline{D}^*(2007)^0 D^*(2010)^+ K^0$	(9.2 $\pm$ 1.2)	$\times 10^{-3}$	
Γ_{189}	$\overline{D}^0 D^0 K^+$	(1.45 $\pm$ 0.33)	$\times 10^{-3}$	S=2.6
Γ_{190}	$\overline{D}^*(2007)^0 D^0 K^+$	(2.26 $\pm$ 0.23)	$\times 10^{-3}$	
Γ_{191}	$\overline{D}^0 D^*(2007)^0 K^+$	(6.3 $\pm$ 0.5)	$\times 10^{-3}$	
Γ_{192}	$\overline{D}^*(2007)^0 D^*(2007)^0 K^+$	(1.12 $\pm$ 0.13)	%	
Γ_{193}	$D^- D^+ K^+$	(2.2 $\pm$ 0.7)	$\times 10^{-4}$	
Γ_{194}	$D^- D^*(2010)^+ K^+$	(6.3 $\pm$ 1.1)	$\times 10^{-4}$	
Γ_{195}	$D^*(2010)^- D^+ K^+$	(6.0 $\pm$ 1.3)	$\times 10^{-4}$	
Γ_{196}	$D^*(2010)^- D^*(2010)^+ K^+$	(1.32 $\pm$ 0.18)	$\times 10^{-3}$	
Γ_{197}	$(\overline{D}+\overline{D}^*)(D+D^*)K$	(4.05 $\pm$ 0.30)	%	
Γ_{198}	$D_s^+ \pi^0$	(1.6 $\pm$ 0.5)	$\times 10^{-5}$	
Γ_{199}	$D_s^{*+} \pi^0$	$<$ 2.6	$\times 10^{-4}$	CL=90%
Γ_{200}	$D_s^+ \eta$	$<$ 4	$\times 10^{-4}$	CL=90%
Γ_{201}	$D_s^{*+} \eta$	$<$ 6	$\times 10^{-4}$	CL=90%
Γ_{202}	$D_s^+ \rho^0$	$<$ 3.0	$\times 10^{-4}$	CL=90%
Γ_{203}	$D_s^{*+} \rho^0$	$<$ 4	$\times 10^{-4}$	CL=90%
Γ_{204}	$D_s^+ \omega$	$<$ 4	$\times 10^{-4}$	CL=90%
Γ_{205}	$D_s^{*+} \omega$	$<$ 6	$\times 10^{-4}$	CL=90%
Γ_{206}	$D_s^+ a_1(1260)^0$	$<$ 1.8	$\times 10^{-3}$	CL=90%
Γ_{207}	$D_s^{*+} a_1(1260)^0$	$<$ 1.3	$\times 10^{-3}$	CL=90%
Γ_{208}	$D_s^+ \phi$	(1.7 $^{+1.2}_{-0.7}$)	$\times 10^{-6}$	
Γ_{209}	$D_s^{*+} \phi$	$<$ 1.2	$\times 10^{-5}$	CL=90%
Γ_{210}	$D_s^+ \overline{K}^0$	$<$ 8	$\times 10^{-4}$	CL=90%
Γ_{211}	$D_s^{*+} \overline{K}^0$	$<$ 9	$\times 10^{-4}$	CL=90%
Γ_{212}	$D_s^+ \overline{K}^*(892)^0$	$<$ 4.4	$\times 10^{-6}$	CL=90%

Γ_{213}	$D_s^+ K^{*0}$	< 3.5	$\times 10^{-6}$	CL=90%
Γ_{214}	$D_s^{*+} \overline{K}^*(892)^0$	< 3.5	$\times 10^{-4}$	CL=90%
Γ_{215}	$D_s^- \pi^+ K^+$	(1.80 ± 0.22)	$\times 10^{-4}$	
Γ_{216}	$D_s^{*-} \pi^+ K^+$	(1.45 ± 0.24)	$\times 10^{-4}$	
Γ_{217}	$D_s^- \pi^+ K^*(892)^+$	< 5	$\times 10^{-3}$	CL=90%
Γ_{218}	$D_s^{*-} \pi^+ K^*(892)^+$	< 7	$\times 10^{-3}$	CL=90%
Γ_{219}	$D_s^- K^+ K^+$	(9.7 ± 2.1)	$\times 10^{-6}$	
Γ_{220}	$D_s^{*-} K^+ K^+$	< 1.5	$\times 10^{-5}$	CL=90%

Charmonium modes

Γ_{221}	$\eta_c K^+$	(9.6 ± 1.1)	$\times 10^{-4}$	
Γ_{222}	$\eta_c K^+,\ \eta_c \to K_S^0 K^\mp \pi^\pm$	(2.7 ± 0.6)	$\times 10^{-5}$	
Γ_{223}	$\eta_c K^*(892)^+$	$(1.0 {}^{+0.5}_{-0.4})$	$\times 10^{-3}$	
Γ_{224}	$\eta_c K^+ \pi^+ \pi^-$	< 3.9	$\times 10^{-4}$	CL=90%
Γ_{225}	$\eta_c K^+ \omega(782)$	< 5.3	$\times 10^{-4}$	CL=90%
Γ_{226}	$\eta_c K^+ \eta$	< 2.2	$\times 10^{-4}$	CL=90%
Γ_{227}	$\eta_c K^+ \pi^0$	< 6.2	$\times 10^{-5}$	CL=90%
Γ_{228}	$\eta_c(2S) K^+$	(3.4 ± 1.8)	$\times 10^{-4}$	
Γ_{229}	$\eta_c(2S) K^+,\ \eta_c \to p\overline{p}$	< 1.06	$\times 10^{-7}$	CL=95%
Γ_{230}	$\eta_c(2S) K^+,\ \eta_c \to K_S^0 K^\mp \pi^\pm$	$(3.4 {}^{+2.3}_{-1.6})$	$\times 10^{-6}$	
Γ_{231}	$h_c(1P) K^+,\ h_c \to J/\psi \pi^+ \pi^-$	< 3.4	$\times 10^{-6}$	CL=90%
Γ_{232}	$X(3730)^0 K^+,\ X^0 \to \eta_c \eta$	< 4.6	$\times 10^{-5}$	CL=90%
Γ_{233}	$X(3730)^0 K^+,\ X^0 \to \eta_c \pi^0$	< 5.7	$\times 10^{-6}$	CL=90%
Γ_{234}	$X(3872) K^+$	< 3.2	$\times 10^{-4}$	CL=90%
Γ_{235}	$X(3872) K^+,\ X \to p\overline{p}$	< 1.7	$\times 10^{-8}$	CL=95%
Γ_{236}	$X(3872) K^+,\ X \to J/\psi \pi^+ \pi^-$	(8.6 ± 0.8)	$\times 10^{-6}$	
Γ_{237}	$X(3872) K^+,\ X \to J/\psi \gamma$	(2.1 ± 0.4)	$\times 10^{-6}$	S=1.1
Γ_{238}	$X(3872) K^+,\ X \to \psi(2S) \gamma$	(4 ± 4)	$\times 10^{-6}$	S=2.5
Γ_{239}	$X(3872) K^+,\ X \to J/\psi(1S) \eta$	< 7.7	$\times 10^{-6}$	CL=90%
Γ_{240}	$X(3872) K^+,\ X \to D^0 \overline{D}^0$	< 6.0	$\times 10^{-5}$	CL=90%
Γ_{241}	$X(3872) K^+,\ X \to D^+ D^-$	< 4.0	$\times 10^{-5}$	CL=90%
Γ_{242}	$X(3872) K^+,\ X \to D^0 \overline{D}^0 \pi^0$	(1.0 ± 0.4)	$\times 10^{-4}$	
Γ_{243}	$X(3872) K^+,\ X \to \overline{D}^{*0} D^0$	(8.5 ± 2.6)	$\times 10^{-5}$	S=1.4
Γ_{244}	$X(3872)^0 K^+,\ X^0 \to \eta_c \pi^+ \pi^-$	< 3.0	$\times 10^{-5}$	CL=90%
Γ_{245}	$X(3872)^0 K^+,\ X^0 \to \eta_c \omega(782)$	< 6.9	$\times 10^{-5}$	CL=90%
Γ_{246}	$X(3872) K^+,\ X \to \chi_{c1}(1P) \pi^+ \pi^-$	< 1.5	$\times 10^{-6}$	CL=90%
Γ_{247}	$X(3915)^0 K^+,\ X^0 \to \eta_c \eta$	< 3.3	$\times 10^{-5}$	CL=90%
Γ_{248}	$X(3915)^0 K^+,\ X^0 \to \eta_c \pi^0$	< 1.8	$\times 10^{-5}$	CL=90%

Γ_{249}	$X(4014)^0 K^+$, $X^0 \to \eta_c \eta$		< 3.9	$\times 10^{-5}$	CL=90%
Γ_{250}	$X(4014)^0 K^+$, $X^0 \to \eta_c \pi^0$		< 1.2	$\times 10^{-5}$	CL=90%
Γ_{251}	$X(3900)^0 K^+$, $X^0 \to \eta_c \pi^+ \pi^-$		< 4.7	$\times 10^{-5}$	CL=90%
Γ_{252}	$X(4020)^0 K^+$, $X^0 \to \eta_c \pi^+ \pi^-$		< 1.6	$\times 10^{-5}$	CL=90%
Γ_{253}	$X(3872) K^*(892)^+$, $X \to J/\psi \gamma$		< 4.8	$\times 10^{-6}$	CL=90%
Γ_{254}	$X(3872) K^*(892)^+$, $X \to \psi(2S) \gamma$		< 2.8	$\times 10^{-5}$	CL=90%
Γ_{255}	$X(3872)^+ K^0$, $X^+ \to J/\psi(1S) \pi^+ \pi^0$	[f]	< 6.1	$\times 10^{-6}$	CL=90%
Γ_{256}	$X(3872) K^0 \pi^+$, $X \to J/\psi(1S) \pi^+ \pi^-$		(1.06 ± 0.31)	$\times 10^{-5}$	
Γ_{257}	$X(4430)^+ K^0$, $X^+ \to J/\psi \pi^+$		< 1.5	$\times 10^{-5}$	CL=95%
Γ_{258}	$X(4430)^+ K^0$, $X^+ \to \psi(2S) \pi^+$		< 4.7	$\times 10^{-5}$	CL=95%
Γ_{259}	$X(4260)^0 K^+$, $X^0 \to J/\psi \pi^+ \pi^-$		< 2.9	$\times 10^{-5}$	CL=95%
Γ_{260}	$X(3915) K^+$, $X \to J/\psi \gamma$		< 1.4	$\times 10^{-5}$	CL=90%
Γ_{261}	$X(3930)^0 K^+$, $X^0 \to J/\psi \gamma$		< 2.5	$\times 10^{-6}$	CL=90%
Γ_{262}	$J/\psi(1S) K^+$		(1.026 ± 0.031)	$\times 10^{-3}$	
Γ_{263}	$J/\psi(1S) K^0 \pi^+$		(1.13 ± 0.11)	$\times 10^{-3}$	
Γ_{264}	$J/\psi(1S) K^+ \pi^+ \pi^-$		(8.1 ± 1.3)	$\times 10^{-4}$	S=2.5
Γ_{265}	$J/\psi(1S) K^+ K^- K^+$		(3.37 ± 0.29)	$\times 10^{-5}$	
Γ_{266}	$X(3915) K^+$, $X \to p \overline{p}$		< 7.1	$\times 10^{-8}$	CL=95%
Γ_{267}	$J/\psi(1S) K^*(892)^+$		(1.43 ± 0.08)	$\times 10^{-3}$	
Γ_{268}	$J/\psi(1S) K(1270)^+$		(1.8 ± 0.5)	$\times 10^{-3}$	
Γ_{269}	$J/\psi(1S) K(1400)^+$		< 5	$\times 10^{-4}$	CL=90%
Γ_{270}	$J/\psi(1S) \eta K^+$		(1.24 ± 0.14)	$\times 10^{-4}$	
Γ_{271}	$X^{c-odd}(3872) K^+$, $X^{c-odd} \to J/\psi \eta$		< 3.8	$\times 10^{-6}$	CL=90%
Γ_{272}	$\psi(4160) K^+$, $\psi \to J/\psi \eta$		< 7.4	$\times 10^{-6}$	CL=90%
Γ_{273}	$J/\psi(1S) \eta' K^+$		< 8.8	$\times 10^{-5}$	CL=90%
Γ_{274}	$J/\psi(1S) \phi K^+$		(5.0 ± 0.4)	$\times 10^{-5}$	
Γ_{275}	$J/\psi(1S) K_1(1650)$, $K_1 \to \phi K^+$		($6 ^{+10}_{-6}$)	$\times 10^{-6}$	
Γ_{276}	$J/\psi(1S) K^*(1680)^+$, $K^* \to \phi K^+$		($3.4 ^{+1.9}_{-2.2}$)	$\times 10^{-6}$	
Γ_{277}	$J/\psi(1S) K_2^*(1980)$, $K_2^* \to \phi K^+$		($1.5 ^{+0.9}_{-0.5}$)	$\times 10^{-6}$	
Γ_{278}	$J/\psi(1S) K(1830)^+$, $K(1830)^+ \to \phi K^+$		($1.3 ^{+1.3}_{-1.1}$)	$\times 10^{-6}$	
Γ_{279}	$X(4140) K^+$, $X \to J/\psi(1S) \phi$		(10 ± 4)	$\times 10^{-6}$	

Γ_{280}	$X(4274) K^+$, $X \to J/\psi(1S)\phi$	(	$3.6\ {}^{+\ 2.2}_{-\ 1.8}$	$) \times 10^{-6}$	
Γ_{281}	$X(4500) K^+$, $X \to J/\psi(1S)\phi$	(	$3.3\ {}^{+\ 2.1}_{-\ 1.7}$	$) \times 10^{-6}$	
Γ_{282}	$X(4700) K^+$, $X \to J/\psi(1S)\phi$	(	$6\ {}^{+\ 5}_{-\ 4}$	$) \times 10^{-6}$	
Γ_{283}	$J/\psi(1S)\omega K^+$	(	$3.20\ {}^{+\ 0.60}_{-\ 0.32}$	$) \times 10^{-4}$	
Γ_{284}	$X(3872) K^+$, $X \to J/\psi\omega$	(	6.0 ± 2.2	$) \times 10^{-6}$	
Γ_{285}	$X(3915) K^+$, $X \to J/\psi\omega$	(	$3.0\ {}^{+\ 0.9}_{-\ 0.7}$	$) \times 10^{-5}$	
Γ_{286}	$J/\psi(1S)\pi^+$	(	4.1 ± 0.4	$) \times 10^{-5}$	S=2.2
Γ_{287}	$J/\psi(1S)\pi^+\pi^+\pi^+\pi^-\pi^-$	(	1.18 ± 0.13	$) \times 10^{-5}$	
Γ_{288}	$\psi(2S)\pi^+\pi^+\pi^-$	(	1.9 ± 0.4	$) \times 10^{-5}$	
Γ_{289}	$J/\psi(1S)\rho^+$	(	5.0 ± 0.8	$) \times 10^{-5}$	
Γ_{290}	$J/\psi(1S)\pi^+\pi^0$ nonresonant	$<$	7.3	$\times 10^{-6}$	CL=90%
Γ_{291}	$J/\psi(1S) a_1(1260)^+$	$<$	1.2	$\times 10^{-3}$	CL=90%
Γ_{292}	$J/\psi(1S) p\overline{p}\pi^+$	$<$	5.0	$\times 10^{-7}$	CL=90%
Γ_{293}	$J/\psi(1S) p\overline{\Lambda}$	(	1.18 ± 0.31	$) \times 10^{-5}$	
Γ_{294}	$J/\psi(1S)\overline{\Sigma}^0 p$	$<$	1.1	$\times 10^{-5}$	CL=90%
Γ_{295}	$J/\psi(1S) D^+$	$<$	1.2	$\times 10^{-4}$	CL=90%
Γ_{296}	$J/\psi(1S)\overline{D}^0\pi^+$	$<$	2.5	$\times 10^{-5}$	CL=90%
Γ_{297}	$\psi(2S)\pi^+$	(	2.44 ± 0.30	$) \times 10^{-5}$	
Γ_{298}	$\psi(2S) K^+$	(	6.26 ± 0.24	$) \times 10^{-4}$	
Γ_{299}	$\psi(2S) K^*(892)^+$	(	6.7 ± 1.4	$) \times 10^{-4}$	S=1.3
Γ_{300}	$\psi(2S) K^0\pi^+$				
Γ_{301}	$\psi(2S) K^+\pi^+\pi^-$	(	4.3 ± 0.5	$) \times 10^{-4}$	
Γ_{302}	$\psi(2S)\phi(1020) K^+$	(	4.0 ± 0.7	$) \times 10^{-6}$	
Γ_{303}	$\psi(3770) K^+$	(	4.9 ± 1.3	$) \times 10^{-4}$	
Γ_{304}	$\psi(3770) K+, \psi \to D^0\overline{D}^0$	(	1.5 ± 0.5	$) \times 10^{-4}$	S=1.4
Γ_{305}	$\psi(3770) K+, \psi \to D^+ D^-$	(	9.4 ± 3.5	$) \times 10^{-5}$	
Γ_{306}	$\psi(4040) K^+$	$<$	1.3	$\times 10^{-4}$	CL=90%
Γ_{307}	$\psi(4160) K^+$	(	5.1 ± 2.7	$) \times 10^{-4}$	
Γ_{308}	$\psi(4160) K^+$, $\psi \to \overline{D}^0 D^0$	(	8 ± 5	$) \times 10^{-5}$	
Γ_{309}	$\chi_{c0}\pi^+$, $\chi_{c0} \to \pi^+\pi^-$	$<$	1	$\times 10^{-7}$	CL=90%
Γ_{310}	$\chi_{c0} K^+$	(	$1.50\ {}^{+\ 0.15}_{-\ 0.14}$	$) \times 10^{-4}$	
Γ_{311}	$\chi_{c0} K^*(892)^+$	$<$	2.1	$\times 10^{-4}$	CL=90%
Γ_{312}	$\chi_{c1}(1P)\pi^+$	(	2.2 ± 0.5	$) \times 10^{-5}$	
Γ_{313}	$\chi_{c1}(1P) K^+$	(	4.79 ± 0.23	$) \times 10^{-4}$	
Γ_{314}	$\chi_{c1}(1P) K^*(892)^+$	(	3.0 ± 0.6	$) \times 10^{-4}$	S=1.1
Γ_{315}	$\chi_{c1}(1P) K^0\pi^+$	(	5.8 ± 0.4	$) \times 10^{-4}$	
Γ_{316}	$\chi_{c1}(1P) K^+\pi^0$	(	3.29 ± 0.35	$) \times 10^{-4}$	
Γ_{317}	$\chi_{c1}(1P) K^+\pi^+\pi^-$	(	3.74 ± 0.30	$) \times 10^{-4}$	
Γ_{318}	$\chi_{c1}(2P) K^+$, $\chi_{c1}(2P) \to \pi^+\pi^-\chi_{c1}(1P)$	$<$	1.1	$\times 10^{-5}$	CL=90%

Γ_{319}	$\chi_{c2} K^+$	(1.1 ± 0.4)	$\times 10^{-5}$		
Γ_{320}	$\chi_{c2} K^*(892)^+$	< 1.2	$\times 10^{-4}$	CL=90%	
Γ_{321}	$\chi_{c2} K^0 \pi^+$	(1.16 ± 0.25)	$\times 10^{-4}$		
Γ_{322}	$\chi_{c2} K^+ \pi^0$	< 6.2	$\times 10^{-5}$	CL=90%	
Γ_{323}	$\chi_{c2} K^+ \pi^+ \pi^-$	(1.34 ± 0.19)	$\times 10^{-4}$		
Γ_{324}	$\chi_{c2}(2P) \pi^+,\ \chi_{c2} \to \pi^+ \pi^-$	< 1	$\times 10^{-7}$	CL=90%	
Γ_{325}	$h_c(1P) K^+$	< 3.8	$\times 10^{-5}$	CL=90%	
Γ_{326}	$h_c(1P) K^+,\ h_c \to p\overline{p}$	< 6.4	$\times 10^{-8}$	CL=95%	

K or K^* modes

Γ_{327}	$K^0 \pi^+$	(2.37 ± 0.08)	$\times 10^{-5}$		
Γ_{328}	$K^+ \pi^0$	(1.29 ± 0.05)	$\times 10^{-5}$		
Γ_{329}	$\eta' K^+$	(7.06 ± 0.25)	$\times 10^{-5}$		
Γ_{330}	$\eta' K^*(892)^+$	($4.8^{+1.8}_{-1.6}$)	$\times 10^{-6}$		
Γ_{331}	$\eta' K_0^*(1430)^+$	(5.2 ± 2.1)	$\times 10^{-6}$		
Γ_{332}	$\eta' K_2^*(1430)^+$	(2.8 ± 0.5)	$\times 10^{-5}$		
Γ_{333}	ηK^+	(2.4 ± 0.4)	$\times 10^{-6}$		S=1.7
Γ_{334}	$\eta K^*(892)^+$	(1.93 ± 0.16)	$\times 10^{-5}$		
Γ_{335}	$\eta K_0^*(1430)^+$	(1.8 ± 0.4)	$\times 10^{-5}$		
Γ_{336}	$\eta K_2^*(1430)^+$	(9.1 ± 3.0)	$\times 10^{-6}$		
Γ_{337}	$\eta(1295) K^+ \times$ B($\eta(1295) \to \eta \pi \pi$)	($2.9^{+0.8}_{-0.7}$)	$\times 10^{-6}$		
Γ_{338}	$\eta(1405) K^+ \times$ B($\eta(1405) \to \eta \pi \pi$)	< 1.3	$\times 10^{-6}$	CL=90%	
Γ_{339}	$\eta(1405) K^+ \times$ B($\eta(1405) \to K^* K$)	< 1.2	$\times 10^{-6}$	CL=90%	
Γ_{340}	$\eta(1475) K^+ \times$ B($\eta(1475) \to K^* K$)	($1.38^{+0.21}_{-0.18}$)	$\times 10^{-5}$		
Γ_{341}	$f_1(1285) K^+$	< 2.0	$\times 10^{-6}$	CL=90%	
Γ_{342}	$f_1(1420) K^+ \times$ B($f_1(1420) \to \eta \pi \pi$)	< 2.9	$\times 10^{-6}$	CL=90%	
Γ_{343}	$f_1(1420) K^+ \times$ B($f_1(1420) \to K^* K$)	< 4.1	$\times 10^{-6}$	CL=90%	
Γ_{344}	$\phi(1680) K^+ \times$ B($\phi(1680) \to K^* K$)	< 3.4	$\times 10^{-6}$	CL=90%	
Γ_{345}	$f_0(1500) K^+$	(3.7 ± 2.2)	$\times 10^{-6}$		
Γ_{346}	ωK^+	(6.5 ± 0.4)	$\times 10^{-6}$		
Γ_{347}	$\omega K^*(892)^+$	< 7.4	$\times 10^{-6}$	CL=90%	
Γ_{348}	$\omega (K\pi)_0^{*+}$	(2.8 ± 0.4)	$\times 10^{-5}$		
Γ_{349}	$\omega K_0^*(1430)^+$	(2.4 ± 0.5)	$\times 10^{-5}$		
Γ_{350}	$\omega K_2^*(1430)^+$	(2.1 ± 0.4)	$\times 10^{-5}$		
Γ_{351}	$a_0(980)^+ K^0 \times$B($a_0(980)^+ \to \eta \pi^+$)	< 3.9	$\times 10^{-6}$	CL=90%	

Γ_{352}	$a_0(980)^0 K^+ \times B(a_0(980)^0 \to \eta\pi^0)$	$<$ 2.5	$\times 10^{-6}$	CL=90%
Γ_{353}	$K^*(892)^0 \pi^+$	$(1.01 \pm 0.09) \times 10^{-5}$		
Γ_{354}	$K^*(892)^+ \pi^0$	$(8.2 \pm 1.9) \times 10^{-6}$		
Γ_{355}	$K^+ \pi^- \pi^+$	$(5.10 \pm 0.29) \times 10^{-5}$		
Γ_{356}	$K^+ \pi^- \pi^+$ nonresonant	$(1.63 {+0.21 \atop -0.15}) \times 10^{-5}$		
Γ_{357}	$\omega(782) K^+$	$(6 \pm 9) \times 10^{-6}$		
Γ_{358}	$K^+ f_0(980) \times B(f_0(980) \to \pi^+\pi^-)$	$(9.4 {+1.0 \atop -1.2}) \times 10^{-6}$		
Γ_{359}	$f_2(1270)^0 K^+$	$(1.07 \pm 0.27) \times 10^{-6}$		
Γ_{360}	$f_0(1370)^0 K^+ \times B(f_0(1370)^0 \to \pi^+\pi^-)$	$<$ 1.07	$\times 10^{-5}$	CL=90%
Γ_{361}	$\rho^0(1450) K^+ \times B(\rho^0(1450) \to \pi^+\pi^-)$	$<$ 1.17	$\times 10^{-5}$	CL=90%
Γ_{362}	$f_2'(1525) K^+ \times B(f_2'(1525) \to \pi^+\pi^-)$	$<$ 3.4	$\times 10^{-6}$	CL=90%
Γ_{363}	$K^+ \rho^0$	$(3.7 \pm 0.5) \times 10^{-6}$		
Γ_{364}	$K_0^*(1430)^0 \pi^+$	$(4.5 {+0.9 \atop -0.7}) \times 10^{-5}$		S=1.5
Γ_{365}	$K_2^*(1430)^0 \pi^+$	$(5.6 {+2.2 \atop -1.5}) \times 10^{-6}$		
Γ_{366}	$K^*(1410)^0 \pi^+$	$<$ 4.5	$\times 10^{-5}$	CL=90%
Γ_{367}	$K^*(1680)^0 \pi^+$	$<$ 1.2	$\times 10^{-5}$	CL=90%
Γ_{368}	$K^+ \pi^0 \pi^0$	$(1.62 \pm 0.19) \times 10^{-5}$		
Γ_{369}	$f_0(980) K^+ \times B(f_0 \to \pi^0\pi^0)$	$(2.8 \pm 0.8) \times 10^{-6}$		
Γ_{370}	$K^- \pi^+ \pi^+$	$<$ 4.6	$\times 10^{-8}$	CL=90%
Γ_{371}	$K^- \pi^+ \pi^+$ nonresonant	$<$ 5.6	$\times 10^{-5}$	CL=90%
Γ_{372}	$K_1(1270)^0 \pi^+$	$<$ 4.0	$\times 10^{-5}$	CL=90%
Γ_{373}	$K_1(1400)^0 \pi^+$	$<$ 3.9	$\times 10^{-5}$	CL=90%
Γ_{374}	$K^0 \pi^+ \pi^0$	$<$ 6.6	$\times 10^{-5}$	CL=90%
Γ_{375}	$K^0 \rho^+$	$(8.0 \pm 1.5) \times 10^{-6}$		
Γ_{376}	$K^*(892)^+ \pi^+ \pi^-$	$(7.5 \pm 1.0) \times 10^{-5}$		
Γ_{377}	$K^*(892)^+ \rho^0$	$(4.6 \pm 1.1) \times 10^{-6}$		
Γ_{378}	$K^*(892)^+ f_0(980)$	$(4.2 \pm 0.7) \times 10^{-6}$		
Γ_{379}	$a_1^+ K^0$	$(3.5 \pm 0.7) \times 10^{-5}$		
Γ_{380}	$b_1^+ K^0 \times B(b_1^+ \to \omega\pi^+)$	$(9.6 \pm 1.9) \times 10^{-6}$		
Γ_{381}	$K^*(892)^0 \rho^+$	$(9.2 \pm 1.5) \times 10^{-6}$		
Γ_{382}	$K_1(1400)^+ \rho^0$	$<$ 7.8	$\times 10^{-4}$	CL=90%
Γ_{383}	$K_2^*(1430)^+ \rho^0$	$<$ 1.5	$\times 10^{-3}$	CL=90%
Γ_{384}	$b_1^0 K^+ \times B(b_1^0 \to \omega\pi^0)$	$(9.1 \pm 2.0) \times 10^{-6}$		
Γ_{385}	$b_1^+ K^{*0} \times B(b_1^+ \to \omega\pi^+)$	$<$ 5.9	$\times 10^{-6}$	CL=90%
Γ_{386}	$b_1^0 K^{*+} \times B(b_1^0 \to \omega\pi^0)$	$<$ 6.7	$\times 10^{-6}$	CL=90%
Γ_{387}	$K^+ \overline{K}^0$	$(1.31 \pm 0.17) \times 10^{-6}$		S=1.2

Γ_{388}	$\overline{K}^0 K^+ \pi^0$	$<$ 2.4	$\times 10^{-5}$	CL=90%
Γ_{389}	$K^+ K^0_S K^0_S$	(1.08 $\pm$ 0.06)	$\times 10^{-5}$	
Γ_{390}	$f_0(980) K^+$, $f_0 \to K^0_S K^0_S$	(1.47 $\pm$ 0.33)	$\times 10^{-5}$	
Γ_{391}	$f_0(1710) K^+$, $f_0 \to K^0_S K^0_S$	(4.8 $^{+4.0}_{-2.6}$)	$\times 10^{-7}$	
Γ_{392}	$K^+ K^0_S K^0_S$ nonresonant	(2.0 $\pm$ 0.4)	$\times 10^{-5}$	
Γ_{393}	$K^0_S K^0_S \pi^+$	$<$ 5.1	$\times 10^{-7}$	CL=90%
Γ_{394}	$K^+ K^- \pi^+$	(5.0 $\pm$ 0.7)	$\times 10^{-6}$	
Γ_{395}	$K^+ K^- \pi^+$ nonresonant	$<$ 7.5	$\times 10^{-5}$	CL=90%
Γ_{396}	$K^+ \overline{K}^*(892)^0$	$<$ 1.1	$\times 10^{-6}$	CL=90%
Γ_{397}	$K^+ \overline{K}^*_0(1430)^0$	$<$ 2.2	$\times 10^{-6}$	CL=90%
Γ_{398}	$K^+ K^+ \pi^-$	$<$ 1.1	$\times 10^{-8}$	CL=90%
Γ_{399}	$K^+ K^+ \pi^-$ nonresonant	$<$ 8.79	$\times 10^{-5}$	CL=90%
Γ_{400}	$f'_2(1525) K^+$	(1.8 $\pm$ 0.5)	$\times 10^{-6}$	S=1.1
Γ_{401}	$K^+ f_J(2220)$			
Γ_{402}	$K^{*+} \pi^+ K^-$	$<$ 1.18	$\times 10^{-5}$	CL=90%
Γ_{403}	$K^*(892)^+ K^*(892)^0$	(9.1 $\pm$ 2.9)	$\times 10^{-7}$	
Γ_{404}	$K^{*+} K^+ \pi^-$	$<$ 6.1	$\times 10^{-6}$	CL=90%
Γ_{405}	$K^+ K^- K^+$	(3.40 $\pm$ 0.14)	$\times 10^{-5}$	S=1.4
Γ_{406}	$K^+ \phi$	(8.8 $^{+0.7}_{-0.6}$)	$\times 10^{-6}$	S=1.1
Γ_{407}	$f_0(980) K^+ \times$ B($f_0(980) \to K^+ K^-$)	(9.4 $\pm$ 3.2)	$\times 10^{-6}$	
Γ_{408}	$a_2(1320) K^+ \times$ B($a_2(1320) \to K^+ K^-$)	$<$ 1.1	$\times 10^{-6}$	CL=90%
Γ_{409}	$X_0(1550) K^+ \times$ B($X_0(1550) \to K^+ K^-$)	(4.3 $\pm$ 0.7)	$\times 10^{-6}$	
Γ_{410}	$\phi(1680) K^+ \times$ B($\phi(1680) \to K^+ K^-$)	$<$ 8	$\times 10^{-7}$	CL=90%
Γ_{411}	$f_0(1710) K^+ \times$ B($f_0(1710) \to K^+ K^-$)	(1.1 $\pm$ 0.6)	$\times 10^{-6}$	
Γ_{412}	$K^+ K^- K^+$ nonresonant	(2.38 $^{+0.28}_{-0.50}$)	$\times 10^{-5}$	
Γ_{413}	$K^*(892)^+ K^+ K^-$	(3.6 $\pm$ 0.5)	$\times 10^{-5}$	
Γ_{414}	$K^*(892)^+ \phi$	(10.0 $\pm$ 2.0)	$\times 10^{-6}$	S=1.7
Γ_{415}	$\phi (K\pi)^{*+}_0$	(8.3 $\pm$ 1.6)	$\times 10^{-6}$	
Γ_{416}	$\phi K_1(1270)^+$	(6.1 $\pm$ 1.9)	$\times 10^{-6}$	
Γ_{417}	$\phi K_1(1400)^+$	$<$ 3.2	$\times 10^{-6}$	CL=90%
Γ_{418}	$\phi K^*(1410)^+$	$<$ 4.3	$\times 10^{-6}$	CL=90%
Γ_{419}	$\phi K^*_0(1430)^+$	(7.0 $\pm$ 1.6)	$\times 10^{-6}$	
Γ_{420}	$\phi K^*_2(1430)^+$	(8.4 $\pm$ 2.1)	$\times 10^{-6}$	
Γ_{421}	$\phi K^*_2(1770)^+$	$<$ 1.50	$\times 10^{-5}$	CL=90%
Γ_{422}	$\phi K^*_2(1820)^+$	$<$ 1.63	$\times 10^{-5}$	CL=90%
Γ_{423}	$a_1^+ K^{*0}$	$<$ 3.6	$\times 10^{-6}$	CL=90%

Γ_{424}	$K^+\phi\phi$	$(5.0 \pm 1.2) \times 10^{-6}$		S=2.3
Γ_{425}	$\eta'\eta' K^+$	$< 2.5 \times 10^{-5}$	CL=90%	
Γ_{426}	$\omega\phi K^+$	$< 1.9 \times 10^{-6}$	CL=90%	
Γ_{427}	$X(1812) K^+ \times$ B$(X \to \omega\phi)$	$< 3.2 \times 10^{-7}$	CL=90%	
Γ_{428}	$K^*(892)^+\gamma$	$(4.21 \pm 0.18) \times 10^{-5}$		
Γ_{429}	$K_1(1270)^+\gamma$	$(4.4 {}^{+0.7}_{-0.6}) \times 10^{-5}$		
Γ_{430}	$\eta K^+\gamma$	$(7.9 \pm 0.9) \times 10^{-6}$		
Γ_{431}	$\eta' K^+\gamma$	$(2.9 {}^{+1.0}_{-0.9}) \times 10^{-6}$		
Γ_{432}	$\phi K^+\gamma$	$(2.7 \pm 0.4) \times 10^{-6}$		S=1.2
Γ_{433}	$K^+\pi^-\pi^+\gamma$	$(2.58 \pm 0.15) \times 10^{-5}$		S=1.3
Γ_{434}	$K^*(892)^0\pi^+\gamma$	$(2.33 \pm 0.12) \times 10^{-5}$		
Γ_{435}	$K^+\rho^0\gamma$	$(8.2 \pm 0.9) \times 10^{-6}$		
Γ_{436}	$(K^+\pi^-)_{\mathrm{NR}}\pi^+\gamma$	$(9.9 {}^{+1.7}_{-2.0}) \times 10^{-6}$		
Γ_{437}	$K^0\pi^+\pi^0\gamma$	$(4.6 \pm 0.5) \times 10^{-5}$		
Γ_{438}	$K_1(1400)^+\gamma$	$(10 {}^{+5}_{-4}) \times 10^{-6}$		
Γ_{439}	$K^*(1410)^+\gamma$	$(2.7 {}^{+0.8}_{-0.6}) \times 10^{-5}$		
Γ_{440}	$K_0^*(1430)^0\pi^+\gamma$	$(1.32 {}^{+0.26}_{-0.32}) \times 10^{-6}$		
Γ_{441}	$K_2^*(1430)^+\gamma$	$(1.4 \pm 0.4) \times 10^{-5}$		
Γ_{442}	$K^*(1680)^+\gamma$	$(6.7 {}^{+1.7}_{-1.4}) \times 10^{-5}$		
Γ_{443}	$K_3^*(1780)^+\gamma$	$< 3.9 \times 10^{-5}$	CL=90%	
Γ_{444}	$K_4^*(2045)^+\gamma$	$< 9.9 \times 10^{-3}$	CL=90%	

Light unflavored meson modes

Γ_{445}	$\rho^+\gamma$	$(9.8 \pm 2.5) \times 10^{-7}$		
Γ_{446}	$\pi^+\pi^0$	$(5.5 \pm 0.4) \times 10^{-6}$		S=1.2
Γ_{447}	$\pi^+\pi^+\pi^-$	$(1.52 \pm 0.14) \times 10^{-5}$		
Γ_{448}	$\rho^0\pi^+$	$(8.3 \pm 1.2) \times 10^{-6}$		
Γ_{449}	$\pi^+ f_0(980)$, $f_0 \to \pi^+\pi^-$	$< 1.5 \times 10^{-6}$	CL=90%	
Γ_{450}	$\pi^+ f_2(1270)$	$(1.6 {}^{+0.7}_{-0.4}) \times 10^{-6}$		
Γ_{451}	$\rho(1450)^0\pi^+$, $\rho^0 \to \pi^+\pi^-$	$(1.4 {}^{+0.6}_{-0.9}) \times 10^{-6}$		
Γ_{452}	$f_0(1370)\pi^+$, $f_0 \to \pi^+\pi^-$	$< 4.0 \times 10^{-6}$	CL=90%	
Γ_{453}	$f_0(500)\pi^+$, $f_0 \to \pi^+\pi^-$	$< 4.1 \times 10^{-6}$	CL=90%	
Γ_{454}	$\pi^+\pi^-\pi^+$ nonresonant	$(5.3 {}^{+1.5}_{-1.1}) \times 10^{-6}$		
Γ_{455}	$\pi^+\pi^0\pi^0$	$< 8.9 \times 10^{-4}$	CL=90%	
Γ_{456}	$\rho^+\pi^0$	$(1.09 \pm 0.14) \times 10^{-5}$		
Γ_{457}	$\pi^+\pi^-\pi^+\pi^0$	$< 4.0 \times 10^{-3}$	CL=90%	
Γ_{458}	$\rho^+\rho^0$	$(2.40 \pm 0.19) \times 10^{-5}$		
Γ_{459}	$\rho^+ f_0(980)$, $f_0 \to \pi^+\pi^-$	$< 2.0 \times 10^{-6}$	CL=90%	

Γ_{460}	$a_1(1260)^+\pi^0$		$(2.6 \pm 0.7) \times 10^{-5}$	
Γ_{461}	$a_1(1260)^0\pi^+$		$(2.0 \pm 0.6) \times 10^{-5}$	
Γ_{462}	$\omega\pi^+$		$(6.9 \pm 0.5) \times 10^{-6}$	
Γ_{463}	$\omega\rho^+$		$(1.59 \pm 0.21) \times 10^{-5}$	
Γ_{464}	$\eta\pi^+$		$(4.02 \pm 0.27) \times 10^{-6}$	
Γ_{465}	$\eta\rho^+$		$(7.0 \pm 2.9) \times 10^{-6}$	S=2.8
Γ_{466}	$\eta'\pi^+$		$(2.7 \pm 0.9) \times 10^{-6}$	S=1.9
Γ_{467}	$\eta'\rho^+$		$(9.7 \pm 2.2) \times 10^{-6}$	
Γ_{468}	$\phi\pi^+$		$< 1.5 \times 10^{-7}$	CL=90%
Γ_{469}	$\phi\rho^+$		$< 3.0 \times 10^{-6}$	CL=90%
Γ_{470}	$a_0(980)^0\pi^+$, $a_0^0 \to \eta\pi^0$		$< 5.8 \times 10^{-6}$	CL=90%
Γ_{471}	$a_0(980)^+\pi^0$, $a_0^+ \to \eta\pi^+$		$< 1.4 \times 10^{-6}$	CL=90%
Γ_{472}	$\pi^+\pi^+\pi^+\pi^-\pi^-$		$< 8.6 \times 10^{-4}$	CL=90%
Γ_{473}	$\rho^0 a_1(1260)^+$		$< 6.2 \times 10^{-4}$	CL=90%
Γ_{474}	$\rho^0 a_2(1320)^+$		$< 7.2 \times 10^{-4}$	CL=90%
Γ_{475}	$b_1^0\pi^+$, $b_1^0 \to \omega\pi^0$		$(6.7 \pm 2.0) \times 10^{-6}$	
Γ_{476}	$b_1^+\pi^0$, $b_1^+ \to \omega\pi^+$		$< 3.3 \times 10^{-6}$	CL=90%
Γ_{477}	$\pi^+\pi^+\pi^+\pi^-\pi^-\pi^0$		$< 6.3 \times 10^{-3}$	CL=90%
Γ_{478}	$b_1^+\rho^0$, $b_1^+ \to \omega\pi^+$		$< 5.2 \times 10^{-6}$	CL=90%
Γ_{479}	$a_1(1260)^+ a_1(1260)^0$		< 1.3 %	CL=90%
Γ_{480}	$b_1^0\rho^+$, $b_1^0 \to \omega\pi^0$		$< 3.3 \times 10^{-6}$	CL=90%

Charged particle ($h^{\pm}$) modes

$h^{\pm} = K^{\pm}$ or $\pi^{\pm}$

Γ_{481}	$h^+\pi^0$		$(1.6 ^{+0.7}_{-0.6}) \times 10^{-5}$	
Γ_{482}	ωh^+		$(1.38 ^{+0.27}_{-0.24}) \times 10^{-5}$	
Γ_{483}	h^+X^0 (Familon)		$< 4.9 \times 10^{-5}$	CL=90%

Baryon modes

Γ_{484}	$p\overline{p}\pi^+$		$(1.62 \pm 0.20) \times 10^{-6}$	
Γ_{485}	$p\overline{p}\pi^+$ nonresonant		$< 5.3 \times 10^{-5}$	CL=90%
Γ_{486}	$p\overline{p}\pi^+\pi^+\pi^-$			
Γ_{487}	$p\overline{p}K^+$		$(5.9 \pm 0.5) \times 10^{-6}$	S=1.5
Γ_{488}	$\Theta(1710)^{++}\overline{p}$, $\Theta^{++} \to pK^+$	[g]	$< 9.1 \times 10^{-8}$	CL=90%
Γ_{489}	$f_J(2220)K^+$, $f_J \to p\overline{p}$	[g]	$< 4.1 \times 10^{-7}$	CL=90%
Γ_{490}	$p\overline{\Lambda}(1520)$		$(3.1 \pm 0.6) \times 10^{-7}$	
Γ_{491}	$p\overline{p}K^+$ nonresonant		$< 8.9 \times 10^{-5}$	CL=90%
Γ_{492}	$p\overline{p}K^*(892)^+$		$(3.6 ^{+0.8}_{-0.7}) \times 10^{-6}$	
Γ_{493}	$f_J(2220)K^{*+}$, $f_J \to p\overline{p}$		$< 7.7 \times 10^{-7}$	CL=90%
Γ_{494}	$p\overline{\Lambda}$		$< 3.2 \times 10^{-7}$	CL=90%
Γ_{495}	$p\overline{\Lambda}\gamma$		$(2.4 ^{+0.5}_{-0.4}) \times 10^{-6}$	

Γ_{496}	$p\overline{\Lambda}\pi^0$		(3.0 $^{+0.7}_{-0.6}$) $\times 10^{-6}$		
Γ_{497}	$p\overline{\Sigma}(1385)^0$		< 4.7	$\times 10^{-7}$	CL=90%
Γ_{498}	$\Delta^+\overline{\Lambda}$		< 8.2	$\times 10^{-7}$	CL=90%
Γ_{499}	$p\overline{\Sigma}\gamma$		< 4.6	$\times 10^{-6}$	CL=90%
Γ_{500}	$p\overline{\Lambda}\pi^+\pi^-$		(5.9 ± 1.1) $\times 10^{-6}$		
Γ_{501}	$\quad p\overline{\Lambda}\rho^0$		(4.8 ± 0.9) $\times 10^{-6}$		
Γ_{502}	$\quad p\overline{\Lambda}f_2(1270)$		(2.0 ± 0.8) $\times 10^{-6}$		
Γ_{503}	$\Lambda\overline{\Lambda}\pi^+$		< 9.4	$\times 10^{-7}$	CL=90%
Γ_{504}	$\Lambda\overline{\Lambda}K^+$		(3.4 ± 0.6) $\times 10^{-6}$		
Γ_{505}	$\Lambda\overline{\Lambda}K^{*+}$		(2.2 $^{+1.2}_{-0.9}$) $\times 10^{-6}$		
Γ_{506}	$\overline{\Delta}^0 p$		< 1.38	$\times 10^{-6}$	CL=90%
Γ_{507}	$\Delta^{++}\overline{p}$		< 1.4	$\times 10^{-7}$	CL=90%
Γ_{508}	$D^+ p\overline{p}$		< 1.5	$\times 10^{-5}$	CL=90%
Γ_{509}	$D^*(2010)^+ p\overline{p}$		< 1.5	$\times 10^{-5}$	CL=90%
Γ_{510}	$\overline{D}^0 p\overline{p}\pi^+$		(3.72 ± 0.27) $\times 10^{-4}$		
Γ_{511}	$\overline{D}^{*0} p\overline{p}\pi^+$		(3.73 ± 0.32) $\times 10^{-4}$		
Γ_{512}	$D^- p\overline{p}\pi^+\pi^-$		(1.66 ± 0.30) $\times 10^{-4}$		
Γ_{513}	$D^{*-} p\overline{p}\pi^+\pi^-$		(1.86 ± 0.25) $\times 10^{-4}$		
Γ_{514}	$p\overline{\Lambda}^0\overline{D}^0$		(1.43 ± 0.32) $\times 10^{-5}$		
Γ_{515}	$p\overline{\Lambda}^0\overline{D}^*(2007)^0$		< 5	$\times 10^{-5}$	CL=90%
Γ_{516}	$\overline{\Lambda}_c^- p\pi^+$		(2.2 ± 0.4) $\times 10^{-4}$		S=2.2
Γ_{517}	$\quad \overline{\Lambda}_c^- \Delta(1232)^{++}$		< 1.9	$\times 10^{-5}$	CL=90%
Γ_{518}	$\quad \overline{\Lambda}_c^- \Delta_X(1600)^{++}$		(4.6 ± 0.9) $\times 10^{-5}$		
Γ_{519}	$\quad \overline{\Lambda}_c^- \Delta_X(2420)^{++}$		(3.7 ± 0.8) $\times 10^{-5}$		
Γ_{520}	$\quad (\overline{\Lambda}_c^- p)_s\pi^+$	[h]	(3.1 ± 0.7) $\times 10^{-5}$		
Γ_{521}	$\quad \overline{\Sigma}_c(2520)^0 p$		< 3	$\times 10^{-6}$	CL=90%
Γ_{522}	$\quad \overline{\Sigma}_c(2800)^0 p$		(2.6 ± 0.9) $\times 10^{-5}$		
Γ_{523}	$\overline{\Lambda}_c^- p\pi^+\pi^0$		(1.8 ± 0.6) $\times 10^{-3}$		
Γ_{524}	$\overline{\Lambda}_c^- p\pi^+\pi^+\pi^-$		(2.2 ± 0.7) $\times 10^{-3}$		
Γ_{525}	$\overline{\Lambda}_c^- p\pi^+\pi^+\pi^-\pi^0$		< 1.34	%	CL=90%
Γ_{526}	$\Lambda_c^+\Lambda_c^- K^+$		(6.9 ± 2.2) $\times 10^{-4}$		
Γ_{527}	$\overline{\Sigma}_c(2455)^0 p$		(2.9 ± 0.7) $\times 10^{-5}$		
Γ_{528}	$\overline{\Sigma}_c(2455)^0 p\pi^0$		(3.5 ± 1.1) $\times 10^{-4}$		
Γ_{529}	$\overline{\Sigma}_c(2455)^0 p\pi^-\pi^+$		(3.5 ± 1.0) $\times 10^{-4}$		
Γ_{530}	$\overline{\Sigma}_c(2455)^{--} p\pi^+\pi^+$		(2.34 ± 0.20) $\times 10^{-4}$		
Γ_{531}	$\overline{\Lambda}_c(2593)^- / \overline{\Lambda}_c(2625)^- p\pi^+$		< 1.9	$\times 10^{-4}$	CL=90%
Γ_{532}	$\Xi_c^0\Lambda_c^+$, $\Xi_c^0 \to \Xi^+\pi^-$		(2.4 ± 0.9) $\times 10^{-5}$		S=1.4
Γ_{533}	$\Xi_c^0\Lambda_c^+$, $\Xi_c^0 \to \Lambda K^+\pi^-$		(2.1 ± 0.9) $\times 10^{-5}$		S=1.5

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

Γ_{534}	$\pi^+ \ell^+ \ell^-$	*B1*		$<$ 4.9	$\times 10^{-8}$	CL=90%
Γ_{535}	$\pi^+ e^+ e^-$	*B1*		$<$ 8.0	$\times 10^{-8}$	CL=90%
Γ_{536}	$\pi^+ \mu^+ \mu^-$	*B1*		(1.79 $\pm$ 0.23)	$\times 10^{-8}$	
Γ_{537}	$\pi^+ \nu \overline{\nu}$	*B1*		$<$ 9.8	$\times 10^{-5}$	CL=90%
Γ_{538}	$K^+ \ell^+ \ell^-$	*B1*	[a]	(4.51 $\pm$ 0.23)	$\times 10^{-7}$	S=1.1
Γ_{539}	$K^+ e^+ e^-$	*B1*		(5.5 $\pm$ 0.7)	$\times 10^{-7}$	
Γ_{540}	$K^+ \mu^+ \mu^-$	*B1*		(4.43 $\pm$ 0.24)	$\times 10^{-7}$	S=1.2
Γ_{541}	$K^+ \tau^+ \tau^-$	*B1*		$<$ 2.25	$\times 10^{-3}$	CL=90%
Γ_{542}	$K^+ \overline{\nu} \nu$	*B1*		$<$ 1.6	$\times 10^{-5}$	CL=90%
Γ_{543}	$\rho^+ \nu \overline{\nu}$	*B1*		$<$ 2.13	$\times 10^{-4}$	CL=90%
Γ_{544}	$K^*(892)^+ \ell^+ \ell^-$	*B1*	[a]	(1.01 $\pm$ 0.11)	$\times 10^{-6}$	S=1.1
Γ_{545}	$K^*(892)^+ e^+ e^-$	*B1*		(1.55 $^{+0.40}_{-0.31}$)	$\times 10^{-6}$	
Γ_{546}	$K^*(892)^+ \mu^+ \mu^-$	*B1*		(9.6 $\pm$ 1.0)	$\times 10^{-7}$	
Γ_{547}	$K^*(892)^+ \nu \overline{\nu}$	*B1*		$<$ 4.0	$\times 10^{-5}$	CL=90%
Γ_{548}	$K^+ \pi^+ \pi^- \mu^+ \mu^-$	*B1*		(4.4 $\pm$ 0.4)	$\times 10^{-7}$	
Γ_{549}	$\phi K^+ \mu^+ \mu^-$	*B1*		(7.9 $^{+2.1}_{-1.7}$)	$\times 10^{-8}$	
Γ_{550}	$\pi^+ e^+ \mu^-$	*LF*		$<$ 6.4	$\times 10^{-3}$	CL=90%
Γ_{551}	$\pi^+ e^- \mu^+$	*LF*		$<$ 6.4	$\times 10^{-3}$	CL=90%
Γ_{552}	$\pi^+ e^\pm \mu^\mp$	*LF*		$<$ 1.7	$\times 10^{-7}$	CL=90%
Γ_{553}	$\pi^+ e^+ \tau^-$	*LF*		$<$ 7.4	$\times 10^{-5}$	CL=90%
Γ_{554}	$\pi^+ e^- \tau^+$	*LF*		$<$ 2.0	$\times 10^{-5}$	CL=90%
Γ_{555}	$\pi^+ e^\pm \tau^\mp$	*LF*		$<$ 7.5	$\times 10^{-5}$	CL=90%
Γ_{556}	$\pi^+ \mu^+ \tau^-$	*LF*		$<$ 6.2	$\times 10^{-5}$	CL=90%
Γ_{557}	$\pi^+ \mu^- \tau^+$	*LF*		$<$ 4.5	$\times 10^{-5}$	CL=90%
Γ_{558}	$\pi^+ \mu^\pm \tau^\mp$	*LF*		$<$ 7.2	$\times 10^{-5}$	CL=90%
Γ_{559}	$K^+ e^+ \mu^-$	*LF*		$<$ 9.1	$\times 10^{-8}$	CL=90%
Γ_{560}	$K^+ e^- \mu^+$	*LF*		$<$ 1.3	$\times 10^{-7}$	CL=90%
Γ_{561}	$K^+ e^\pm \mu^\mp$	*LF*		$<$ 9.1	$\times 10^{-8}$	CL=90%
Γ_{562}	$K^+ e^+ \tau^-$	*LF*		$<$ 4.3	$\times 10^{-5}$	CL=90%
Γ_{563}	$K^+ e^- \tau^+$	*LF*		$<$ 1.5	$\times 10^{-5}$	CL=90%
Γ_{564}	$K^+ e^\pm \tau^\mp$	*LF*		$<$ 3.0	$\times 10^{-5}$	CL=90%
Γ_{565}	$K^+ \mu^+ \tau^-$	*LF*		$<$ 4.5	$\times 10^{-5}$	CL=90%
Γ_{566}	$K^+ \mu^- \tau^+$	*LF*		$<$ 2.8	$\times 10^{-5}$	CL=90%
Γ_{567}	$K^+ \mu^\pm \tau^\mp$	*LF*		$<$ 4.8	$\times 10^{-5}$	CL=90%
Γ_{568}	$K^*(892)^+ e^+ \mu^-$	*LF*		$<$ 1.3	$\times 10^{-6}$	CL=90%
Γ_{569}	$K^*(892)^+ e^- \mu^+$	*LF*		$<$ 9.9	$\times 10^{-7}$	CL=90%
Γ_{570}	$K^*(892)^+ e^\pm \mu^\mp$	*LF*		$<$ 1.4	$\times 10^{-6}$	CL=90%
Γ_{571}	$\pi^- e^+ e^+$	*L*		$<$ 2.3	$\times 10^{-8}$	CL=90%
Γ_{572}	$\pi^- \mu^+ \mu^+$	*L*		$<$ 4.0	$\times 10^{-9}$	CL=95%
Γ_{573}	$\pi^- e^+ \mu^+$	*L*		$<$ 1.5	$\times 10^{-7}$	CL=90%
Γ_{574}	$\rho^- e^+ e^+$	*L*		$<$ 1.7	$\times 10^{-7}$	CL=90%

Γ_{575}	$\rho^- \mu^+ \mu^+$	*L*	$<$	4.2	$\times 10^{-7}$ CL=90%
Γ_{576}	$\rho^- e^+ \mu^+$	*L*	$<$	4.7	$\times 10^{-7}$ CL=90%
Γ_{577}	$K^- e^+ e^+$	*L*	$<$	3.0	$\times 10^{-8}$ CL=90%
Γ_{578}	$K^- \mu^+ \mu^+$	*L*	$<$	4.1	$\times 10^{-8}$ CL=90%
Γ_{579}	$K^- e^+ \mu^+$	*L*	$<$	1.6	$\times 10^{-7}$ CL=90%
Γ_{580}	$K^*(892)^- e^+ e^+$	*L*	$<$	4.0	$\times 10^{-7}$ CL=90%
Γ_{581}	$K^*(892)^- \mu^+ \mu^+$	*L*	$<$	5.9	$\times 10^{-7}$ CL=90%
Γ_{582}	$K^*(892)^- e^+ \mu^+$	*L*	$<$	3.0	$\times 10^{-7}$ CL=90%
Γ_{583}	$D^- e^+ e^+$	*L*	$<$	2.6	$\times 10^{-6}$ CL=90%
Γ_{584}	$D^- e^+ \mu^+$	*L*	$<$	1.8	$\times 10^{-6}$ CL=90%
Γ_{585}	$D^- \mu^+ \mu^+$	*L*	$<$	6.9	$\times 10^{-7}$ CL=95%
Γ_{586}	$D^{*-} \mu^+ \mu^+$	*L*	$<$	2.4	$\times 10^{-6}$ CL=95%
Γ_{587}	$D_s^- \mu^+ \mu^+$	*L*	$<$	5.8	$\times 10^{-7}$ CL=95%
Γ_{588}	$\overline{D}^0 \pi^- \mu^+ \mu^+$	*L*	$<$	1.5	$\times 10^{-6}$ CL=95%
Γ_{589}	$\Lambda^0 \mu^+$	*L,B*	$<$	6	$\times 10^{-8}$ CL=90%
Γ_{590}	$\Lambda^0 e^+$	*L,B*	$<$	3.2	$\times 10^{-8}$ CL=90%
Γ_{591}	$\overline{\Lambda}^0 \mu^+$	*L,B*	$<$	6	$\times 10^{-8}$ CL=90%
Γ_{592}	$\overline{\Lambda}^0 e^+$	*L,B*	$<$	8	$\times 10^{-8}$ CL=90%

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

[*b*] An $CP(\pm1)$ indicates the $CP{=}+1$ and $CP{=}-1$ eigenstates of the D^0-$\overline{D}^0$ system.

[*c*] *D* denotes D^0 or $\overline{D}^0$.

[*d*] D^{*0}_{CP+} decays into $D^0\pi^0$ with the D^0 reconstructed in *CP*-even eigenstates K^+K^- and $\pi^+\pi^-$.

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

[*f*] $X(3872)^+$ is a hypothetical charged partner of the $X(3872)$.

[*g*] $\Theta(1710)^{++}$ is a possible narrow pentaquark state and $G(2220)$ is a possible glueball resonance.

[*h*] $(\overline{\Lambda}_c^- p)_s$ denotes a low-mass enhancement near 3.35 GeV/c^2.

CONSTRAINED FIT INFORMATION

An overall fit to 3 branching ratios uses 6 measurements and one constraint to determine 3 parameters. The overall fit has a χ^2 = 3.7 for 4 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, $x_i \equiv \Gamma_i/\Gamma_{\text{total}}$. The fit constrains the x_i whose labels appear in this array to sum to one.

x_{387}	10
	x_{327}

CONSTRAINED FIT INFORMATION

An overall fit to 18 branching ratios uses 54 measurements and one constraint to determine 12 parameters. The overall fit has a $\chi^2 = 49.4$ for 43 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, $x_i \equiv \Gamma_i/\Gamma_{\text{total}}$. The fit constrains the x_i whose labels appear in this array to sum to one.

	x_6	x_7	x_{48}	x_{99}	x_{138}	x_{262}	x_{267}	x_{286}	x_{298}	x_{540}
x_7	33									
x_{48}	0	0								
x_{99}	0	0	8							
x_{138}	0	0	1	13						
x_{262}	0	0	0	0	0					
x_{267}	0	0	0	0	0	0				
x_{286}	0	0	0	0	0	33	0			
x_{298}	0	0	0	0	0	58	0	19		
x_{540}	0	0	0	0	0	14	0	5	8	
x_{546}	0	0	0	0	0	0	5	0	0	0

B^+ BRANCHING RATIOS

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

"OUR EVALUATION" is an average using rescaled values of the data listed below. The average and rescaling were performed by the Heavy Flavor Averaging Group (HFLAV) and are described at http://www.slac.stanford.edu/xorg/hflav/. The averaging/rescaling procedure takes into account correlations between the measurements.

VALUE (units 10^{-2})	*DOCUMENT ID*		*TECN*	*COMMENT*
10.99±0.28 OUR EVALUATION				
10.76±0.32 OUR AVERAGE Error includes scale factor of 1.1.				
11.17±0.25±0.28	[1] URQUIJO	07	BELL	$e^+e^- \to \Upsilon(4S)$
10.28±0.26±0.39	[2] AUBERT,B	06Y	BABR	$e^+e^- \to \Upsilon(4S)$
10.25±0.57±0.65	[3] ARTUSO	97	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
11.15±0.26±0.41	[4] OKABE	05	BELL	Repl. by URQUIJO 07
10.1 ±1.8 ±1.5	ATHANAS	94	CLE2	Sup. by ARTUSO 97

[1] URQUIJO 07 report a measurement of $(10.34 \pm 023 \pm 0.25)\%$ 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.

[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($B^0 \to e^+ \nu_e X$) = $1.074 \pm 0.041 \pm 0.026$.

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

[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 $B(B^+ \to e^+ \nu_e X)/B(B^0 \to e^+ \nu_e X) = 1.08 \pm 0.05 \pm 0.02$.

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

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
10.79±0.25±0.27	[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.

$\Gamma(\overline{D}^0 \ell^+ \nu_\ell)/\Gamma_{total}$ — Γ_4/Γ

"OUR EVALUATION" is an average using rescaled values of the data listed below. The average and rescaling were performed by the Heavy Flavor Averaging Group (HFLAV) and are described at http://www.slac.stanford.edu/xorg/hflav/. The averaging/rescaling procedure takes into account correlations between the measurements. $\ell = e$ or μ, not sum over e and μ modes.

VALUE	DOCUMENT ID		TECN	COMMENT
0.0227±0.0011 OUR EVALUATION				
0.0229±0.0008 OUR AVERAGE				
0.0229±0.0008±0.0009	[1] AUBERT	10	BABR	$e^+ e^- \to \Upsilon(4S)$
0.0234±0.0003±0.0013	AUBERT	09A	BABR	$e^+ e^- \to \Upsilon(4S)$
0.0221±0.0013±0.0019	[2] BARTELT	99	CLE2	$e^+ e^- \to \Upsilon(4S)$
0.016 ±0.006 ±0.003	[3] FULTON	91	CLEO	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.0233±0.0009±0.0009	[1] AUBERT	08Q	BABR	Repl. by AUBERT 09A
0.0194±0.0015±0.0034	[4] ATHANAS	97	CLE2	Repl. by BARTELT 99

[1] Uses a fully reconstructed B meson as a tag on the recoil side.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[3] FULTON 91 assumes equal production of $B^0 \overline{B}^0$ and $B^+ B^-$ at the $\Upsilon(4S)$.
[4] ATHANAS 97 uses missing energy and missing momentum to reconstruct neutrino.

$\Gamma(\overline{D}^0 \ell^+ \nu_\ell)/\Gamma(\ell^+ \nu_\ell \text{anything})$ — Γ_4/Γ_1

VALUE	DOCUMENT ID		TECN	COMMENT
0.255±0.009±0.009	[1] AUBERT	10	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}^0 \ell^+ \nu_\ell)/\Gamma(D \ell^+ \nu_\ell \text{anything})$ — Γ_4/Γ_3

VALUE	DOCUMENT ID		TECN	COMMENT
0.227±0.014±0.016	[1] AUBERT	07AN	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}^0 \tau^+ \nu_\tau)/\Gamma_{total}$ — Γ_5/Γ

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
0.77±0.22±0.12	[1] BOZEK	10	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.67±0.37±0.13	[2] AUBERT	08N	BABR	Repl. by AUBERT 09S

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Uses a fully reconstructed B meson as a tag on the recoil side.

$\Gamma(\overline{D}^0 \tau^+ \nu_\tau)/\Gamma(\overline{D}^0 \ell^+ \nu_\ell)$ — Γ_5/Γ_4

VALUE	DOCUMENT ID		TECN	COMMENT
0.429±0.082±0.052	[1,2] LEES	12D	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.314±0.170±0.049	[1] AUBERT	09S	BABR	Repl. by LEES 12D

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

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

$\Gamma(\overline{D}^*(2007)^0 \ell^+ \nu_\ell)/\Gamma_{\text{total}}$ — Γ_6/Γ

"OUR EVALUATION" is an average using rescaled values of the data listed below. The average and rescaling were performed by the Heavy Flavor Averaging Group (HFLAV) and are described at http://www.slac.stanford.edu/xorg/hflav/. The averaging/rescaling procedure takes into account correlations between the measurements. $\ell = e$ or μ, not sum over e and μ modes.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0569±0.0019 OUR EVALUATION					
0.0560±0.0026 OUR FIT Error includes scale factor of 1.5.					
0.0558±0.0026 OUR AVERAGE Error includes scale factor of 1.5. See the ideogram below.					
0.0540±0.0002±0.0021		AUBERT	09A	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
0.0556±0.0008±0.0041		[1] AUBERT	08AT	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
0.0650±0.0020±0.0043		[2] ADAM	03	CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$
0.066 ±0.016 ±0.015		[3] ALBRECHT	92C	ARG	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.0583±0.0015±0.0030		[4] AUBERT	08Q	BABR	Repl. by AUBERT 09A
0.0650±0.0020±0.0043		[5] BRIERE	02	CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$
0.0513±0.0054±0.0064	302	[6] BARISH	95	CLE2	Repl. by ADAM 03
seen	398	[7] SANGHERA	93	CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$
0.041 ±0.008 $^{+0.008}_{-0.009}$		[8] FULTON	91	CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$
0.070 ±0.018 ±0.014		[9] ANTREASYAN	90B	CBAL	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Measured using the dependence of $B^- \rightarrow D^{*0} e^- \overline{\nu}_e$ decay differential rate and the form factor description by CAPRINI 98.

[2] Simultaneous measurements of both $B^0 \rightarrow D^*(2010)^- \ell \nu$ and $B^+ \rightarrow \overline{D}(2007)^0 \ell \nu$.

[3] ALBRECHT 92C reports 0.058±0.014±0.013. We rescale using the method described in STONE 94 but with the updated PDG 94 B($D^0 \rightarrow K^- \pi^+$). Assumes equal production of $B^0 \overline{B}^0$ and $B^+ B^-$ at the $\Upsilon(4S)$.

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

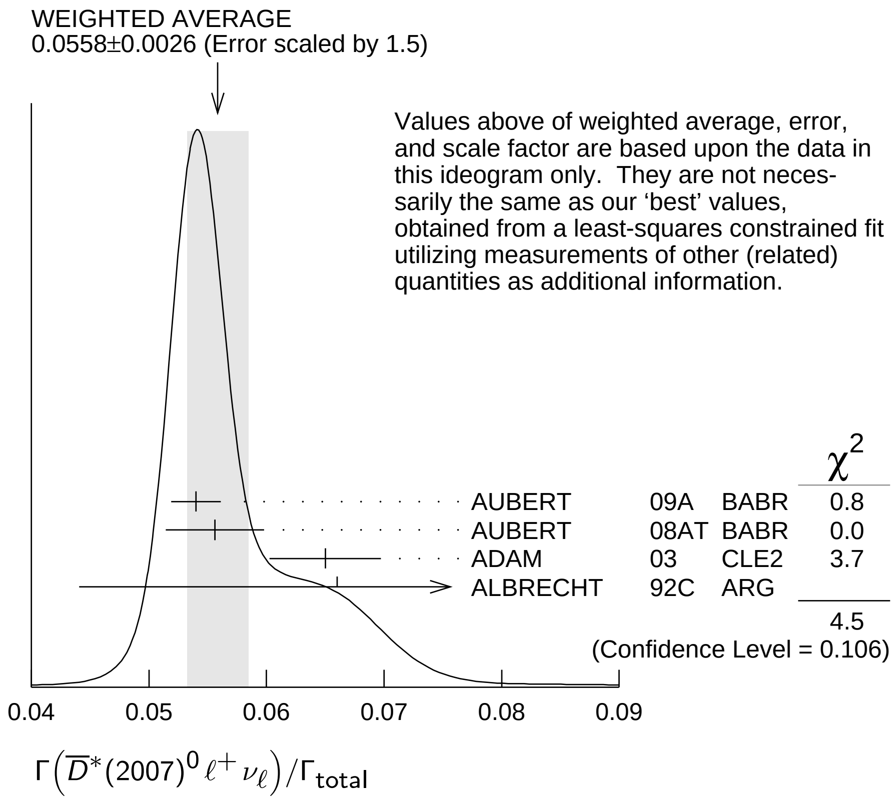
[5] The results are based on the same analysis and data sample reported in ADAM 03.

[6] BARISH 95 use B($D^0 \rightarrow K^- \pi^+$) = (3.91 ± 0.08 ± 0.17)% and B($D^{*0} \rightarrow D^0 \pi^0$) = (63.6 ± 2.3 ± 3.3)%.

[7] 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.

[8] Assumes equal production of $B^0 \overline{B}^0$ and $B^+ B^-$ at the $\Upsilon(4S)$. Uncorrected for D and D^* branching ratio assumptions.

[9] ANTREASYAN 90B is average over B and $\overline{D}^*(2010)$ charge states.



$\Gamma\big(\overline{D}^*(2007)^0 \ell^+ \nu_\ell\big)/\Gamma\big(D \ell^+ \nu_\ell \text{anything}\big)$ — Γ_6/Γ_3

VALUE	DOCUMENT ID		TECN	COMMENT
0.582±0.018±0.030	[1] AUBERT	07AN	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma\big(\overline{D}^*(2007)^0 \tau^+ \nu_\tau\big)/\Gamma_{\text{total}}$ — Γ_7/Γ

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
1.88±0.20 OUR FIT				
$2.12^{+0.28}_{-0.27}$±0.29	[1] BOZEK	10	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2.25±0.48±0.28	[2] AUBERT	08N	BABR	Repl. by AUBERT 09S

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Uses a fully reconstructed B meson as a tag on the recoil side.

$\Gamma\big(\overline{D}^*(2007)^0 \tau^+ \nu_\tau\big)/\Gamma\big(\overline{D}^*(2007)^0 \ell^+ \nu_\ell\big)$ — Γ_7/Γ_6

VALUE	DOCUMENT ID		TECN	COMMENT
0.335±0.034 OUR FIT				
0.322±0.032±0.022	[1,2] LEES	12D	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.346±0.073±0.034	[1] AUBERT	09S	BABR	Repl. by LEES 12D

[1] Uses a fully reconstructed B meson as a tag on the recoil side.
[2] Uses $\tau^+ \rightarrow e^+ \nu_e \overline{\nu}_\tau$ and $\tau^+ \rightarrow \mu^+ \nu_\mu \overline{\nu}_\tau$ and e^+ or μ^+ as ℓ^+.

$\Gamma(D^-\pi^+\ell^+\nu_\ell)/\Gamma_{total}$ — Γ_8/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
4.2±0.5 OUR AVERAGE				
4.2±0.6±0.3	[1] AUBERT	08Q	BABR	$e^+e^- \to \Upsilon(4S)$
4.2±0.6±0.2	[1,2] LIVENTSEV	08	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
5.5±0.9±0.3	[3] LIVENTSEV	05	BELL	Repl. by LIVENTSEV 08

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

[2] LIVENTSEV 08 reports $(4.0 \pm 0.4 \pm 0.6) \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \to D^-\pi^+\ell^+\nu_\ell)/\Gamma_{total}]$ / $[B(B^+ \to \overline{D}^0\ell^+\nu_\ell)]$ assuming $B(B^+ \to \overline{D}^0\ell^+\nu_\ell) = (2.15 \pm 0.22) \times 10^{-2}$, which we rescale to our best value $B(B^+ \to \overline{D}^0\ell^+\nu_\ell) = (2.27 \pm 0.11) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[3] LIVENTSEV 05 reports $[\Gamma(B^+ \to D^-\pi^+\ell^+\nu_\ell)/\Gamma_{total}]$ / $[B(B^0 \to D^-\ell^+\nu_\ell)]$ $= 0.25 \pm 0.03 \pm 0.03$ which we multiply by our best value $B(B^0 \to D^-\ell^+\nu_\ell) = (2.19 \pm 0.12) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\overline{D}^*_0(2420)^0\ell^+\nu_\ell,\ \overline{D}^{*0}_0 \to D^-\pi^+)/\Gamma_{total}$ — Γ_9/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
2.5±0.5 OUR AVERAGE				
2.6±0.5±0.4	[1] AUBERT	08BL	BABR	$e^+e^- \to \Upsilon(4S)$
2.4±0.4±0.6	[1] LIVENTSEV	08	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}^*_2(2460)^0\ell^+\nu_\ell,\ \overline{D}^{*0}_2 \to D^-\pi^+)/\Gamma_{total}$ — Γ_{10}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
1.53±0.16 OUR AVERAGE				
1.42±0.15±0.15	[1] AUBERT	09Y	BABR	$e^+e^- \to \Upsilon(4S)$
1.5 ±0.2 ±0.2	[2] AUBERT	08BL	BABR	$e^+e^- \to \Upsilon(4S)$
2.2 ±0.3 ±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 $B(B^+ \to \overline{D}^*_2(2460)^0\ell^+\nu_\ell) \cdot B(\overline{D}^*_2(2460)^0 \to D^{(*)-}\pi^+) = (2.29 \pm 0.23 \pm 0.21) \times 10^{-3}$ and the authors have provided us the individual measurement.

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

$\Gamma(D^{(*)}n\pi\ell^+\nu_\ell(n \geq 1))/\Gamma(D\ell^+\nu_\ell \text{anything})$ — Γ_{11}/Γ_3

VALUE	DOCUMENT ID		TECN	COMMENT
0.191±0.013±0.019	[1] AUBERT	07AN	BABR	$e^+e^- \to \Upsilon(4S)$

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

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

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
6.1±0.6 OUR AVERAGE				
5.9±0.5±0.4	[1] AUBERT	08Q	BABR	$e^+e^- \to \Upsilon(4S)$
6.8±1.1±0.3	[1,2] LIVENTSEV	08	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
5.9±1.4±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.
[2] LIVENTSEV 08 reports $(6.4 \pm 0.8 \pm 0.9) \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \to D^{*-}\pi^+\ell^+\nu_\ell)/\Gamma_{\rm total}]$ / $[B(B^+ \to \overline{D}^0\ell^+\nu_\ell)]$ assuming $B(B^+ \to \overline{D}^0\ell^+\nu_\ell) = (2.15 \pm 0.22) \times 10^{-2}$, which we rescale to our best value $B(B^+ \to \overline{D}^0\ell^+\nu_\ell) = (2.27 \pm 0.11) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.
[3] Excludes D^{*+} contribution to $D\pi$ modes.
[4] LIVENTSEV 05 reports $[\Gamma(B^+ \to D^{*-}\pi^+\ell^+\nu_\ell)/\Gamma_{\rm total}]$ / $[B(B^0 \to D^*(2010)^-\ell^+\nu_\ell)] = 0.12 \pm 0.02 \pm 0.02$ which we multiply by our best value $B(B^0 \to D^*(2010)^-\ell^+\nu_\ell) = (4.93 \pm 0.11) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\overline{D}_1(2420)^0\ell^+\nu_\ell,\ \overline{D}_1^0 \to D^{*-}\pi^+)/\Gamma_{\rm total}$ — Γ_{13}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
3.03±0.20 OUR AVERAGE				
2.97±0.17±0.17	[1] AUBERT	09Y	BABR	$e^+e^- \to \Upsilon(4S)$
2.9 ±0.3 ±0.3	[2] AUBERT	08BL	BABR	$e^+e^- \to \Upsilon(4S)$
4.2 ±0.7 ±0.7	[2] LIVENTSEV	08	BELL	$e^+e^- \to \Upsilon(4S)$
3.73±0.85±0.57	[3] ANASTASSOV	98	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Uses a simultaneous measurement of all B semileptonic decays without full reconstruction of events.
[2] Uses a fully reconstructed B meson as a tag on the recoil side.
[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\overline{D}'_1(2430)^0\ell^+\nu_\ell,\ \overline{D}'^0_1 \to D^{*-}\pi^+)/\Gamma_{\rm total}$ — Γ_{14}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
2.7±0.4±0.5		[1] AUBERT	08BL	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.7	90	[1] LIVENTSEV	08	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}_2^*(2460)^0\ell^+\nu_\ell,\ \overline{D}_2^{*0} \to D^{*-}\pi^+)/\Gamma_{\rm total}$ — Γ_{15}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
1.01±0.24 OUR AVERAGE		Error includes scale factor of 2.0.			
0.87±0.11±0.07		[1] AUBERT	09Y	BABR	$e^+e^- \to \Upsilon(4S)$
1.5 ±0.2 ±0.2		[2] AUBERT	08BL	BABR	$e^+e^- \to \Upsilon(4S)$
1.8 ±0.6 ±0.3		[2] LIVENTSEV	08	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1.6	90	[3] ANASTASSOV	98	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Uses a simultaneous fit of all B semileptonic decays without full reconstruction of events. AUBERT 09Y reports $B(B^+ \to \overline{D}_2^*(2460)^0\ell^+\nu_\ell) \cdot B(\overline{D}_2^*(2460)^0 \to D^{(*)-}\pi^+) = (2.29 \pm 0.23 \pm 0.21) \times 10^{-3}$ and the authors have provided us the individual measurement.
[2] Uses a fully reconstructed B meson as a tag on the recoil side.
[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\overline{D}^0\pi^+\pi^-\ell^+\nu_\ell)/\Gamma(\overline{D}^0\ell^+\nu_\ell)$ — Γ_{16}/Γ_4

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
7.1±1.3±0.8	[1] LEES	16	BABR	$e^+e^-\to\Upsilon(4S)$

[1] Measurement used electrons and muons as leptons.

$\Gamma(\overline{D}^{*0}\pi^+\pi^-\ell^+\nu_\ell)/\Gamma(\overline{D}^*(2007)^0\ell^+\nu_\ell)$ — Γ_{17}/Γ_6

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
1.4±0.7±0.4	[1] LEES	16	BABR	$e^+e^-\to\Upsilon(4S)$

[1] Measurement used electrons and muons as leptons.

$\Gamma(D_s^{(*)-}K^+\ell^+\nu_\ell)/\Gamma_{total}$ — Γ_{18}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
6.1 ±1.0 OUR AVERAGE				
5.9 ±1.2 ±1.5	[1] STYPULA	12	BELL	$e^+e^-\to\Upsilon(4S)$
$6.13^{+1.04}_{-1.03}\pm0.67$	[1] DEL-AMO-SA...	11L	BABR	$e^+e^-\to\Upsilon(4S)$

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

$\Gamma(D_s^-K^+\ell^+\nu_\ell)/\Gamma_{total}$ — Γ_{19}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$\mathbf{3.0\pm0.9^{+1.1}_{-0.8}}$	[1] STYPULA	12	BELL	$e^+e^-\to\Upsilon(4S)$

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

$\Gamma(D_s^{*-}K^+\ell^+\nu_\ell)/\Gamma_{total}$ — Γ_{20}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$\mathbf{2.9\pm1.6^{+1.1}_{-1.0}}$	[1,2] STYPULA	12	BELL	$e^+e^-\to\Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] STYPULA 12 provides also an upper limit of 0.56×10^{-3} at 90% CL for the same data. Also measures branching fraction of the combined modes of $D_s^-K^+\ell^+\nu_\ell$ and $D_s^{*-}K^+\ell^+\nu_\ell$ as B($B^+\to D_s^{(*)-}K^+\ell^+\nu_\ell$) = $(5.9\pm1.2\pm1.5)\times10^{-4}$.

$\Gamma(\pi^0\ell^+\nu_\ell)/\Gamma_{total}$ — Γ_{21}/Γ

"OUR EVALUATION" is an average using rescaled values of the data listed below. The average and rescaling were performed by the Heavy Flavor Averaging Group (HFLAV) and are described at http://www.slac.stanford.edu/xorg/hflav/. The averaging/rescaling procedure takes into account correlations between the measurements.

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
0.780±0.027 OUR EVALUATION				
0.748±0.029 OUR AVERAGE				
0.80 ±0.08 ±0.04	[1] SIBIDANOV	13	BELL	$e^+e^-\to\Upsilon(4S)$
0.77 ±0.04 ±0.03	[2] LEES	12AA	BABR	$e^+e^-\to\Upsilon(4S)$
0.705±0.025±0.035	[3] DEL-AMO-SA...	11C	BABR	$e^+e^-\to\Upsilon(4S)$
0.82 ±0.09 ±0.05	[3] AUBERT	08AV	BABR	$e^+e^-\to\Upsilon(4S)$
0.77 ±0.14 ±0.08	[4] HOKUUE	07	BELL	$e^+e^-\to\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.74 ±0.05 ±0.10	[5] AUBERT,B	05O	BABR	Repl. by DEL-AMO-SANCHEZ 11C

[1] The signal events are tagged by a second B meson reconstructed in the fully hadronic decays.
[2] Uses loose neutrino reconstruction technique. Assumes B($Y(4S) \to B^+ B^-$) = (51.6 ± 0.6)% and B($Y(4S) \to B^0 \overline{B}^0$) = (48.4 ± 0.6)%.
[3] Using the isospin symmetry relation, B^+ and B^0 branching fractions are combined.
[4] The signal events are tagged by a second B meson reconstructed in the semileptonic mode $B \to D^{(*)} \ell \nu_\ell$.
[5] B^+ and B^0 decays combined assuming isospin symmetry. Systematic errors include both experimental and form-factor uncertainties.

$\Gamma(\pi^0 e^+ \nu_e)/\Gamma_{total}$ — Γ_{22}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.9±0.2±0.2		[1] ALEXANDER	96T	CLE2	$e^+e^- \to \Upsilon(4S)$
<22	90	ANTREASYAN	90B	CBAL	$e^+e^- \to \Upsilon(4S)$

[1] Derived based in the reported B^0 result by assuming isospin symmetry: $\Gamma(B^0 \to \pi^- \ell^+ \nu) = 2\Gamma(B^+ \to \pi^0 \ell^+ \nu)$.

$\Gamma(\eta \ell^+ \nu_\ell)/\Gamma_{total}$ — Γ_{23}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
0.38±0.06 OUR AVERAGE					
0.38±0.05±0.05		[1] LEES	12AA	BABR	$e^+e^- \to \Upsilon(4S)$
0.31±0.06±0.08		[1] AUBERT	09Q	BABR	$e^+e^- \to \Upsilon(4S)$
0.64±0.20±0.03		[2] AUBERT	08AV	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.36±0.05±0.04		[1] DEL-AMO-SA..	11F	BABR	Repl. by LEES 12AA
<1.01	90	[3] ADAM	07	CLE2	$e^+e^- \to \Upsilon(4S)$
0.84±0.31±0.18		[4] ATHAR	03	CLE2	Repl. by ADAM 07

[1] 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)%.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[3] The B^0 and B^+ results are combined assuming the isospin, B lifetimes, and relative charged/neutral B production at the $\Upsilon(4S)$.
[4] ATHAR 03 reports systematic errors 0.16 ± 0.09, which are experimental systematic and systematic due to model dependence. We combine these in quadrature.

$\Gamma(\eta' \ell^+ \nu_\ell)/\Gamma_{total}$ — Γ_{24}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
0.23±0.08 OUR AVERAGE				
0.24±0.08±0.03	[1] LEES	12AA	BABR	$e^+e^- \to \Upsilon(4S)$
$0.04\pm0.22^{+0.05}_{-0.02}$	[2] AUBERT	08AV	BABR	$e^+e^- \to \Upsilon(4S)$
2.66±0.80±0.56	[3] ADAM	07	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.24±0.08±0.03	[1] DEL-AMO-SA..	11F	BABR	Repl. by LEES 12AA

[1] Uses loose neutrino reconstruction technique. Assumes B($Y(4S) \to B^+ B^-$) = (51.6 ± 0.6)% and B($Y(4S) \to B^0 \overline{B}^0$) = (48.4 ± 0.6)%.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[3] The B^0 and B^+ results are combined assuming the isospin, B lifetimes, and relative charged/neutral B production at the $\Upsilon(4S)$. Corresponds to 90% CL interval (1.20–4.46) × 10^{-4}.

$\Gamma(\omega \ell^+ \nu_\ell)/\Gamma_{total}$ Γ_{25}/Γ

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

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
1.19±0.09 OUR AVERAGE					
1.21±0.14±0.08		[1,2] LEES	13A	BABR	$e^+ e^- \to \Upsilon(4S)$
1.35±0.21±0.11		[3] LEES	13T	BABR	$e^+ e^- \to \Upsilon(4S)$
1.07±0.16±0.07		[4] SIBIDANOV	13	BELL	$e^+ e^- \to \Upsilon(4S)$
1.19±0.16±0.09		[2,5] LEES	12AA	BABR	$e^+ e^- \to \Upsilon(4S)$
1.3 ±0.4 ±0.4		[6] SCHWANDA	04	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.14±0.16±0.08		[2] AUBERT	09Q	BABR	Repl. by LEES 13A
<2.1	90	[7] BEAN	93B	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] LEES 13A reports $(1.21 \pm 0.14 \pm 0.08) \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to \omega \ell^+ \nu_\ell)/\Gamma_{total}] \times [B(\omega(782) \to \pi^+ \pi^- \pi^0)]$ assuming $B(\omega(782) \to \pi^+ \pi^- \pi^0) = (89.2 \pm 0.7) \times 10^{-2}$.

[2] Uses $B(\Upsilon(4S) \to B^+ B^-) = (51.6 \pm 0.6)\%$ and $B(\Upsilon(4S) \to B^0 \overline{B}^0) = (48.4 \pm 0.6)\%$.

[3] Uses semileptonic tagging. Assumes $B(\omega \to \pi^+ \pi^- \pi^0) = (89.2 \pm 0.7)\%$ and that the production ratio of $B^+ B^-$ to $B^0 \overline{B}^0$ from $\Upsilon(4S)$ is 1.056 ± 0.028. The partial branching fractions in three bins of q^2 are also reported.

[4] The signal events are tagged by a second B meson reconstructed in the fully hadronic decays.

[5] Uses loose neutrino reconstruction technique.

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

[7] BEAN 93B limit set using ISGW Model. Using isospin and the quark model to combine $\Gamma(\rho^0 \ell^+ \nu_\ell)$ and $\Gamma(\rho^- \ell^+ \nu_\ell)$ with this result, they obtain a limit $<(1.6–2.7) \times 10^{-4}$ at 90% CL for $B^+ \to \omega \ell^+ \nu_\ell$. The range corresponds to the ISGW, WSB, and KS models. An upper limit on $|V_{ub}/V_{cb}| < 0.8–0.13$ at 90% CL is derived as well.

$\Gamma(\omega \mu^+ \nu_\mu)/\Gamma_{total}$ Γ_{26}/Γ

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.

$\Gamma(\rho^0 \ell^+ \nu_\ell)/\Gamma_{total}$ Γ_{27}/Γ

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

"OUR EVALUATION" is an average using rescaled values of the data listed below. The average and rescaling were performed by the Heavy Flavor Averaging Group (HFLAV) and are described at http://www.slac.stanford.edu/xorg/hflav/. The averaging/rescaling procedure takes into account correlations between the measurements and asymmetric lifetime errors.

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
1.58±0.11 OUR EVALUATION					
1.42±0.23 OUR AVERAGE		Error includes scale factor of 2.4. See the ideogram below.			
1.83±0.10±0.10		[1] SIBIDANOV	13	BELL	$e^+ e^- \to \Upsilon(4S)$
0.94±0.08±0.14		[2] DEL-AMO-SA...	11C	BABR	$e^+ e^- \to \Upsilon(4S)$
1.33±0.23±0.18		[3] HOKUUE	07	BELL	$e^+ e^- \to \Upsilon(4S)$
$1.34 \pm 0.15 ^{+0.28}_{-0.32}$		[4] BEHRENS	00	CLE2	$e^+ e^- \to \Upsilon(4S)$

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

$1.16 \pm 0.11 \pm 0.30$		[2] AUBERT,B	05O	BABR	Repl. by DEL-AMO-SANCHEZ 11C
$1.40 \pm 0.21 {}^{+0.32}_{-0.33}$		[4] BEHRENS	00	CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$
$1.2 \pm 0.2 {}^{+0.3}_{-0.4}$		[4] ALEXANDER	96T	CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$
<2.1	90	[5] BEAN	93B	CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$

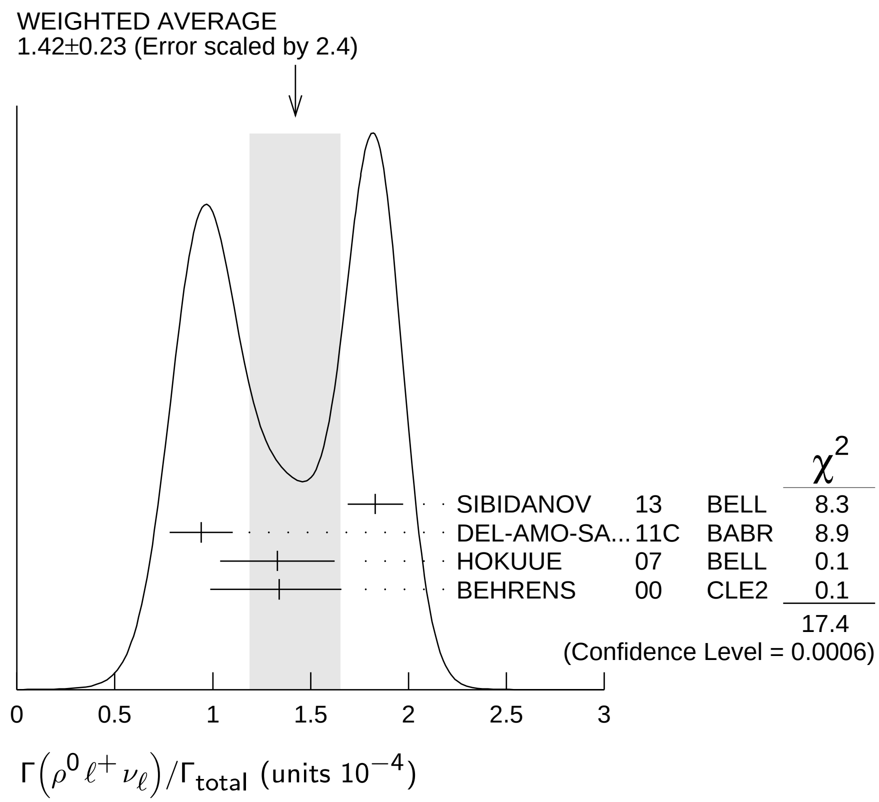
[1] The signal events are tagged by a second B meson reconstructed in the fully hadronic decays.

[2] B^+ and B^0 decays combined assuming isospin symmetry. Systematic errors include both experimental and form-factor uncertainties.

[3] The signal events are tagged by a second B meson reconstructed in the semileptonic mode $B \rightarrow D^{(*)} \ell \nu_\ell$.

[4] Derived based in the reported B^0 result by assuming isospin symmetry: $\Gamma(B^0 \rightarrow \rho^- \ell^+ \nu) = 2\Gamma(B^+ \rightarrow \rho^0 \ell^+ \nu) \approx 2\Gamma(B^+ \rightarrow \omega \ell^+ \nu)$.

[5] BEAN 93B limit set using ISGW Model. Using isospin and the quark model to combine $\Gamma(\omega^0 \ell^+ \nu_\ell)$ and $\Gamma(\rho^- \ell^+ \nu_\ell)$ with this result, they obtain a limit $<(1.6\text{–}2.7) \times 10^{-4}$ at 90% CL for $B^+ \rightarrow \rho^0 \ell^+ \nu_\ell$. The range corresponds to the ISGW, WSB, and KS models. An upper limit on $|V_{ub}/V_{cb}| < 0.8\text{–}0.13$ at 90% CL is derived as well.



$\Gamma(p\overline{p}\ell^+\nu_\ell)/\Gamma_{total}$ Γ_{28}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{5.8^{+2.4}_{-2.1} \pm 0.9}$	[1] TIEN	14	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(p\overline{p}\mu^+\nu_\mu)/\Gamma_{total}$ — Γ_{29}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<8.5 \times 10^{-6}$	90	[1] TIEN	14	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(p\overline{p}e^+\nu_e)/\Gamma_{total}$ — Γ_{30}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$8.2^{+3.7}_{-3.2}\pm0.6$		[1] TIEN	14	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<5200	90	[2] ADAM	03B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Based on phase-space model; if $V-A$ model is used, the 90% CL upper limit becomes $< 1.2 \times 10^{-3}$.

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

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$<$ 0.98	90	[1] SATOYAMA	07	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<$ 3.5	90	[2] YOOK	15	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$<$ 8	90	[1] AUBERT	10E	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<$ 1.9	90	[1] AUBERT	09V	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<$ 5.2	90	[1] AUBERT	08AD	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<$15	90	ARTUSO	95	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Assumes B($\Upsilon(4S) \rightarrow B^+B^-$) = 0.513 ± 0.006 .

$\Gamma(\mu^+\nu_\mu)/\Gamma_{total}$ — Γ_{32}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$<$ 1.0	90	[1] AUBERT	09V	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<$ 2.7	90	[2] YOOK	15	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$<$11	90	[1] AUBERT	10E	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<$ 5.6	90	[1] AUBERT	08AD	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<$ 1.7	90	[1] SATOYAMA	07	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$<$ 6.6	90	AUBERT	04O	BABR	Repl. by AUBERT 09V
$<$21	90	ARTUSO	95	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Assumes B($\Upsilon(4S) \rightarrow B^+B^-$) = 0.513 ± 0.006.

$\Gamma(\tau^+\nu_\tau)/\Gamma_{total}$ Γ_{33}/Γ

See the note on "Decay Constants of Charged Pseudoscalar Mesons" in the D_s^+ Listings.

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
1.09±0.24 OUR AVERAGE		Error includes scale factor of 1.2.		
$1.25 \pm 0.28 \pm 0.27$		[1,2] KRONENBIT...15	BELL	$e^+e^- \to \Upsilon(4S)$
$0.72^{+0.27}_{-0.25} \pm 0.11$		[3] HARA 13	BELL	$e^+e^- \to \Upsilon(4S)$
$1.83^{+0.53}_{-0.49} \pm 0.24$		[2,4] LEES 13K	BABR	$e^+e^- \to \Upsilon(4S)$
$1.7 \pm 0.8 \pm 0.2$		[2,5] AUBERT 10E	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.54^{+0.38}_{-0.37}{}^{+0.29}_{-0.31}$		[2,6] HARA 10	BELL	Repl. by KRONENBITTER 15
$1.8 \ {}^{+0.9}_{-0.8} \pm 0.45$		[2,7] AUBERT 08D	BABR	Repl. by LEES 13K
$0.9 \pm 0.6 \pm 0.1$		[2,5] AUBERT 07AL	BABR	Repl. by AUBERT 10E
< 2.6	90	[2] AUBERT 06K	BABR	$e^+e^- \to \Upsilon(4S)$
$1.79^{+0.56}_{-0.49}{}^{+0.46}_{-0.51}$		[2,7] IKADO 06	BELL	Repl. by HARA 13
< 4.2	90	[2] AUBERT,B 05B	BABR	Repl. by AUBERT 06K
< 8.3	90	[8] BARATE 01E	ALEP	$e^+e^- \to Z$
< 8.4	90	[2] BROWDER 01	CLE2	$e^+e^- \to \Upsilon(4S)$
< 5.7	90	[9] ACCIARRI 97F	L3	$e^+e^- \to Z$
<104	90	[10] ALBRECHT 95D	ARG	$e^+e^- \to \Upsilon(4S)$
< 22	90	ARTUSO 95	CLE2	$e^+e^- \to \Upsilon(4S)$
< 18	90	[11] BUSKULIC 95	ALEP	$e^+e^- \to Z$

[1] Requires one reconstructed semileptonic B decay $B^- \to D^{(*)0}\ell^-\overline{\nu}_\ell$ in the recoil.

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

[3] The authors combine their result with that from HARA 10 obtaining B($B^- \to \tau^-\overline{\nu}_\tau$)=(0.96 ± 0.26) × 10^{-4} and deriving $f_B\,|V_{ub}|$=(7.4 ± 0.8 ± 0.5) × 10^{-4} GeV.

[4] Requires a fully reconstructed hadronic B-decay in the recoil. Reports that this result combined with AUBERT 10E value gives B($B^- \to \tau^-\overline{\nu}_\tau$) = (1.79 ± 0.48) × 10^{-4}.

[5] Requires one reconstructed semileptonic B decay $B^- \to D^0\ell^-\overline{\nu}_\ell X$ in the recoil.

[6] Requires one reconstructed semileptonic B decay $B^- \to D^{(*)0}\ell^-\overline{\nu}_\ell X$ in the recoil.

[7] The analysis is based on a sample of events with one fully reconstructed tag B in a hadronic decay mode $B^- \to D^{(*)0}X^-$.

[8] The energy-flow and b-tagging algorithms were used.

[9] ACCIARRI 97F uses missing-energy technique and $f(b \to B^-)$ = (38.2 ± 2.5)%.

[10] ALBRECHT 95D uses full reconstruction of one B decay as tag.

[11] BUSKULIC 95 uses same missing-energy technique as in $\overline{b} \to \tau^+\nu_\tau$X, but analysis is restricted to endpoint region of missing-energy distribution.

$\Gamma(\ell^+\nu_\ell\gamma)/\Gamma_{total}$ Γ_{34}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$< 3.5 \times 10^{-6}$	90	[1] HELLER 15	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$<15.6 \times 10^{-6}$	90	[1] AUBERT 09AT	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(e^+\nu_e\gamma)/\Gamma_{total}$ — Γ_{35}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
< 6.1 × 10⁻⁶ → $\mathbf{<6.1\times10^{-6}}$	90	[1] HELLER	15	BELL	$e^+e^-\to\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<17\times10^{-6}$	90	[1] AUBERT	09AT	BABR	$e^+e^-\to\Upsilon(4S)$
$<200\times10^{-6}$	90	[2] BROWDER	97	CLE2	$e^+e^-\to\Upsilon(4S)$

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

[2] BROWDER 97 uses the hermiticity of the CLEO II detector to reconstruct the neutrino energy and momentum.

$\Gamma(\mu^+\nu_\mu\gamma)/\Gamma_{total}$ — Γ_{36}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{<3.4\times10^{-6}}$	90	[1] HELLER	15	BELL	$e^+e^-\to\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<24\times10^{-6}$	90	[1,2] AUBERT	09AT	BABR	$e^+e^-\to\Upsilon(4S)$
$<52\times10^{-6}$	90	[3] BROWDER	97	CLE2	$e^+e^-\to\Upsilon(4S)$

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

[2] Note that the value given by Aubert 2009 is 24 E-6 in the paper abstract, and 26 E-6 in the paper itself (Table I).

[3] BROWDER 97 uses the hermiticity of the CLEO II detector to reconstruct the neutrino energy and momentum.

$\Gamma(D^0X)/\Gamma_{total}$ — Γ_{37}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.086\pm0.006\pm0.004}$	[1] AUBERT	07N	BABR	$e^+e^-\to\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.098\pm0.009\pm0.006$	[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.

$\Gamma(\overline{D}^0X)/\Gamma_{total}$ — Γ_{38}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.786\pm0.016^{+0.034}_{-0.033}}$	[1] AUBERT	07N	BABR	$e^+e^-\to\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.793\pm0.025^{+0.045}_{-0.044}$	[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.

$\Gamma(D^0X)/[\Gamma(D^0X)+\Gamma(\overline{D}^0X)]$ — $\Gamma_{37}/(\Gamma_{37}+\Gamma_{38})$

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.098\pm0.007\pm0.001}$	AUBERT	07N	BABR	$e^+e^-\to\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.110\pm0.010\pm0.003$	AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

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

VALUE	DOCUMENT ID		TECN	COMMENT
0.025±0.005±0.002	[1] AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.038±0.009±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.

$\Gamma(D^-X)/\Gamma_{total}$ — Γ_{40}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.099±0.008±0.009	[1] AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.098±0.012±0.014	[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.

$\Gamma(D^+X)/[\Gamma(D^+X)+\Gamma(D^-X)]$ — $\Gamma_{39}/(\Gamma_{39}+\Gamma_{40})$

VALUE	DOCUMENT ID		TECN	COMMENT
0.204±0.035±0.001	AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.278±0.052±0.009	AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

$\Gamma(D_s^+X)/\Gamma_{total}$ — Γ_{41}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.079 \pm 0.006 ^{+0.013}_{-0.011}}$	[1] AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.143 \pm 0.016 ^{+0.051}_{-0.034}$	[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.

$\Gamma(D_s^-X)/\Gamma_{total}$ — Γ_{42}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.011 ^{+0.004}_{-0.003} {}^{+0.002}_{-0.001}}$		[1] AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.022	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.

$\Gamma(D_s^+X)/[\Gamma(D_s^+X)+\Gamma(D_s^-X)]$ — $\Gamma_{41}/(\Gamma_{41}+\Gamma_{42})$

VALUE	DOCUMENT ID		TECN	COMMENT
0.884±0.038±0.002	AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.966±0.039±0.012	AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

$\Gamma(D_s^- X)/[\Gamma(D_s^+ X)+\Gamma(D_s^- X)]$ — $\Gamma_{42}/(\Gamma_{41}+\Gamma_{42})$

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.126	90	AUBERT,BE	04B	BABR	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\Lambda_c^+ X)/\Gamma_{total}$ — Γ_{43}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.021\pm0.005^{+0.008}_{-0.004}}$	[1] AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.029\pm0.008^{+0.011}_{-0.007}$	[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.

$\Gamma(\overline{\Lambda}_c^- X)/\Gamma_{total}$ — Γ_{44}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.028\pm0.005^{+0.010}_{-0.007}}$	[1] AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.035\pm0.008^{+0.013}_{-0.009}$	[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.

$\Gamma(\Lambda_c^+ X)/[\Gamma(\Lambda_c^+ X)+\Gamma(\overline{\Lambda}_c^- X)]$ — $\Gamma_{43}/(\Gamma_{43}+\Gamma_{44})$

VALUE	DOCUMENT ID		TECN	COMMENT
0.427±0.071±0.001	AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.452±0.090±0.003	AUBERT,BE	04B	BABR	Repl. by AUBERT 07N

$\Gamma(\overline{c} X)/\Gamma_{total}$ — Γ_{45}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.968\pm0.019^{+0.041}_{-0.039}}$	[1] AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.983\pm0.030^{+0.054}_{-0.051}$	[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.

$\Gamma(c X)/\Gamma_{total}$ — Γ_{46}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.234\pm0.012^{+0.018}_{-0.014}}$	[1] AUBERT	07N	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.330\pm0.022^{+0.055}_{-0.037}$	[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.

$\Gamma(c/\overline{c}X)/\Gamma_{total}$ — Γ_{47}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$1.202\pm0.023^{+0.053}_{-0.049}$	[1] AUBERT	07N	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.313\pm0.037^{+0.088}_{-0.075}$	[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.

$\Gamma(\overline{D}^0\pi^+)/\Gamma_{total}$ — Γ_{48}/Γ

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
4.80±0.15 OUR FIT					
4.83±0.15 OUR AVERAGE					
$4.90\pm0.07\pm0.22$		[1] AUBERT	07H	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$5.0\ \pm0.6\ \pm0.3$		[2] ABULENCIA	06J	CDF	$p\overline{p}$ at 1.96 TeV
$4.49\pm0.21\pm0.23$		[3] AUBERT,BE	06J	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$4.97\pm0.12\pm0.29$		[1,4] AHMED	02B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
$5.0\ \pm0.7\ \pm0.6$	54	[5] BORTOLETTO	92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
$5.4\ ^{+1.8}_{-1.5}\ ^{+1.2}_{-0.9}$	14	[6] BEBEK	87	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$4.74\pm0.26\pm0.05$		[7] AUBERT,B	04P	BABR	Repl. by AUBERT 07H
$5.5\ \pm0.4\ \pm0.5$	304	[8] ALAM	94	CLE2	Repl. by AHMED 02B
$2.0\ \pm0.8\ \pm0.6$	12	[5] ALBRECHT	90J	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
$1.9\ \pm1.0\ \pm0.6$	7	[9] ALBRECHT	88K	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

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

[2] ABULENCIA 06J reports $[\Gamma(B^+ \rightarrow \overline{D}^0\pi^+)/\Gamma_{total}]$ / $[B(B^0 \rightarrow D^-\pi^+)] = 1.97 \pm 0.10 \pm 0.21$ which we multiply by our best value $B(B^0 \rightarrow D^-\pi^+) = (2.52 \pm 0.13) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[3] Uses a missing-mass method. Does not depend on D branching fractions or B^+/B^0 production rates.

[4] 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.

[5] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses the Mark III branching fractions for the D.

[6] BEBEK 87 value has been updated in BERKELMAN 91 to use same assumptions as noted for BORTOLETTO 92.

[7] AUBERT,B 04P reports $[\Gamma(B^+ \rightarrow \overline{D}^0\pi^+)/\Gamma_{total}] \times [B(D^0 \rightarrow K^-\pi^+)] = (1.846 \pm 0.032 \pm 0.097) \times 10^{-4}$ which we divide by our best value $B(D^0 \rightarrow K^-\pi^+) = (3.89 \pm 0.04) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[8] 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 $B(D^0 \rightarrow K^-2\pi^+\pi^-)/B(D^0 \rightarrow K^-\pi^+)$.

[9] ALBRECHT 88K assumes $B^0\overline{B}^0$:B^+B^- ratio is 45:55. Superseded by ALBRECHT 90J.

$\Gamma(\overline{D}^0\rho^+)/\Gamma_{total}$ Γ_{51}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0134±0.0018 OUR AVERAGE					
0.0135±0.0012±0.0015	212	[1] ALAM	94	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
0.013 ±0.004 ±0.004	19	[2] ALBRECHT	90J	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.021 ±0.008 ±0.009	10	[3] ALBRECHT	88K	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

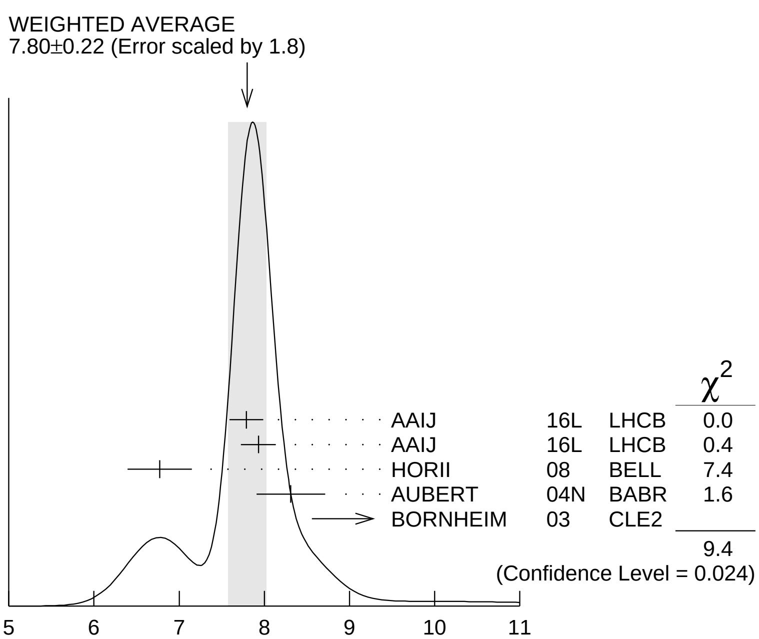
[1] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II absolute B($D^0 \rightarrow K^-\pi^+$) and the PDG 1992 B($D^0 \rightarrow K^-\pi^+\pi^0$)/B($D^0 \rightarrow K^-\pi^+$) and B($D^0 \rightarrow K^-2\pi^+\pi^-$)/B($D^0 \rightarrow K^-\pi^+$).

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses the Mark III branching fractions for the D.

[3] ALBRECHT 88K assumes $B^0\overline{B}^0$:B^+B^- ratio is 45:55.

$\Gamma(\overline{D}^0K^+)/\Gamma(\overline{D}^0\pi^+)$ Γ_{52}/Γ_{48}

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
7.80±0.22 OUR AVERAGE	Error includes scale factor of 1.8. See the ideogram below.			
7.79±0.06±0.19	AAIJ	16L	LHCB	pp at 7, 8 TeV
7.93±0.10±0.18	[1] AAIJ	16L	LHCB	pp at 7, 8 TeV
6.77±0.23±0.30	HORII	08	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
8.31±0.35±0.20	AUBERT	04N	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$9.9\ ^{+1.4}_{-1.2}\ ^{+0.7}_{-0.6}$	BORNHEIM	03	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
7.71±0.17±0.26	[1] AAIJ	13AE	LHCB	Repl. by AAIJ 16L
7.74±0.12±0.19	AAIJ	12M	LHCB	Repl. by AAIJ 16L
9.4 ±0.9 ±0.7	ABE	03D	BELL	Repl. by SWAIN 03
7.7 ±0.5 ±0.6	SWAIN	03	BELL	Repl. by HORII 08
7.9 ±0.9 ±0.6	ABE	01I	BELL	Repl. by ABE 03D
5.5 ±1.4 ±0.5	ATHANAS	98	CLE2	Repl. by BORNHEIM 03



$\Gamma(\overline{D}^0K^+)/\Gamma(\overline{D}^0\pi^+)$ (units 10^{-2})

[1] Uses $B^{\pm} \rightarrow [K^{\pm}\pi^{\mp}\pi^{+}\pi^{-}]_D h^{\pm}$ mode.

$\Gamma(D_{CP(+1)}K^+)/\Gamma(D_{CP(+1)}\pi^+)$ Γ_{53}/Γ_{49}

VALUE	DOCUMENT ID		TECN	COMMENT
0.088±0.007 OUR AVERAGE				
0.088±0.008±0.003	[1,2] ABE	06	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
0.088±0.016±0.005	[3] AUBERT	04N	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.125±0.036±0.010	[3] ABE	03D	BELL	Repl. by SWAIN 03
0.093±0.018±0.008	[3] SWAIN	03	BELL	Repl. by ABE 06

[1] Reports a double ratio of B($B^+ \rightarrow D_{CP(+1)}K^+$)/B($B^+ \rightarrow D_{CP(+1)}\pi^+$) and B($B^+ \rightarrow \overline{D}^0 K^+$)/B($B^+ \rightarrow \overline{D}^0\pi^+$), 1.13 ± 0.16 ± 0.08. We multiply by our best value of B($B^+ \rightarrow \overline{D}^0 K^+$)/B($B^+ \rightarrow \overline{D}^0\pi^+$) = 0.083 ± 0.006. Our first error is their experiment's error and the second error is systematic error from using our best value.

[2] ABE 06 reports [$\Gamma(B^+ \rightarrow D_{CP(+1)}K^+)/\Gamma(B^+ \rightarrow D_{CP(+1)}\pi^+)$] / [$\Gamma(B^+ \rightarrow \overline{D}^0 K^+)/\Gamma(B^+ \rightarrow \overline{D}^0\pi^+)$] = 1.13 ± 0.06 ± 0.08 which we multiply by our best value $\Gamma(B^+ \rightarrow \overline{D}^0 K^+)/\Gamma(B^+ \rightarrow \overline{D}^0\pi^+)$ = 0.0780 ± 0.0022. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[3] CP=+1 eigenstate of $D^0\overline{D}^0$ system is reconstructed via K^+K^- and $\pi^+\pi^-$.

$\Gamma(D_{CP(+1)}K^+)/\Gamma(\overline{D}^0 K^+)$ Γ_{53}/Γ_{52}

VALUE	DOCUMENT ID		TECN	COMMENT
0.497±0.025 OUR AVERAGE	Error includes scale factor of 1.9.			
0.489±0.010±0.009	[1] AAIJ	16L	LHCB	pp at 7, 8 TeV
0.65 ±0.12 ±0.06	[2] AALTONEN	10A	CDF	$p\overline{p}$ at 1.96 TeV
0.590±0.045±0.025	[3] DEL-AMO-SA...	10G	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.504±0.019±0.006	[4] AAIJ	12M	LHCB	Repl. by AAIJ 16L
0.53 ±0.05 ±0.025	AUBERT	08AA	BABR	Repl. by DEL-AMO-SANCHEZ 10G
0.45 ±0.06 ±0.02	AUBERT	06J	BABR	Repl. by AUBERT 08AA

[1] AAIJ 16L reports R_{CP+} = 0.978 ± 0.019 ± 0.018 which we have divided by 2.

[2] Reports R_{CP+} = 2 (B($B^- \rightarrow D_{CP(+1)}K^-$) + B($B^+ \rightarrow D_{CP(+1)}K^+$)) / (B($B^- \rightarrow D^0 K^-$) + B($B^+ \rightarrow \overline{D}^0 K^+$)) = 1.30 ± 0.24 ± 0.12 that we have divided by 2.

[3] Reports R_{CP+} = 1.18 ± 0.09 ± 0.05 that we have divided by 2.

[4] AAIJ 12M reports R_{CP+} = 1.007 ± 0.038 ± 0.012 which we have divided by 2.

$\Gamma(D_{CP(-1)}K^+)/\Gamma(D_{CP(-1)}\pi^+)$ Γ_{54}/Γ_{50}

VALUE	DOCUMENT ID		TECN	COMMENT
0.097±0.016±0.007	[1] ABE	06	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.119±0.028±0.006	[2] ABE	03D	BELL	Repl. by SWAIN 03
0.108±0.019±0.007	[2] SWAIN	03	BELL	Repl. by ABE 06

[1] Reports a double ratio of B($B^+ \to D_{CP(-1)} K^+$)/B($B^+ \to D_{CP(-1)} \pi^+$) and B($B^+ \to \overline{D}^0 K^+$)/B($B^+ \to \overline{D}^0 \pi^+$), 1.17 ± 0.14 ± 0.14. We multiply by our best value of B($B^+ \to \overline{D}^0 K^+$)/B($B^+ \to \overline{D}^0 \pi^+$) = 0.083 ± 0.006. Our first error is their experiment's error and the second error is systematic error from using our best value.

[2] CP=−1 eigenstate of $D^0 \overline{D}^0$ system is reconstructed via $K^0_S \pi^0$, $K^0_S \omega$, $K^0_S \phi$, $K^0_S \eta$, and $K^0_S \eta'$.

$\Gamma(D_{CP(-1)} K^+)/\Gamma(\overline{D}^0 K^+)$ — Γ_{54}/Γ_{52}

VALUE	DOCUMENT ID		TECN	COMMENT
0.54 ±0.04±0.02	[1] DEL-AMO-SA..10G		BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.515±0.05±0.025	AUBERT	08AA	BABR	Repl. by DEL-AMO-SANCHEZ 10G
0.43 ±0.05±0.02	AUBERT	06J	BABR	Repl. by AUBERT 08AA

[1] Reports R_{CP+} = 1.07 ± 0.08 ± 0.04 that we have divided by 2.

$\Gamma([K^- \pi^+]_D K^+)/\Gamma_{total}$ — Γ_{55}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<2.8 × 10⁻⁷	90	HORII	08	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<6.3 \times 10^{-7}$	90	SAIGO	05	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma([K^- \pi^+]_D K^+)/\Gamma([K^+ \pi^-]_D K^+)$ — Γ_{55}/Γ_{56}

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
18.3±1.4 OUR AVERAGE					
18.8±1.1±1.0		AAIJ	16L	LHCB	pp at 7, 8 TeV
22.0±8.6±2.6		[1] AALTONEN	11AJ	CDF	$p\overline{p}$ at 1.96 TeV
$16.3^{+4.4}_{-4.1}{}^{+0.7}_{-1.3}$		HORII	11	BELL	$e^+ e^- \to \Upsilon(4S)$
11 ±6 ±2		DEL-AMO-SA..10H		BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
15.2±2.0±0.4		AAIJ	12M	LHCB	Repl. by AAIJ 16L
$7.8^{+6.2}_{-5.7}{}^{+2.0}_{-2.8}$		HORII	08	BELL	Repl. by HORII 11
<29	90	[2] AUBERT	05G	BABR	Repl. by DEL-AMO-SANCHEZ 10H
<44	90	[3] SAIGO	05	BELL	$e^+ e^- \to \Upsilon(4S)$
<26	90	[4] AUBERT,B	04L	BABR	Repl. by AUBERT 05G

[1] AALTONEN 11AJ also measures the ratio separately for B^+ ($R^+(K)$) and B^- ($R^-(K)$) and obtains: $R^+(K) = (42.6 \pm 13.7 \pm 2.8) \times 10^{-3}$, $R^-(K) = (3.8 \pm 10.3 \pm 2.7) \times 10^{-3}$.

[2] AUBERT 05G extract a constraint on the magnitude of the ratio of amplitudes $|A(B^+ \to D^0 K^+) / A(B^+ \to \overline{D}^0 K^+)| < 0.23$ at 90% CL (Bayesian). Similar measurements from $B^+ \to D^{*0} K^+$ are also reported.

[3] SAIGO 05 extract a constraint on the magnitude of the ratio of amplitudes $|A(B^+ \to D^0 K^+) / A(B^+ \to \overline{D}^0 K^+)| < 0.27$ at 90% CL.

[4] AUBERT,B 04L extract a constraint on the magnitude of the ratio of amplitudes $|A(B^+ \to D^0 K^+)/A(B^+ \to \overline{D}^0 K^+)| < 0.22$ at 90% CL.

$\Gamma([K^-\pi^+\pi^0]_D K^+)/\Gamma([K^+\pi^-\pi^0]_D K^+)$ — Γ_{57}/Γ_{58}

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
16 ±4 OUR AVERAGE					
14.0±4.7±2.1		[1] AAIJ	15W	LHCB	pp at 7, 8 TeV
19.8±6.2±2.4		NAYAK	13	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<21	90	[2] LEES	11D	BABR	$e^+e^- \to \Upsilon(4S)$
<39	95	[3] AUBERT	07BN	BABR	Repl. by LEES 11D

[1] Uses $D^0 \to K^-\pi^+\pi^0$ for the favored mode, and $D^0 \to K^+\pi^-\pi^0$ for the suppressed mode.

[2] Extracts a constraint on the magnitude of the ratio of amplitudes $|A(B^+ \to D^0 K^+)/A(B^+ \to \overline{D}^0 K^+)| < 0.13$ at 95% CL.

[3] Extracts a constraint on the magnitude of the ratio of amplitudes $|A(B^+ \to D^0 K^+)/A(B^+ \to \overline{D}^0 K^+)| < 0.19$ at 95% CL.

$\Gamma([K^-\pi^+\pi^+\pi^-]_D K^+)/\Gamma([K^+\pi^-\pi^+\pi^-]_D K^+)$ — Γ_{59}/Γ_{60}

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
1.40±0.15±0.06	AAIJ	16L	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.24±0.27	AAIJ	13AE	LHCB	Repl. by AAIJ 16L

$\Gamma([\pi^+\pi^+\pi^-\pi^-]K^+)/\Gamma([K^+\pi^-\pi^+\pi^-]_D K^+)$ — Γ_{61}/Γ_{60}

VALUE	DOCUMENT ID		TECN	COMMENT
0.975±0.037±0.019	AAIJ	16L	LHCB	pp at 7, 8 TeV

$\Gamma([K^-\pi^+]_D K^*(892)^+)/\Gamma([K^+\pi^-]_D K^*(892)^+)$ — Γ_{62}/Γ_{63}

VALUE	DOCUMENT ID		TECN	COMMENT
0.066±0.031±0.010	AUBERT	09AJ	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.046±0.031±0.008	AUBERT,B	05V	BABR	Repl. by AUBERT 09AJ

$\Gamma([K^-\pi^+]_D\pi^+)/\Gamma_{total}$ — Γ_{64}/Γ

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$6.29^{+1.02+0.37}_{-0.98-0.48}$	HORII	08	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$6.6^{+1.9}_{-1.7}\pm0.5$	SAIGO	05	BELL	Repl. by HORII 08

$\Gamma([K^-\pi^+]_D\pi^+)/\Gamma([K^+\pi^-]_D\pi^+)$ — Γ_{64}/Γ_{65}

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
3.53±0.14 OUR AVERAGE				
3.60±0.12±0.09	AAIJ	16L	LHCB	pp at 7, 8 TeV
2.8 ±0.7 ±0.4	[1] AALTONEN	11AJ	CDF	$p\overline{p}$ at 1.96 TeV
$3.28^{+0.38+0.12}_{-0.36-0.18}$	HORII	11	BELL	$e^+e^- \to \Upsilon(4S)$
3.3 ±0.6 ±0.4	DEL-AMO-SA..	10H	BABR	$e^+e^- \to \Upsilon(4S)$

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

$4.10\pm0.25\pm0.05$	AAIJ	12M	LHCB	Repl. by AAIJ 16L
$3.40^{+0.55}_{-0.53}{}^{+0.15}_{-0.22}$	HORII	08	BELL	Repl. by HORII 11
$3.5\ ^{+1.0}_{-0.9}\ \pm0.2$	SAIGO	05	BELL	Repl. by HORII 08

[1] AALTONEN 11AJ also measures the ratio separately for B^+ ($R^+(\pi)$) and B^- ($R^-(\pi)$) and obtains: $R^+(\pi) = (2.4 \pm 1.0 \pm 0.4) \times 10^{-3}$, $R^-(K) = (3.1 \pm 1.1 \pm 0.4) \times 10^{-3}$.

$\Gamma([K^-\pi^+\pi^0]_D\pi^+)/\Gamma([K^+\pi^-\pi^0]_D\pi^+)$ — Γ_{66}/Γ_{67}

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
2.2 ±0.4 OUR AVERAGE				
$2.35\pm0.49\pm0.06$	[1] AAIJ	15W	LHCB	pp at 7, 8 TeV
$1.89\pm0.54^{+0.22}_{-0.25}$	NAYAK	13	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Uses $D^0 \rightarrow K^-\pi^+\pi^0$ for the favored mode, and $D^0 \rightarrow K^+\pi^-\pi^0$ for the suppressed mode.

$\Gamma([K^-\pi^+\pi^+\pi^-]_D\pi^+)/\Gamma([K^+\pi^-\pi^+\pi^-]_D\pi^+)$ — Γ_{68}/Γ_{69}

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
3.77±0.18±0.06	AAIJ	16L	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$3.7\ \pm0.4$	AAIJ	13AE	LHCB	Repl. by AAIJ 16L

$\Gamma([K^-\pi^+]_{(D\pi)}\pi^+)/\Gamma([K^+\pi^-]_{(D\pi)}\pi^+)$ — Γ_{70}/Γ_{71}

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
3.2±0.9±0.8	DEL-AMO-SA..	10H	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

$\Gamma([K^-\pi^+]_{(D\gamma)}\pi^+)/\Gamma([K^+\pi^-]_{(D\gamma)}\pi^+)$ — Γ_{72}/Γ_{73}

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
2.7±1.4±2.2	DEL-AMO-SA..	10H	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

$\Gamma([K^-\pi^+]_{(D\pi)}K^+)/\Gamma([K^+\pi^-]_{(D\pi)}K^+)$ — Γ_{74}/Γ_{75}

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
1.8±0.9±0.4	DEL-AMO-SA..	10H	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

$\Gamma([K^-\pi^+]_{(D\gamma)}K^+)/\Gamma([K^+\pi^-]_{(D\gamma)}K^+)$ — Γ_{76}/Γ_{77}

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
1.3±1.4±0.8	DEL-AMO-SA..	10H	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

$\Gamma([\pi^+\pi^-\pi^0]_D K^-)/\Gamma_{total}$ — Γ_{78}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
4.6±0.8±0.4	[1] AUBERT	07BJ	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$5.5\pm1.0\pm0.7$	[1] AUBERT,B	05T	BABR	Repl. by AUBERT 07BJ

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

$\Gamma([K^0_S K^+ \pi^-]_D K^+)/\Gamma([K^0_S K^+ \pi^-]_D \pi^+)$ — Γ_{79}/Γ_{84}

VALUE	DOCUMENT ID		TECN	COMMENT
0.092±0.009±0.004	[1] AAIJ	14V	LHCB	pp at 7, 8 TeV

[1] The anaysis uses all of $D \to K^0_S K\pi$ Dalitz decays.

$\Gamma([K^0_S K^- \pi^+]_D K^+)/\Gamma([K^0_S K^- \pi^+]_D \pi^+)$ — Γ_{80}/Γ_{82}

VALUE	DOCUMENT ID		TECN	COMMENT
0.066±0.009±0.002	[1] AAIJ	14V	LHCB	pp at 7, 8 TeV

[1] The anaysis uses all of $D \to K^0_S K\pi$ Dalitz decays.

$\Gamma([K^0_S K^- \pi^+]_D K^+)/\Gamma([K^0_S K^+ \pi^-]_D \pi^+)$ — Γ_{80}/Γ_{84}

VALUE	DOCUMENT ID		TECN	COMMENT
0.084±0.011±0.003	[1] AAIJ	14V	LHCB	pp at 7, 8 TeV

[1] The Analysis uses $D \to K^*(892) K \to K^0_S K\pi$ decays.

$\Gamma([K^*(892)^+ K^-]_D K^+)/\Gamma([K^*(892)^- K^+]_D \pi^+)$ — Γ_{81}/Γ_{85}

VALUE	DOCUMENT ID		TECN	COMMENT
0.056±0.013±0.002	[1] AAIJ	14V	LHCB	pp at 7, 8 TeV

[1] The Analysis uses $D \to K^*(892) K \to K^0_S K\pi$ decays.

$\Gamma([K^+ K^- \pi^0]_D K^+)/\Gamma([K^+ K^- \pi^0]_D \pi^+)$ — Γ_{86}/Γ_{87}

VALUE	DOCUMENT ID		TECN	COMMENT
0.95±0.22±0.05	[1] AAIJ	15W	LHCB	pp at 7, 8 TeV

[1] Uses $D \to K^+ K^- \pi^0$ mode.

$\Gamma([\pi^+ \pi^- \pi^0]_D K^+)/\Gamma([\pi^+ \pi^- \pi^0]_D \pi^+)$ — Γ_{88}/Γ_{89}

VALUE	DOCUMENT ID		TECN	COMMENT
0.98±0.11±0.05	[1] AAIJ	15W	LHCB	pp at 7, 8 TeV

[1] Uses $D \to \pi^+ \pi^- \pi^0$ mode.

$\Gamma([K^0_S K^+ \pi^-]_D \pi^+)/\Gamma([K^0_S K^- \pi^+]_D \pi^+)$ — Γ_{84}/Γ_{82}

VALUE	DOCUMENT ID		TECN	COMMENT
1.528±0.058±0.025	[1] AAIJ	14V	LHCB	pp at 7, 8 TeV

[1] The anaysis uses all of $D \to K^0_S K\pi$ Dalitz decays.

$\Gamma([K^*(892)^- K^+]_D \pi^+)/\Gamma([K^*(892)^+ K^-]_D \pi^+)$ — Γ_{85}/Γ_{83}

VALUE	DOCUMENT ID		TECN	COMMENT
2.57±0.13±0.06	[1] AAIJ	14V	LHCB	pp at 7, 8 TeV

[1] The Analysis uses $D \to K^*(892) K \to K^0_S K\pi$ decays.

$\Gamma(\overline{D}^0 K^*(892)^+)/\Gamma_{total}$ — Γ_{90}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
5.3 ±0.4 OUR AVERAGE				
5.29±0.30±0.34	[1] AUBERT	06Z	BABR	$e^+ e^- \to \Upsilon(4S)$
6.1 ±1.6 ±1.7	[1] MAHAPATRA	02	CLE2	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
6.3 ±0.7 ±0.5	[1] AUBERT	04Q	BABR	Repl. by AUBERT 06Z

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

$\Gamma(D_{CP(-1)} K^*(892)^+)/\Gamma(\overline{D}^0 K^*(892)^+)$ — Γ_{91}/Γ_{90}

VALUE	DOCUMENT ID		TECN	COMMENT
0.515±0.135±0.065	[1] AUBERT	09AJ	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.325±0.13 ±0.04	[2] AUBERT,B	05U	BABR	Repl. by AUBERT 09AJ

[1] The authors report $R_{CP-} = 1.03 \pm 0.27 \pm 0.13$ which is, assuming CP conservation, twice the value of the quoted above branching ratio,

[2] The authors report $R_{CP-} = 0.65 \pm 0.26 \pm 0.08$ which is, assuming CP conservation, twice the value of the quoted above branching ratio.

$\Gamma(D_{CP(+1)} K^*(892)^+)/\Gamma(\overline{D}^0 K^*(892)^+)$ — Γ_{92}/Γ_{90}

VALUE	DOCUMENT ID		TECN	COMMENT
1.085±0.175±0.045	[1] AUBERT	09AJ	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.98 ±0.20 ±0.055	[2] AUBERT,B	05U	BABR	Repl. by AUBERT 09AJ

[1] The authors report $R_{CP+} = 2.17 \pm 0.35 \pm 0.09$ which is, assuming CP conservation, twice the value of the quoted above branching ratio,

[2] The authors report $R_{CP+} = 1.96 \pm 0.40 \pm 0.11$ which is, assuming CP conservation, twice the value of the quoted above branching ratio.

$\Gamma(\overline{D}^0 K^+ \pi^+ \pi^-)/\Gamma(\overline{D}^0 \pi^+ \pi^+ \pi^-)$ — Γ_{93}/Γ_{99}

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
9.4±1.3±0.9	AAIJ	12T	LHCB	pp at 7 TeV

$\Gamma(D_{CP(+1)} K^+ \pi^- \pi^+)/\Gamma([K^+ \pi^-]_D K^+ \pi^- \pi^+)$ — Γ_{96}/Γ_{94}

VALUE	DOCUMENT ID		TECN	COMMENT
1.040±0.064	AAIJ	15BC	LHCB	pp at 7, 8 TeV

$\Gamma([K^- \pi^+]_D K^+ \pi^- \pi^+)/\Gamma([K^+ \pi^-]_D K^+ \pi^- \pi^+)$ — Γ_{95}/Γ_{94}

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$\mathbf{85^{+36}_{-33}}$	AAIJ	15BC	LHCB	pp at 7, 8 TeV

$\Gamma(\overline{D}^0 K^+ \overline{K}^0)/\Gamma_{total}$ — Γ_{97}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
5.5±1.4±0.8	[1] DRUTSKOY	02	BELL	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}^0 K^+ \overline{K}^*(892)^0)/\Gamma_{total}$ — Γ_{98}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
7.5±1.3±1.1	[1] DRUTSKOY	02	BELL	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}^0 \pi^+ \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{99}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.0057±0.0022 OUR FIT Error includes scale factor of 3.6.				
0.0115±0.0029±0.0021	[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.

$\Gamma(\overline{D}^0\pi^+\pi^+\pi^-)/\Gamma(\overline{D}^0\pi^+)$ — Γ_{99}/Γ_{48}

VALUE	DOCUMENT ID	TECN	COMMENT
1.2 ±0.4 OUR FIT Error includes scale factor of 3.8.			
1.27±0.06±0.11	AAIJ 11E	LHCB	pp at 7 TeV

$\Gamma([K^-\pi^+]_D\pi^+\pi^-\pi^+)/\Gamma([K^+\pi^-]_D K^+\pi^-\pi^+)$ — Γ_{100}/Γ_{94}

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
42.7±5.6	AAIJ 15BC	LHCB	pp at 7, 8 TeV

$\Gamma(\overline{D}^0\pi^+\pi^+\pi^-$ nonresonant$)/\Gamma_{total}$ — Γ_{101}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
0.0051±0.0034±0.0023	[1] BORTOLETTO92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\overline{D}^0\pi^+\rho^0)/\Gamma_{total}$ — Γ_{102}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
0.0042±0.0023±0.0020	[1] BORTOLETTO92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\overline{D}^0 a_1(1260)^+)/\Gamma_{total}$ — Γ_{103}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
0.0045±0.0019±0.0031	[1] BORTOLETTO92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\overline{D}^0\omega\pi^+)/\Gamma_{total}$ — Γ_{104}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
0.0041±0.0007±0.0006	[1] ALEXANDER 01B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

[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.

$\Gamma(D^*(2010)^-\pi^+\pi^+)/\Gamma_{total}$ — Γ_{105}/Γ

VALUE (units 10^{-3})	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
1.35±0.22 OUR AVERAGE					
1.25±0.08±0.22			[1] ABE 04D	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
1.9 ±0.7 ±0.3		14	[2] ALAM 94	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
2.6 ±1.4 ±0.7		11	[3] ALBRECHT 90J	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
$2.4\ ^{+1.7}_{-1.6}\ ^{+1.0}_{-0.6}$		3	[4] BEBEK 87	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<4.	90		[5] BORTOLETTO92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
5. ±2. ±3.		7	[6] ALBRECHT 87C	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[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($D^0 \to K^-\pi^+$).
[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses the Mark III branching fractions for the D.
[4] BEBEK 87 value has been updated in BERKELMAN 91 to use same assumptions as noted for BORTOLETTO 92.
[5] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D and $D^*(2010)$. The authors also find the product branching fraction into $D^{**}\pi$ followed by $D^{**} \to D^*(2010)\pi$ to be $0.0014^{+0.0008}_{-0.0006} \pm 0.0003$ where D^{**} represents all orbitally excited D mesons.
[6] 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.

$\Gamma(\overline{D}_1(2420)^0\pi^+,\ \overline{D}_1^0 \to D^*(2010)^-\pi^+)/\Gamma(\overline{D}^0\pi^+\pi^+\pi^-)$ Γ_{106}/Γ_{99}

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
9.3±1.6±0.9	[1] AAIJ	11E	LHCB	pp at 7 TeV

[1] AAIJ 11E reports $(9.3 \pm 1.6 \pm 0.9) \times 10^{-2}$ from a measurement of [$\Gamma(B^+ \to \overline{D}_1(2420)^0\pi^+,\ \overline{D}_1^0 \to D^*(2010)^-\pi^+)/\Gamma(B^+ \to \overline{D}^0\pi^+\pi^+\pi^-)$] × [B($D^*(2010)^+ \to D^0\pi^+$)] assuming B($D^*(2010)^+ \to D^0\pi^+$) = $(67.7 \pm 0.5) \times 10^{-2}$.

$\Gamma(D^-\pi^+\pi^+)/\Gamma_{total}$ Γ_{107}/Γ

VALUE (units 10^{-3})	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
1.07±0.05 OUR AVERAGE						
1.08±0.03±0.05			[1] AUBERT	09AB	BABR	$e^+e^- \to \Upsilon(4S)$
1.02±0.04±0.15			[1] ABE	04D	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<1.4	90		[2] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$
<7	90		[3] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
$2.5\ ^{+4.1}_{-2.3}\ ^{+2.4}_{-0.8}$		1	[4] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the Mark III B($D^+ \to K^-2\pi^+$).
[3] 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 $D_0^*(2340) \to D\pi$ is < 0.005 at 90%CL and into $D_2^*(2460)$ followed by $D_2^*(2460) \to D\pi$ is < 0.004 at 90%CL.
[4] BEBEK 87 assume the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. B($D^- \to K^+\pi^-\pi^-$) = $(9.1 \pm 1.3 \pm 0.4)$% is assumed.

$\Gamma(D^-K^+\pi^+)/\Gamma(D^-\pi^+\pi^+)$ $\Gamma_{108}/\Gamma_{107}$

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
7.20±0.19±0.21	AAIJ	15V	LHCB	pp at 7, 8 TeV

$\Gamma(D_0^*(2400)^0 K^+,\ D_0^{*0} \to D^- \pi^+)/\Gamma_{total}$ — Γ_{109}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
6.1±1.9±1.5	[1] AAIJ	15V	LHCB	pp at 7, 8 TeV

[1] Performs the amplitude analysis by fitting the square-Dalitz-plot distribution.

$\Gamma(D_2^*(2460)^0 K^+,\ D_2^{*0} \to D^- \pi^+)/\Gamma_{total}$ — Γ_{110}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
23.2±1.1±2.0	[1] AAIJ	15V	LHCB	pp at 7, 8 TeV

[1] Performs the amplitude analysis by fitting the square-Dalitz-plot distribution.

$\Gamma(D_1^*(2760)^0 K^+,\ D_1^{*0} \to D^- \pi^+)/\Gamma_{total}$ — Γ_{111}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
3.6±0.9±0.8	[1] AAIJ	15V	LHCB	pp at 7, 8 TeV

[1] Performs the amplitude analysis by fitting the square-Dalitz-plot distribution.

$\Gamma(D^+ K^0)/\Gamma_{total}$ — Γ_{112}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<2.9	90	[1] DEL-AMO-SA..10K		BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<5.0	90	[1] AUBERT,B	05E	BABR	Repl. by DEL-AMO-SANCHEZ 10K

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

$\Gamma(D^+ K^+ \pi^-)/\Gamma(D^- K^+ \pi^+)$ — $\Gamma_{113}/\Gamma_{108}$

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
7.3±1.2±0.7	AAIJ	16M	LHCB	pp at 7, 8 TeV

$\Gamma(D_2^*(2460)^0 K^+,\ D_2^{*0} \to D^+ \pi^-)/\Gamma_{total}$ — Γ_{114}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.3 \times 10^{-7}$	90	AAIJ	16R	LHCB	pp at 7, 8 TeV

$\Gamma(D^+ K^{*0})/\Gamma_{total}$ — Γ_{115}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<4.9 \times 10^{-7}$	90	AAIJ	16M	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.8 \times 10^{-6}$	90	AAIJ	13R	LHCB	Repl. by AAIJ 16M
$<3.0 \times 10^{-6}$	90	[1] DEL-AMO-SA..10K		BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(D^+ \overline{K}^{*0})/\Gamma_{total}$ — Γ_{116}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<1.4	90	AAIJ	13R	LHCB	pp at 7 TeV

$\Gamma(\overline{D}^*(2007)^0\pi^+)/\Gamma_{total}$ — Γ_{117}/Γ

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
5.18±0.26 OUR AVERAGE					
5.52±0.17±0.42		[1] AUBERT	07H	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
5.5 ±0.4 ±0.2		[2,3] AUBERT,BE	06J	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
4.34±0.47±0.18		[4] BRANDENB...	98	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
5.2 ±0.7 ±0.7	71	[5] ALAM	94	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
7.2 ±1.8 ±1.6		[6] BORTOLETTO	92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
4.0 ±1.4 ±1.2	9	[6] ALBRECHT	90J	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2.7 ±4.4		[7] BEBEK	87	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

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

[2] AUBERT,BE 06J reports $[\Gamma(B^+ \rightarrow \overline{D}^*(2007)^0\pi^+)/\Gamma_{total}]$ / $[B(B^+ \rightarrow \overline{D}^0\pi^+)]$ $= 1.14 \pm 0.07 \pm 0.04$ which we multiply by our best value $B(B^+ \rightarrow \overline{D}^0\pi^+) = (4.80 \pm 0.15) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[3] Uses a missing-mass method. Does not depend on D branching fractions or B^+/B^0 production rates.

[4] 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 $B(D^* \rightarrow D\pi)$.

[5] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II $B(D^*(2007)^0 \rightarrow D^0\pi^0)$ and 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 $B(D^0 \rightarrow K^-2\pi^+\pi^-)/B(D^0 \rightarrow K^-\pi^+)$.

[6] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D and $D^*(2010)$.

[7] This is a derived branching ratio, using the inclusive pion spectrum and other two-body B decays. BEBEK 87 assume the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$.

$\Gamma(\overline{D}^*(2007)^0\omega\pi^+)/\Gamma_{total}$ — Γ_{120}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.0045±0.0010±0.0007	[1] ALEXANDER	01B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

[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.

$\Gamma(\overline{D}^*(2007)^0\rho^+)/\Gamma_{total}$ — Γ_{121}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0098±0.0017 OUR AVERAGE					
0.0098±0.0006±0.0017		[1] CSORNA	03	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
0.010 ±0.006 ±0.004	7	[2] ALBRECHT	90J	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.0168±0.0021±0.0028	86	[3] ALAM	94	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

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

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D and $D^*(2010)$.

[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($D^0 \to K^-\pi^+$). The nonresonant $\pi^+\pi^0$ contribution under the ρ^+ is negligible.

$\Gamma(\overline{D}^*(2007)^0 K^+)/\Gamma_{total}$ — Γ_{122}/Γ

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
4.20±0.34 OUR AVERAGE			
$4.21^{+0.30}_{-0.26}\pm0.21$	[1] AUBERT 05N	BABR	$e^+e^- \to \Upsilon(4S)$
$4.0 \pm1.1 \pm0.2$	[2] ABE 01I	BELL	$e^+e^- \to \Upsilon(4S)$

[1] AUBERT 05N reports [$\Gamma(B^+ \to \overline{D}^*(2007)^0 K^+)/\Gamma_{total}$] / [B($B^+ \to \overline{D}^*(2007)^0\pi^+$)] $= 0.0813 \pm 0.0040^{+0.0042}_{-0.0031}$ which we multiply by our best value B($B^+ \to \overline{D}^*(2007)^0\pi^+$) $= (5.18 \pm 0.26) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[2] ABE 01I reports [$\Gamma(B^+ \to \overline{D}^*(2007)^0 K^+)/\Gamma_{total}$] / [B($B^+ \to \overline{D}^*(2007)^0\pi^+$)] = $0.078 \pm 0.019 \pm 0.009$ which we multiply by our best value B($B^+ \to \overline{D}^*(2007)^0\pi^+$) $= (5.18 \pm 0.26) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\overline{D}^{*0}_{CP(+1)} K^+)/\Gamma_{total}$ — Γ_{123}/Γ

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
$\mathbf{2.75\pm0.29^{+0.23}_{-0.22}}$	[1] AUBERT 08BF	BABR	$e^+e^- \to \Upsilon(4S)$

[1] AUBERT 08BF reports [$\Gamma(B^+ \to \overline{D}^{*0}_{CP(+1)} K^+)/\Gamma_{total}$] / [B($B^+ \to \overline{D}^*(2007)^0 K^+$)] $= 0.655 \pm 0.065 \pm 0.020$ which we multiply by our best value B($B^+ \to \overline{D}^*(2007)^0 K^+$) $= (4.20 \pm 0.34) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\overline{D}^{*0}_{CP(+1)} K^+)/\Gamma(\overline{D}^{*0}_{CP(+1)} \pi^+)$ — $\Gamma_{123}/\Gamma_{118}$

VALUE	DOCUMENT ID	TECN	COMMENT
0.095±0.017 OUR AVERAGE			
$0.11 \pm0.02 \pm0.02$	[1] ABE 06	BELL	$e^+e^- \to \Upsilon(4S)$
$0.086\pm0.021\pm0.007$	[2] AUBERT 05N	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Reports a double ratio of B($B^+ \to D^{*0}_{CP(+1)} K^+$)/B($B^+ \to D^{*0}_{CP(+1)}\pi^+$) and B($B^+ \to \overline{D}^{*0} K^+$)/B($B^+ \to \overline{D}^{*0}\pi^+$), $1.41 \pm 0.25 \pm 0.06$. We multiply by our best value of B($B^+ \to \overline{D}^{*0} K^+$)/B($B^+ \to \overline{D}^{*0}\pi^+$) $= 0.080 \pm 0.011$. Our first error is their experiment's error and the second error is systematic error from using our best value.

[2] Uses $D^{*0} \to D^0\pi^0$ with D^0 reconstructed in the CP-even eigenstates K^+K^- and $\pi^+\pi^-$.

$\Gamma(\overline{D}^{*0}_{CP(-1)} K^+)/\Gamma_{total}$ — Γ_{124}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$2.31 \pm 0.27 ^{+0.20}_{-0.18}$	[1] AUBERT	08BF	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] AUBERT 08BF reports $[\Gamma(B^+ \rightarrow \overline{D}^{*0}_{CP(-1)} K^+)/\Gamma_{total}]$ / $[B(B^+ \rightarrow \overline{D}^*(2007)^0 K^+)]$ $= 0.55 \pm 0.06 \pm 0.02$ which we multiply by our best value $B(B^+ \rightarrow \overline{D}^*(2007)^0 K^+) = (4.20 \pm 0.34) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\overline{D}^{*0}_{CP(-1)} K^+)/\Gamma(D^{*0}_{CP(-1)} \pi^+)$ — $\Gamma_{124}/\Gamma_{119}$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.09 \pm 0.03 \pm 0.01$	[1] ABE	06	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Reports a double ratio of $B(B^+ \rightarrow (D^*_{CP(-1)})^0 K^+)/B(B^+ \rightarrow (D^*_{CP(-1)})^0 \pi^+)$ and $B(B^+ \rightarrow \overline{D}^{*0} K^+)/B(B^+ \rightarrow \overline{D}^{*0} \pi^+)$, $1.15 \pm 0.31 \pm 0.12$. We multiply by our best value of $B(B^+ \rightarrow \overline{D}^{*0} K^+)/B(B^+ \rightarrow \overline{D}^{*0} \pi^+) = 0.080 \pm 0.011$. Our first error is their experiment's error and the second error is systematic error from using our best value.

$\Gamma(\overline{D}^*(2007)^0 K^*(892)^+)/\Gamma_{total}$ — Γ_{125}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
8.1 ± 1.4 OUR AVERAGE				
$8.3 \pm 1.1 \pm 1.0$	[1] AUBERT	04K	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$7.2 \pm 2.2 \pm 2.6$	[2] MAHAPATRA	02	CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\overline{D}^*(2007)^0 K^+ \overline{K}^0)/\Gamma_{total}$ — Γ_{126}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<10.6	90	[1] DRUTSKOY	02	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\overline{D}^*(2007)^0 K^+ \overline{K}^*(892)^0)/\Gamma_{total}$ — Γ_{127}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$15.3 \pm 3.1 \pm 2.9$	[1] DRUTSKOY	02	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\overline{D}^*(2007)^0 \pi^+ \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{128}/Γ

VALUE (units 10^{-2})	EVTS	DOCUMENT ID		TECN	COMMENT
1.03 ± 0.12 OUR AVERAGE					
$1.055 \pm 0.047 \pm 0.129$		[1] MAJUMDER	04	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
$0.94 \pm 0.20 \pm 0.17$	48	[2,3] ALAM	94	CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II $B(D^*(2007)^0 \rightarrow D^0 \pi^0)$ and 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 $B(D^0 \rightarrow K^- 2\pi^+ \pi^-)/B(D^0 \rightarrow K^- \pi^+)$.
[3] 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 $\overline{D}^{*0} a_1^+$ is twice that for $\overline{D}^{*0} \pi^+ \pi^+ \pi^-$.)

$\Gamma(\overline{D}^*(2007)^0 a_1(1260)^+)/\Gamma_{total}$ — Γ_{129}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.0188±0.0040±0.0034	[1,2] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] ALAM 94 value is twice their $\Gamma(\overline{D}^*(2007)^0\pi^+\pi^+\pi^-)/\Gamma_{total}$ value based on their observation that the three pions are dominantly in the $a_1(1260)$ mass range 1.0 to 1.6 GeV.

[2] 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 $B(D^0 \to K^-2\pi^+\pi^-)/B(D^0 \to K^-\pi^+)$.

$\Gamma(\overline{D}^*(2007)^0\pi^-\pi^+\pi^+\pi^0)/\Gamma_{total}$ — Γ_{130}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.0180±0.0024±0.0027	[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.

$\Gamma(\overline{D}^{*0}3\pi^+2\pi^-)/\Gamma_{total}$ — Γ_{131}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
5.67±0.91±0.85	[1] MAJUMDER	04	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(D^*(2010)^+\pi^0)/\Gamma_{total}$ — Γ_{132}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<3.6 × 10⁻⁶		[1] IWABUCHI	08	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.7 \times 10^{-4}$	90	[2] BRANDENB...	98	CLE2	$e^+e^- \to \Upsilon(4S)$

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

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

$\Gamma(D^*(2010)^+K^0)/\Gamma_{total}$ — Γ_{133}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<9.0 × 10⁻⁶	90	[1] AUBERT,B	05E	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<9.5 \times 10^{-5}$	90	[1] GRITSAN	01	CLE2	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(D^*(2010)^-\pi^+\pi^+\pi^0)/\Gamma_{total}$ — Γ_{134}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0152±0.0071±0.0001	26	[1] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.043 ±0.013 ±0.026	24	[2] ALBRECHT	87C	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALBRECHT 90J reports 0.018 ± 0.007 ± 0.005 from a measurement of $[\Gamma(B^+ \to D^*(2010)^- \pi^+ \pi^+ \pi^0)/\Gamma_{total}] \times [B(D^*(2010)^+ \to D^0 \pi^+)]$ 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.

[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.

$\Gamma(D^*(2010)^- \pi^+ \pi^+ \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{135}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
2.56±0.26±0.33		[1] MAJUMDER	04	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<10	90	[2] ALBRECHT	90J	ARG	$e^+ e^- \to \Upsilon(4S)$

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

[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D and $D^*(2010)$.

$\Gamma(\overline{D}^{**0} \pi^+)/\Gamma_{total}$ — Γ_{136}/Γ

D^{**0} represents an excited state with mass $2.2 < M < 2.8$ GeV/c^2.

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
5.9±1.3±0.2	[1,2] AUBERT,BE	06J	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] AUBERT,BE 06J reports $[\Gamma(B^+ \to \overline{D}^{**0} \pi^+)/\Gamma_{total}] / [B(B^+ \to \overline{D}^0 \pi^+)] = 1.22 \pm 0.13 \pm 0.23$ which we multiply by our best value $B(B^+ \to \overline{D}^0 \pi^+) = (4.80 \pm 0.15) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

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

$\Gamma(\overline{D}_1^*(2420)^0 \pi^+)/\Gamma_{total}$ — Γ_{137}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0015±0.0006 OUR AVERAGE	Error includes scale factor of 1.3.				
0.0011±0.0005±0.0002	8	[1] ALAM	94	CLE2	$e^+ e^- \to \Upsilon(4S)$
0.0025±0.0007±0.0006		[2] ALBRECHT	94D	ARG	$e^+ e^- \to \Upsilon(4S)$

[1] 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 assuming $B(D_1(2420)^0 \to D^*(2010)^+ \pi^-) = 67\%$.

[2] ALBRECHT 94D assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II $B(D^*(2010)^+ \to D^0 \pi^+)$ assuming $B(D_1(2420)^0 \to D^*(2010)^+ \pi^-) = 67\%$.

$\Gamma(\overline{D}_1(2420)^0 \pi^+ \times B(\overline{D}_1^0 \to \overline{D}^0 \pi^+ \pi^-))/\Gamma_{total}$ — Γ_{138}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$2.5\ ^{+1.6}_{-1.4}$ OUR FIT Error includes scale factor of 4.0.				
$1.85 \pm 0.29\ ^{+0.35}_{-0.55}$	[1] ABE	05A	BELL	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}_1(2420)^0\pi^+ \times B(\overline{D}_1^0 \to \overline{D}^0\pi^+\pi^-))/\Gamma(\overline{D}^0\pi^+\pi^+\pi^-)$ — Γ_{138}/Γ_{99}

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
$4.4^{+3.3}_{-2.6}$ **OUR FIT** Error includes scale factor of 4.0.				
10.3±1.5±0.9	AAIJ	11E	LHCB	pp at 7 TeV

$\Gamma(\overline{D}_1(2420)^0\pi^+ \times B(\overline{D}_1^0 \to \overline{D}^0\pi^+\pi^-\text{ (nonresonant)}))/\Gamma(\overline{D}^0\pi^+\pi^+\pi^-)$ — Γ_{139}/Γ_{99}

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
4.0±0.7±0.5	[1] AAIJ	11E	LHCB	pp at 7 TeV

[1] Excludes decays where $\overline{D}_1(2420)^0 \to D*(2010)^-\pi^+$.

$\Gamma(\overline{D}_2^*(2462)^0\pi^+ \times B(\overline{D}_2^*(2462)^0 \to D^-\pi^+))/\Gamma_{total}$ — Γ_{140}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
3.56±0.24 OUR AVERAGE				
3.62±0.06±0.30	[1] AAIJ	16AH	LHCB	pp at 7, 8 TeV
3.5 ±0.2 ±0.4	[2] AUBERT	09AB	BABR	$e^+e^- \to \Upsilon(4S)$
3.4 ±0.3 ±0.72	[2] ABE	04D	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Measured using a Dalitz plot analysis of $B^- \to D^+\pi^-\pi^-$ decays.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\overline{D}_2^*(2462)^0\pi^+ \times B(\overline{D}_2^{*0} \to \overline{D}^0\pi^-\pi^+))/\Gamma(\overline{D}^0\pi^+\pi^+\pi^-)$ — Γ_{141}/Γ_{99}

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
4.0±1.0±0.4	AAIJ	11E	LHCB	pp at 7 TeV

$\Gamma(\overline{D}_2^*(2462)^0\pi^+ \times B(\overline{D}_2^{*0} \to \overline{D}^0\pi^-\pi^+\text{ (nonresonant)}))/\Gamma(\overline{D}^0\pi^+\pi^+\pi^-)$ — Γ_{142}/Γ_{99}

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.0 \times 10^{-2}$	90	[1] AAIJ	11E	LHCB	pp at 7 TeV

[1] Excludes decays where $\overline{D}_2^*(2462)^0 \to D^*(2010)^-\pi^+$.

$\Gamma(\overline{D}_2^*(2462)^0\pi^+ \times B(\overline{D}_2^{*0} \to D^*(2010)^-\pi^+))/\Gamma(\overline{D}^0\pi^+\pi^+\pi^-)$ — Γ_{143}/Γ_{99}

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
3.9±1.2±0.4	[1] AAIJ	11E	LHCB	pp at 7 TeV

[1] Uses B($D^*(2010)^+ \to D^0\pi^+$) = (67.7 +- 0.5)%.

$\Gamma(\overline{D}_0^*(2400)^0\pi^+ \times B(\overline{D}_0^*(2400)^0 \to D^-\pi^+))/\Gamma_{total}$ — Γ_{144}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
6.4±1.4 OUR AVERAGE				
6.8±0.3±2.0	[1] AUBERT	09AB	BABR	$e^+e^- \to \Upsilon(4S)$
6.1±0.6±1.8	[1] ABE	04D	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}_1(2421)^0\pi^+ \times B(\overline{D}_1(2421)^0 \to D^{*-}\pi^+))/\Gamma_{total}$ — Γ_{145}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
6.8±0.7±1.3	[1] ABE	04D	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}_2^*(2462)^0\pi^+ \times B(\overline{D}_2^*(2462)^0 \to D^{*-}\pi^+))/\Gamma_{total}$ — Γ_{146}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
1.8±0.3±0.4	[1] ABE	04D	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}_1'(2427)^0\pi^+ \times B(\overline{D}_1'(2427)^0 \to D^{*-}\pi^+))/\Gamma_{total}$ — Γ_{147}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
5.0±0.4±1.1	[1] ABE	04D	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}_1(2420)^0\pi^+ \times B(\overline{D}_1^0 \to \overline{D}^{*0}\pi^+\pi^-))/\Gamma_{total}$ — Γ_{148}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<0.06	90	[1] ABE	05A	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}_1^*(2420)^0\rho^+)/\Gamma_{total}$ — Γ_{149}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0014	90	[1] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II $B(D^*(2010)^+ \to D^0\pi^+)$ assuming $B(D_1(2420)^0 \to D^*(2010)^+\pi^-) = 67\%$.

$\Gamma(\overline{D}_2^*(2460)^0\pi^+)/\Gamma_{total}$ — Γ_{150}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0013	90	[1] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.0028	90	[2] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$
<0.0023	90	[3] ALBRECHT	94D	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the Mark III $B(D^+ \to K^-2\pi^+)$ and $B(D_2^*(2460)^0 \to D^+\pi^-) = 30\%$.

[2] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the Mark III $B(D^+ \to K^-2\pi^+)$, the CLEO II $B(D^*(2010)^+ \to D^0\pi^+)$ and $B(D_2^*(2460)^0 \to D^*(2010)^+\pi^-) = 20\%$.

[3] ALBRECHT 94D 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 $B(D_2^*(2460)^0 \to D^*(2010)^+\pi^-) = 30\%$.

$\Gamma(\overline{D}_2^*(2460)^0\pi^+ \times B(\overline{D}_2^{*0} \to \overline{D}^{*0}\pi^+\pi^-))/\Gamma_{total}$ — Γ_{151}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<0.22	90	[1] ABE	05A	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}_2^*(2460)^0 \rho^+)/\Gamma_{total}$ — Γ_{155}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0047	90	[1] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$
<0.005	90	[2] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the Mark III B($D^+ \to K^- 2\pi^+$) and B($D_2^*(2460)^0 \to D^+\pi^-$) = 30%.

[2] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the Mark III B($D^+ \to K^- 2\pi^+$), the CLEO II B($D^*(2010)^+ \to D^0\pi^+$) and B($D_2^*(2460)^0 \to D^*(2010)^+\pi^-$) = 20%.

$\Gamma(\overline{D}_1^*(2680)^0 \pi^+,\ \overline{D}_1^*(2680)^0 \to D^-\pi^+)/\Gamma_{total}$ — Γ_{152}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
0.84±0.06±0.20	[1] AAIJ	16AH	LHCB	pp at 7, 8 TeV

[1] Measured using a Dalitz plot analysis of $B^+ \to D^-\pi^+\pi^+$ decays.

$\Gamma(\overline{D}_3^*(2760)^0 \pi^+,\ \overline{D}_3^*(2760)^0 \pi^+ \to D^-\pi^+)/\Gamma_{total}$ — Γ_{153}/Γ

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
1.0±0.1±0.2	[1] AAIJ	16AH	LHCB	pp at 7, 8 TeV

[1] Measured using a Dalitz plot analysis of $B^+ \to D^-\pi^+\pi^+$ decays.

$\Gamma(\overline{D}_2^*(3000)^0 \pi^+,\ \overline{D}_2^*(3000)^0 \pi^+ \to D^-\pi^+)/\Gamma_{total}$ — Γ_{154}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
2±1±1	[1] AAIJ	16AH	LHCB	pp at 7, 8 TeV

[1] Measured using a Dalitz plot analysis of $B^+ \to D^-\pi^+\pi^+$ decays.

$\Gamma(\overline{D}^0 D_s^+)/\Gamma_{total}$ — Γ_{156}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
9.0±0.9 OUR AVERAGE				
8.6±0.2±1.1	[1] AAIJ	13AP	LHCB	pp at 7 TeV
9.5±2.0±0.8	[2] AUBERT	06N	BABR	$e^+e^- \to \Upsilon(4S)$
9.8±2.6±0.9	[3] GIBAUT	96	CLE2	$e^+e^- \to \Upsilon(4S)$
14 ±8 ±1	[4] ALBRECHT	92G	ARG	$e^+e^- \to \Upsilon(4S)$
13 ±6 ±1	[5] BORTOLETTO	90	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Uses B($B^0 \to D^- D_s^+$) = $(7.2 \pm 0.8) \times 10^{-3}$.

[2] AUBERT 06N reports $(0.92 \pm 0.14 \pm 0.18) \times 10^{-2}$ from a measurement of [$\Gamma(B^+ \to \overline{D}^0 D_s^+)/\Gamma_{total}$] × [B($D_s^+ \to \phi\pi^+$)] assuming B($D_s^+ \to \phi\pi^+$) = 0.0462 ± 0.0062, 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.

[3] GIBAUT 96 reports 0.0126 ± 0.0022 ± 0.0025 from a measurement of [$\Gamma(B^+ \to \overline{D}^0 D_s^+)/\Gamma_{total}$] × [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.

[4] ALBRECHT 92G reports 0.024 ± 0.012 ± 0.004 from a measurement of [$\Gamma(B^+ \to \overline{D}^0 D_s^+)/\Gamma_{total}$] × [B($D_s^+ \to \phi\pi^+$)] assuming B($D_s^+ \to \phi\pi^+$) = 0.027, which we

rescale to our best value B($D_s^+ \to \phi\pi^+$) = $(4.5 \pm 0.4) \times 10^{-2}$. 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^0 branching ratios, e.g., B($D^0 \to K^-\pi^+$) = 3.71 ± 0.25%.

[5] BORTOLETTO 90 reports 0.029 ± 0.013 from a measurement of [$\Gamma(B^+ \to \overline{D}^0 D_s^+)/\Gamma_{total}$] × [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.

$\Gamma(D_{s0}^*(2317)^+ \overline{D}^0,\ D_{s0}^{*+} \to D_s^+\pi^0)/\Gamma_{total}$ — Γ_{157}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
$0.79^{+0.15}_{-0.13}$ OUR AVERAGE				
$0.79^{+0.17}_{-0.16} \pm 0.02$	[1,2] CHOI	15A	BELL	$e^+e^- \to \Upsilon(4S)$
$0.80^{+0.35}_{-0.21} \pm 0.07$	[2,3] AUBERT,B	04S	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.65^{+0.26}_{-0.24} \pm 0.06$	[2,4] KROKOVNY	03B	BELL	Repl. by CHOI 15A

[1] CHOI 15A reports $(8.0^{+1.3}_{-1.2} \pm 1.1 \pm 0.4) \times 10^{-4}$ from a measurement of [$\Gamma(B^+ \to D_{s0}^*(2317)^+\overline{D}^0,\ D_{s0}^{*+} \to D_s^+\pi^0)/\Gamma_{total}$] × [B($D_s^+ \to K^+K^-\pi^+$)] assuming B($D_s^+ \to K^+K^-\pi^+$) = $(5.39 \pm 0.21) \times 10^{-2}$, which we rescale to our best value B($D_s^+ \to K^+K^-\pi^+$) = $(5.45 \pm 0.17) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

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

[3] AUBERT,B 04S reports $(1.0 \pm 0.3^{+0.4}_{-0.2}) \times 10^{-3}$ from a measurement of [$\Gamma(B^+ \to D_{s0}^*(2317)^+\overline{D}^0,\ D_{s0}^{*+} \to D_s^+\pi^0)/\Gamma_{total}$] × [B($D_s^+ \to \phi\pi^+$)] assuming B($D_s^+ \to \phi\pi^+$) = 0.036 ± 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.

[4] KROKOVNY 03B reports $(0.81^{+0.30}_{-0.27} \pm 0.24) \times 10^{-3}$ from a measurement of [$\Gamma(B^+ \to D_{s0}^*(2317)^+\overline{D}^0,\ D_{s0}^{*+} \to D_s^+\pi^0)/\Gamma_{total}$] × [B($D_s^+ \to \phi\pi^+$)] assuming B($D_s^+ \to \phi\pi^+$) = 0.036 ± 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.

$\Gamma(D_{s0}(2317)^+ \overline{D}^0 \times B(D_{s0}(2317)^+ \to D_s^{*+}\gamma))/\Gamma_{total}$ — Γ_{158}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
<0.76	90	[1] KROKOVNY	03B	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(D_{s0}(2317)^+ \overline{D}^*(2007)^0 \times B(D_{s0}(2317)^+ \to D_s^+\pi^0))/\Gamma_{total}$ — Γ_{159}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
$0.9 \pm 0.6^{+0.4}_{-0.3}$	[1] AUBERT,B	04S	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(D_{sJ}(2457)^+ \overline{D}^0)/\Gamma_{total}$ Γ_{160}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
$\mathbf{3.1^{+1.0}_{-0.9}}$ **OUR AVERAGE**				
$4.3 \pm 1.6 \pm 1.3$	[1] AUBERT	06N	BABR	$e^+ e^- \to \Upsilon(4S)$
$4.6^{+1.8}_{-1.6} \pm 1.0$	[2,3] AUBERT,B	04S	BABR	$e^+ e^- \to \Upsilon(4S)$
$2.1^{+1.1}_{-0.9} \pm 0.5$	[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.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[3] AUBERT,B 04S reports $[\Gamma(B^+ \to D_{sJ}(2457)^+ \overline{D}^0)/\Gamma_{total}] \times [B(D_{s1}(2460)^+ \to D_s^{*+} \pi^0)] = (2.2^{+0.8}_{-0.7} \pm 0.3) \times 10^{-3}$ 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.
[4] KROKOVNY 03B reports $[\Gamma(B^+ \to D_{sJ}(2457)^+ \overline{D}^0)/\Gamma_{total}] \times [B(D_{s1}(2460)^+ \to D_s^{*+} \pi^0)] = (1.0^{+0.5}_{-0.4} \pm 0.1) \times 10^{-3}$ 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.

$\Gamma(D_{sJ}(2457)^+ \overline{D}^0 \times B(D_{sJ}(2457)^+ \to D_s^+ \gamma))/\Gamma_{total}$ Γ_{161}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.46^{+0.13}_{-0.11}}$ **OUR AVERAGE**				
$0.48^{+0.19}_{-0.13} \pm 0.04$	[1,2] AUBERT,B	04S	BABR	$e^+ e^- \to \Upsilon(4S)$
$0.45^{+0.15}_{-0.14} \pm 0.04$	[1,3] KROKOVNY	03B	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] AUBERT,B 04S reports $(0.6 \pm 0.2^{+0.2}_{-0.1}) \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \to D_{sJ}(2457)^+ \overline{D}^0 \times B(D_{sJ}(2457)^+ \to D_s^+ \gamma))/\Gamma_{total}] \times [B(D_s^+ \to \phi \pi^+)]$ 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.
[3] KROKOVNY 03B reports $(0.56^{+0.16}_{-0.15} \pm 0.17) \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \to D_{sJ}(2457)^+ \overline{D}^0 \times B(D_{sJ}(2457)^+ \to D_s^+ \gamma))/\Gamma_{total}] \times [B(D_s^+ \to \phi \pi^+)]$ 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.

$\Gamma(D_{sJ}(2457)^+ \overline{D}^0 \times B(D_{sJ}(2457)^+ \to D_s^+ \pi^+ \pi^-))/\Gamma_{total}$ Γ_{162}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
<0.22	90	[1] KROKOVNY	03B	BELL	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(D_{sJ}(2457)^+ \overline{D}^0 \times B(D_{sJ}(2457)^+ \to D_s^+ \pi^0))/\Gamma_{total}$ — Γ_{163}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
<0.27	90	[1] KROKOVNY	03B	BELL	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(D_{sJ}(2457)^+ \overline{D}^0 \times B(D_{sJ}(2457)^+ \to D_s^{*+} \gamma))/\Gamma_{total}$ — Γ_{164}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
<0.98	90	[1] KROKOVNY	03B	BELL	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(D_{sJ}(2457)^+ \overline{D}^*(2007)^0)/\Gamma_{total}$ — Γ_{165}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
12.0±3.0 OUR AVERAGE				
11.2±2.6±2.0	[1] AUBERT	06N	BABR	$e^+ e^- \to \Upsilon(4S)$
$16\ ^{+8}_{-6}\ \pm 4$	[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.
[2] AUBERT,B 04S reports $[\Gamma(B^+ \to D_{sJ}(2457)^+ \overline{D}^*(2007)^0)/\Gamma_{total}] \times [B(D_{s1}(2460)^+ \to D_s^{*+} \pi^0)] = (7.6 \pm 1.7^{+3.2}_{-2.4}) \times 10^{-3}$ 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.
[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(D_{sJ}(2457)^+ \overline{D}^*(2007)^0 \times B(D_{sJ}(2457)^+ \to D_s^+ \gamma))/\Gamma_{total}$ — Γ_{166}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
$\mathbf{1.4 \pm 0.4^{+0.6}_{-0.4}}$	[1] AUBERT,B	04S	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}^0 D_{s1}(2536)^+ \times B(D_{s1}(2536)^+ \to D^*(2007)^0 K^+))/\Gamma_{total}$ — Γ_{168}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
2.16±0.52±0.45		[1] AUBERT	08B	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2	90	AUBERT	03X	BABR	Repl. by AUBERT 08B

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

$\Gamma(\overline{D}^0 D_{s1}(2536)^+ \times B(D_{s1}(2536)^+ \to D^*(2007)^0 K^+ + D^*(2010)^+ K^0))/\Gamma_{total}$ — Γ_{167}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
3.97±0.85±0.56	[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 $\Gamma(D_{s1}(2536)^+ \to D^*(2007)^0 K^+)$ / $\Gamma(D_{s1}(2536)^+ \to D^*(2010)^+ K^0) = 1.36 \pm 0.2$.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma\big(\overline{D}^*(2007)^0 D_{s1}(2536)^+ \times B(D_{s1}(2536)^+ \to D^*(2007)^0 K^+)\big)/\Gamma_{total}$ — Γ_{169}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
5.46±1.17±1.04		[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 $\Upsilon(4S)$.

$\Gamma\big(\overline{D}^0 D_{s1}(2536)^+ \times B(D_{s1}(2536)^+ \to D^{*+} K^0)\big)/\Gamma_{total}$ — Γ_{170}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
2.30±0.98±0.43	[1] AUBERT	08B	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma\big(\overline{D}^0 D_{sJ}(2700)^+ \times B(D_{sJ}(2700)^+ \to D^0 K^+)\big)/\Gamma_{total}$ — Γ_{171}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
5.6 ±1.8 OUR AVERAGE	Error includes scale factor of 1.7.			
5.02±0.71±0.93	[1] LEES	15C	BABR	$e^+e^- \to \Upsilon(4S)$
11.3 ±2.2 $^{+1.4}_{-2.8}$	[1] BRODZICKA	08	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma\big(\overline{D}^{*0} D_{s1}(2536)^+,\ D^+_{s1} \to D^{*+} K^0\big)/\Gamma_{total}$ — Γ_{172}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
3.92±2.46±0.83	[1] AUBERT	08B	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma\big(\overline{D}^0 D_{sJ}(2573)^+,\ D^+_{sJ} \to D^0 K^+\big)/\Gamma_{total}$ — Γ_{173}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
0.08±0.14±0.05	[1] LEES	15C	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma\big(\overline{D}^{*0} D_{sJ}(2573),\ D^+_{sJ} \to D^0 K^+\big)/\Gamma_{total}$ — Γ_{174}/Γ

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

$\Gamma\big(\overline{D}^*(2007)^0 D_{sJ}(2573),\ D^+_{sJ} \to D^0 K^+\big)/\Gamma_{total}$ — Γ_{175}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<5	90	AUBERT	03X	BABR	$e^+e^- \to \Upsilon(4S)$

$\Gamma\big(\overline{D}^0 D^{*+}_s\big)/\Gamma_{total}$ — Γ_{176}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.0076±0.0016 OUR AVERAGE				
0.0079±0.0017±0.0007	[1] AUBERT	06N	BABR	$e^+e^- \to \Upsilon(4S)$
0.0068±0.0025±0.0006	[2] GIBAUT	96	CLE2	$e^+e^- \to \Upsilon(4S)$
0.010 ±0.007 ±0.001	[3] ALBRECHT	92G	ARG	$e^+e^- \to \Upsilon(4S)$

[1] AUBERT 06N reports $(0.77 \pm 0.15 \pm 0.13) \times 10^{-2}$ from a measurement of $[\Gamma(B^+ \to \overline{D}^0 D_s^{*+})/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.0462 \pm 0.0062$, 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.

[2] GIBAUT 96 reports $0.0087 \pm 0.0027 \pm 0.0017$ from a measurement of $[\Gamma(B^+ \to \overline{D}^0 D_s^{*+})/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ 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.

[3] ALBRECHT 92G reports $0.016 \pm 0.012 \pm 0.003$ from a measurement of $[\Gamma(B^+ \to \overline{D}^0 D_s^{*+})/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. 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^0 branching ratios, e.g., $B(D^0 \to K^-\pi^+) = 3.71 \pm 0.25\%$.

$\Gamma(\overline{D}^*(2007)^0 D_s^+)/\Gamma_{total}$ — Γ_{177}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.0082±0.0017 OUR AVERAGE				
0.0078±0.0018±0.0007	[1] AUBERT	06N	BABR	$e^+e^- \to \Upsilon(4S)$
0.011 ±0.004 ±0.001	[2] GIBAUT	96	CLE2	$e^+e^- \to \Upsilon(4S)$
0.008 ±0.006 ±0.001	[3] ALBRECHT	92G	ARG	$e^+e^- \to \Upsilon(4S)$

[1] AUBERT 06N reports $(0.76 \pm 0.15 \pm 0.13) \times 10^{-2}$ from a measurement of $[\Gamma(B^+ \to \overline{D}^*(2007)^0 D_s^+)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.0462 \pm 0.0062$, 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.

[2] GIBAUT 96 reports $0.0140 \pm 0.0043 \pm 0.0035$ from a measurement of $[\Gamma(B^+ \to \overline{D}^*(2007)^0 D_s^+)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ 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.

[3] ALBRECHT 92G reports $0.013 \pm 0.009 \pm 0.002$ from a measurement of $[\Gamma(B^+ \to \overline{D}^*(2007)^0 D_s^+)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. 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^0 and $D^*(2007)^0$ branching ratios, e.g., $B(D^0 \to K^-\pi^+) = 3.71 \pm 0.25\%$ and $B(D^*(2007)^0 \to D^0\pi^0) = 55 \pm 6\%$.

$\Gamma(\overline{D}^*(2007)^0 D_s^{*+})/\Gamma_{total}$ — Γ_{178}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.0171±0.0024 OUR AVERAGE				
0.0167±0.0019±0.0015	[1] AUBERT	06N	BABR	$e^+e^- \to \Upsilon(4S)$
0.024 ±0.009 ±0.002	[2] GIBAUT	96	CLE2	$e^+e^- \to \Upsilon(4S)$
0.019 ±0.010 ±0.002	[3] ALBRECHT	92G	ARG	$e^+e^- \to \Upsilon(4S)$

[1] AUBERT 06N reports $(1.62 \pm 0.22 \pm 0.18) \times 10^{-2}$ from a measurement of $[\Gamma(B^+ \to \overline{D}^*(2007)^0 D_s^{*+})/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.0462 \pm 0.0062$, 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.

[2] GIBAUT 96 reports $0.0310 \pm 0.0088 \pm 0.0065$ from a measurement of $[\Gamma(B^+ \to \overline{D}^*(2007)^0 D_s^{*+})/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ 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.

[3] ALBRECHT 92G reports $0.031 \pm 0.016 \pm 0.005$ from a measurement of $[\Gamma(B^+ \to \overline{D}^*(2007)^0 D_s^{*+})/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = (4.5 \pm 0.4) \times 10^{-2}$. 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^0 and $D^*(2007)^0$ branching ratios, e.g., $B(D^0 \to K^-\pi^+) = 3.71 \pm 0.25\%$ and $B(D^*(2007)^0 \to D^0\pi^0) = 55 \pm 6\%$.

$\Gamma(D_s^{(*)+}\overline{D}^{**0})/\Gamma_{total}$ — Γ_{179}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$(2.73 \pm 0.93 \pm 0.68) \times 10^{-2}$	[1] AHMED	00B	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] AHMED 00B reports their experiment's uncertainties $(\pm 0.78 \pm 0.48 \pm 0.68)\%$, where the first error is statistical, the second is systematic, and the third is the uncertainty in the $D_s \to \phi\pi$ branching fraction. We combine the first two in quadrature.

$\Gamma(\overline{D}^*(2007)^0 D^*(2010)^+)/\Gamma_{total}$ — Γ_{180}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
$8.1 \pm 1.2 \pm 1.2$		[1] AUBERT,B	06A	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<110	90	BARATE	98Q	ALEP	$e^+e^- \to Z$

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

$[\Gamma(\overline{D}^0 D^*(2010)^+) + \Gamma(\overline{D}^*(2007)^0 D^+)]/\Gamma_{total}$ — Γ_{181}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<130	90	BARATE	98Q	ALEP	$e^+e^- \to Z$

$\Gamma(\overline{D}^0 D^*(2010)^+)/\Gamma_{total}$ — Γ_{182}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
3.9 ± 0.5 OUR AVERAGE				
$3.6 \pm 0.5 \pm 0.4$	[1] AUBERT,B	06A	BABR	$e^+e^- \to \Upsilon(4S)$
$4.57 \pm 0.71 \pm 0.56$	[1] MAJUMDER	05	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}^0 D^+)/\Gamma_{total}$ — Γ_{183}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
3.8 ±0.4 OUR AVERAGE					
3.85±0.31±0.38		[1] ADACHI	08	BELL	$e^+e^- \to \Upsilon(4S)$
3.8 ±0.6 ±0.5		[1] AUBERT,B	06A	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
4.83±0.78±0.58		[1] MAJUMDER	05	BELL	Repl. by ADACHI 08
<67	90	BARATE	98Q	ALEP	$e^+e^- \to Z$

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

$\Gamma(\overline{D}^0 D^+ K^0)/\Gamma_{total}$ — Γ_{184}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
1.55±0.17±0.13		[1] DEL-AMO-SA..11B		BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2.8	90	[1] AUBERT	03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

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

$\Gamma(D^+ \overline{D}^*(2007)^0)/\Gamma_{total}$ — Γ_{185}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
6.3±1.4±1.0	[1] AUBERT,B	06A	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\overline{D}^*(2007)^0 D^+ K^0)/\Gamma_{total}$ — Γ_{186}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
2.06±0.38±0.30		[1] DEL-AMO-SA..11B		BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<6.1	90	[1] AUBERT	03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

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

$\Gamma(\overline{D}^0 D^*(2010)^+ K^0)/\Gamma_{total}$ — Γ_{187}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
3.81±0.31±0.23	[1] DEL-AMO-SA..11B		BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$5.2^{+1.0}_{-0.9}\pm0.7$	[1] AUBERT	03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

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

$\Gamma(\overline{D}^*(2007)^0 D^*(2010)^+ K^0)/\Gamma_{total}$ — Γ_{188}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
9.17±0.83±0.90	[1] DEL-AMO-SA..11B		BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$7.8^{+2.3}_{-2.1}\pm1.4$	[1] AUBERT	03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

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

$\Gamma(\overline{D}^0 D^0 K^+)/\Gamma_{total}$ — Γ_{189}/Γ

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
1.45±0.33 OUR AVERAGE	Error includes scale factor of 2.6.		
1.31±0.07±0.12	[1] DEL-AMO-SA..11B	BABR	$e^+ e^- \to \Upsilon(4S)$
$2.22 \pm 0.22 ^{+0.26}_{-0.24}$	[1] BRODZICKA 08	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
1.17±0.21±0.15	[1] CHISTOV 04	BELL	Repl. by BRODZICKA 08
1.9 ±0.3 ±0.3	[1] AUBERT 03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

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

$\Gamma(\overline{D}^*(2007)^0 D^0 K^+)/\Gamma_{total}$ — Γ_{190}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
2.26±0.16±0.17		[1] DEL-AMO-SA..11B	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<3.8	90	[1] AUBERT 03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

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

$\Gamma(\overline{D}^0 D^*(2007)^0 K^+)/\Gamma_{total}$ — Γ_{191}/Γ

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
6.32±0.19±0.45	[1] DEL-AMO-SA..11B	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
4.7 ±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 $\Upsilon(4S)$.

$\Gamma(\overline{D}^*(2007)^0 D^*(2007)^0 K^+)/\Gamma_{total}$ — Γ_{192}/Γ

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
11.23±0.36±1.26	[1] DEL-AMO-SA..11B	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$5.3 ^{+1.1}_{-1.0} \pm 1.2$	[1] AUBERT 03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

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

$\Gamma(D^- D^+ K^+)/\Gamma_{total}$ — Γ_{193}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
0.22±0.05±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. • • •				
<0.90	90	[1] CHISTOV 04	BELL	$e^+ e^- \to \Upsilon(4S)$
<0.4	90	[1] AUBERT 03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

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

$\Gamma(D^- D^*(2010)^+ K^+)/\Gamma_{total}$ Γ_{194}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
0.63±0.09±0.06		[1] DEL-AMO-SA..11B	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<0.7	90	[1] AUBERT 03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

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

$\Gamma(D^*(2010)^- D^+ K^+)/\Gamma_{total}$ Γ_{195}/Γ

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
0.60±0.10±0.08	[1] DEL-AMO-SA..11B	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
1.5 ±0.3 ±0.2	[1] AUBERT 03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

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

$\Gamma(D^*(2010)^- D^*(2010)^+ K^+)/\Gamma_{total}$ Γ_{196}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
1.32±0.13±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. • • •				
<1.8	90	[1] AUBERT 03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

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

$\Gamma((\overline{D}+\overline{D}^*)(D+D^*)K)/\Gamma_{total}$ Γ_{197}/Γ

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
4.05±0.11±0.28	[1] DEL-AMO-SA..11B	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
3.5 ±0.3 ±0.5	[1] AUBERT 03X	BABR	Repl. by DEL-AMO-SANCHEZ 11B

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

$\Gamma(D_s^+ \pi^0)/\Gamma_{total}$ Γ_{198}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
$\mathbf{1.6^{+0.6}_{-0.5}\pm0.1}$		[1] AUBERT 07M	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<16	90	[2] ALEXANDER 93B	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] AUBERT 07M reports $[\Gamma(B^+ \to D_s^+ \pi^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)] = (7.0^{+2.4}_{-2.1}{}^{+0.6}_{-0.8}) \times 10^{-7}$ 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.

[2] ALEXANDER 93B reports $< 2.0 \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to D_s^+ \pi^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\left[\Gamma(D_s^+\pi^0)+\Gamma(D_s^{*+}\pi^0)\right]/\Gamma_{total}$ $(\Gamma_{198}+\Gamma_{199})/\Gamma$

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<5 × 10^−4	90	[1] ALBRECHT	93E	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALBRECHT 93E reports $< 0.9 \times 10^{-3}$ from a measurement of $[\left[\Gamma(B^+ \to D_s^+\pi^0) + \Gamma(B^+ \to D_s^{*+}\pi^0)\right]/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^{*+}\pi^0)/\Gamma_{total}$ Γ_{199}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<2.6 × 10^−4	90	[1] ALEXANDER	93B	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] ALEXANDER 93B reports $< 3.2 \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to D_s^{*+}\pi^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^+\eta)/\Gamma_{total}$ Γ_{200}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<4 × 10^−4	90	[1] ALEXANDER	93B	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] ALEXANDER 93B reports $< 4.6 \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to D_s^+\eta)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^{*+}\eta)/\Gamma_{total}$ Γ_{201}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<6 × 10^−4	90	[1] ALEXANDER	93B	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] ALEXANDER 93B reports $< 7.5 \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to D_s^{*+}\eta)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^+\rho^0)/\Gamma_{total}$ Γ_{202}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<3.0 × 10^−4	90	[1] ALEXANDER	93B	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] ALEXANDER 93B reports $< 3.7 \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to D_s^+\rho^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\left[\Gamma(D_s^+\rho^0)+\Gamma(D_s^+\overline{K}^*(892)^0)\right]/\Gamma_{total}$ $(\Gamma_{202}+\Gamma_{212})/\Gamma$

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<2.0 × 10^−3	90	[1] ALBRECHT	93E	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALBRECHT 93E reports $< 3.4 \times 10^{-3}$ from a measurement of $[\left[\Gamma(B^+ \to D_s^+\rho^0) + \Gamma(B^+ \to D_s^+\overline{K}^*(892)^0)\right]/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^{*+}\rho^0)/\Gamma_{total}$ — Γ_{203}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<4 × 10^{-4}	90	[1] ALEXANDER	93B	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] ALEXANDER 93B reports $< 4.8 \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to D_s^{*+}\rho^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\left[\Gamma(D_s^{*+}\rho^0) + \Gamma(D_s^{*+}\overline{K}^*(892)^0)\right]/\Gamma_{total}$ — $(\Gamma_{203}+\Gamma_{214})/\Gamma$

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.2 × 10^{-3}	90	[1] ALBRECHT	93E	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALBRECHT 93E reports $< 2.0 \times 10^{-3}$ from a measurement of $[\left[\Gamma(B^+ \to D_s^{*+}\rho^0) + \Gamma(B^+ \to D_s^{*+}\overline{K}^*(892)^0)\right]/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^+\omega)/\Gamma_{total}$ — Γ_{204}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<4 × 10^{-4}	90	[1] ALEXANDER	93B	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2.0 × 10^{-3}	90	[2] ALBRECHT	93E	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALEXANDER 93B reports $< 4.8 \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to D_s^+\omega)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

[2] ALBRECHT 93E reports $< 3.4 \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \to D_s^+\omega)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^{*+}\omega)/\Gamma_{total}$ — Γ_{205}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<6 × 10^{-4}	90	[1] ALEXANDER	93B	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1.1 × 10^{-3}	90	[2] ALBRECHT	93E	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALEXANDER 93B reports $< 6.8 \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to D_s^{*+}\omega)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

[2] ALBRECHT 93E reports $< 1.9 \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \to D_s^{*+}\omega)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^+ a_1(1260)^0)/\Gamma_{total}$ — Γ_{206}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.8 \times 10^{-3}$	90	[1] ALBRECHT	93E	ARG	$e^+ e^- \to \Upsilon(4S)$

[1] ALBRECHT 93E reports $< 3.0 \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \to D_s^+ a_1(1260)^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^{*+} a_1(1260)^0)/\Gamma_{total}$ — Γ_{207}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.3 \times 10^{-3}$	90	[1] ALBRECHT	93E	ARG	$e^+ e^- \to \Upsilon(4S)$

[1] ALBRECHT 93E reports $< 2.2 \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \to D_s^{*+} a_1(1260)^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^+ \phi)/\Gamma_{total}$ — Γ_{208}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$1.7^{+1.1}_{-0.7} \pm 0.2$		[1] AAIJ	13R	LHCB	pp at 7 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<$ 1.9	90	[2] AUBERT	06F	BABR	$e^+ e^- \to \Upsilon(4S)$
$<$1000	90	[3] ALBRECHT	93E	ARG	$e^+ e^- \to \Upsilon(4S)$
$<$ 260	90	[4] ALEXANDER	93B	CLE2	$e^+ e^- \to \Upsilon(4S)$

[1] AAIJ 13R reports $(1.87^{+1.25}_{-0.73} \pm 0.19 \pm 0.32) \times 10^{-6}$ from a measurement of $[\Gamma(B^+ \to D_s^+ \phi)/\Gamma_{total}] / [B(B^+ \to \overline{D}^0 D_s^+)]$ assuming $B(B^+ \to \overline{D}^0 D_s^+) = (10.0 \pm 1.7) \times 10^{-3}$, which we rescale to our best value $B(B^+ \to \overline{D}^0 D_s^+) = (9.0 \pm 0.9) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

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

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

[4] ALEXANDER 93B reports $< 3.1 \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to D_s^+ \phi)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^{*+} \phi)/\Gamma_{total}$ — Γ_{209}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.2 \times 10^{-5}$	90	[1] AUBERT	06F	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.3 \times 10^{-3}$	90	[2] ALBRECHT	93E	ARG	$e^+ e^- \to \Upsilon(4S)$
$<3.5 \times 10^{-4}$	90	[3] ALEXANDER	93B	CLE2	$e^+ e^- \to \Upsilon(4S)$

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

[2] ALBRECHT 93E reports $< 2.1 \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \to D_s^{*+}\phi)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

[3] ALEXANDER 93B reports $< 4.2 \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to D_s^{*+}\phi)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^+ \overline{K}^0)/\Gamma_{total}$ Γ_{210}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<8 × 10⁻⁴	90	[1] ALEXANDER	93B	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.5 \times 10^{-3}$	90	[2] ALBRECHT	93E	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALEXANDER 93B reports $< 10.3 \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to D_s^+ \overline{K}^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

[2] ALBRECHT 93E reports $< 2.5 \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \to D_s^+ \overline{K}^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^{*+} \overline{K}^0)/\Gamma_{total}$ Γ_{211}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<9 × 10⁻⁴	90	[1] ALEXANDER	93B	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.9 \times 10^{-3}$	90	[2] ALBRECHT	93E	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALEXANDER 93B reports $< 10.9 \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to D_s^{*+} \overline{K}^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

[2] ALBRECHT 93E reports $< 3.1 \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \to D_s^{*+} \overline{K}^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^+ \overline{K}^*(892)^0)/\Gamma_{total}$ Γ_{212}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<4.4 × 10⁻⁶	90	AAIJ	13R	LHCB	pp at 7 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<4 \times 10^{-4}$	90	[1] ALEXANDER	93B	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] ALEXANDER 93B reports $< 4.4 \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to D_s^+ \overline{K}^*(892)^0)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^+ K^{*0})/\Gamma_{total}$ Γ_{213}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<3.5	90	AAIJ	13R	LHCB	pp at 7 TeV

$\Gamma(D_s^{*+} \overline{K}^*(892)^0)/\Gamma_{total}$ Γ_{214}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<3.5 × 10⁻⁴	90	[1] ALEXANDER	93B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

[1] ALEXANDER 93B reports $< 4.3 \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \rightarrow D_s^{*+} \overline{K}^*(892)^0)/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)]$ assuming $B(D_s^+ \rightarrow \phi\pi^+) = 0.037$, which we rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^- \pi^+ K^+)/\Gamma_{total}$ Γ_{215}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
1.80±0.22 OUR AVERAGE					
$1.71^{+0.08}_{-0.07} \pm 0.25$		[1] WIECHCZYN...	09	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$2.02 \pm 0.13 \pm 0.38$		[1] AUBERT	08G	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<7	90	[2] ALBRECHT	93E	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

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

[2] ALBRECHT 93E reports $< 1.1 \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \rightarrow D_s^- \pi^+ K^+)/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)]$ assuming $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^{*-} \pi^+ K^+)/\Gamma_{total}$ Γ_{216}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
1.45±0.24 OUR AVERAGE					
$1.31^{+0.13}_{-0.12} \pm 0.28$		[1] WIECHCZYN...	09	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$1.67 \pm 0.16 \pm 0.35$		[1] AUBERT	08G	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<10	90	[2] ALBRECHT	93E	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

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

[2] ALBRECHT 93E reports $< 1.6 \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \rightarrow D_s^{*-} \pi^+ K^+)/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)]$ assuming $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^- \pi^+ K^*(892)^+)/\Gamma_{total}$ Γ_{217}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<5 × 10⁻³	90	[1] ALBRECHT	93E	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] ALBRECHT 93E reports $< 8.6 \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \rightarrow D_s^- \pi^+ K^*(892)^+)/\Gamma_{total}] \times [B(D_s^+ \rightarrow \phi\pi^+)]$ assuming $B(D_s^+ \rightarrow \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \rightarrow \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^{*-}\pi^+ K^*(892)^+)/\Gamma_{total}$ Γ_{218}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<7 × 10^{-3}	90	[1] ALBRECHT	93E	ARG	$e^+e^- \to \Upsilon(4S)$

[1] ALBRECHT 93E reports $< 1.1 \times 10^{-2}$ from a measurement of $[\Gamma(B^+ \to D_s^{*-}\pi^+ K^*(892)^+)/\Gamma_{total}] \times [B(D_s^+ \to \phi\pi^+)]$ assuming $B(D_s^+ \to \phi\pi^+) = 0.027$, which we rescale to our best value $B(D_s^+ \to \phi\pi^+) = 4.5 \times 10^{-2}$.

$\Gamma(D_s^- K^+ K^+)/\Gamma_{total}$ Γ_{219}/Γ

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
0.97±0.21 OUR AVERAGE				
0.93±0.22±0.10	[1] WIECHCZYN...	15	BELL	$e^+e^- \to \Upsilon(4S)$
1.1 ±0.4 ±0.2	[1] AUBERT	08G	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(D_s^- K^+ K^+)/\Gamma(D_s^-\pi^+ K^+)$ $\Gamma_{219}/\Gamma_{215}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.054±0.013±0.006	WIECHCZYN...	15	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(D_s^{*-} K^+ K^+)/\Gamma_{total}$ Γ_{220}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<0.15	90	[1] AUBERT	08G	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\eta_c K^+)/\Gamma_{total}$ Γ_{221}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
0.96±0.11 OUR AVERAGE				
0.87±0.15	[1,2] AUBERT	06E	BABR	$e^+e^- \to \Upsilon(4S)$
$1.20^{+0.24}_{-0.19}\pm0.13$	[3] AUBERT,B	05L	BABR	$e^+e^- \to \Upsilon(4S)$
$1.25\pm0.14^{+0.39}_{-0.40}$	[4] FANG	03	BELL	$e^+e^- \to \Upsilon(4S)$
$0.69^{+0.26}_{-0.21}\pm0.22$	[5] EDWARDS	01	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.02±0.12±0.07	[2,6] AUBERT,B	04B	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Perform measurements of absolute branching fractions using a missing mass technique.
[2] The ratio of $B(B^\pm \to K^\pm\eta_c)$ $B(\eta_c \to K\overline{K}\pi) = (7.4 \pm 0.5 \pm 0.7) \times 10^{-5}$ reported in AUBERT,B 04B and $B(B^\pm \to K^\pm\eta_c) = (8.7 \pm 1.5) \times 10^{-3}$ reported in AUBERT 06E contribute to the determination of $B(\eta_c \to K\overline{K}\pi)$, which is used by others for normalization.
[3] AUBERT,B 05L reports $[\Gamma(B^+ \to \eta_c K^+)/\Gamma_{total}] \times [B(\eta_c(1S) \to p\overline{p})] = (1.8^{+0.3}_{-0.2} \pm 0.2) \times 10^{-6}$ which we divide by our best value $B(\eta_c(1S) \to p\overline{p}) = (1.50 \pm 0.16) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.
[4] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[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.

[6] AUBERT,B 04B reports $[\Gamma(B^+ \to \eta_c K^+)/\Gamma_{total}] \times [B(\eta_c(1S) \to K\overline{K}\pi)] = (0.074 \pm 0.005 \pm 0.007) \times 10^{-3}$ which we divide by our best value $B(\eta_c(1S) \to K\overline{K}\pi) = (7.3 \pm 0.5) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(B^+ \to \eta_c K^+)/\Gamma_{total} \times \Gamma(\eta_c(1S) \to \gamma\gamma)/\Gamma_{total}$ — $\Gamma_{221}/\Gamma \times \Gamma_{47}^{\eta_c(1S)}/\Gamma^{\eta_c(1S)}$

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.22^{+0.09}_{-0.07}{}^{+0.04}_{-0.02}}$	[1] WICHT	08	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\eta_c K^+,\ \eta_c \to K^0_S K^\mp \pi^\pm)/\Gamma_{total}$ — Γ_{222}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{26.7 \pm 1.4^{+5.7}_{-5.5}}$	[1,2] VINOKUROVA	11	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^0 and B^+ from Upsilon(4S) decays.
[2] VINOKUROVA 11 reports $(26.7 \pm 1.4^{+2.9}_{-2.6} \pm 4.9) \times 10^{-6}$, where the first uncertainty is statistical, the second is due to systematics, and the third comes from interference of $\eta_c(1S) \to K^0_S K^\pm \pi^\mp$ with nonresonant $K^0_S K^\pm \pi^\mp$. We combined both systematic uncertainties to single values.

$\Gamma(\eta_c K^*(892)^+)/\Gamma_{total}$ — Γ_{223}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
$\mathbf{1.0^{+0.5}_{-0.4} \pm 0.1}$	[1,2] AUBERT	07AV	BABR	$e^+e^- \to \Upsilon(4S)$

[1] AUBERT 07AV reports $[\Gamma(B^+ \to \eta_c K^*(892)^+)/\Gamma_{total}] \times [B(\eta_c(1S) \to p\overline{p})] = (1.57^{+0.56}_{-0.46}{}^{+0.45}_{-0.36}) \times 10^{-6}$ which we divide by our best value $B(\eta_c(1S) \to p\overline{p}) = (1.50 \pm 0.16) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\eta_c K^+ \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{224}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{<3.9 \times 10^{-4}}$	90	VINOKUROVA	15	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\eta_c K^+ \omega(782))/\Gamma_{total}$ — Γ_{225}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{<5.3 \times 10^{-4}}$	90	VINOKUROVA	15	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\eta_c K^+ \eta)/\Gamma_{total}$ — Γ_{226}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{<2.2 \times 10^{-4}}$	90	VINOKUROVA	15	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\eta_c K^+ \pi^0)/\Gamma_{total}$ — Γ_{227}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{<6.2 \times 10^{-5}}$	90	VINOKUROVA	15	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\eta_c(2S)K^+)/\Gamma_{total}$ — Γ_{228}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
3.4±1.8±0.3	[1] AUBERT	06E	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Perform measurements of absolute branching fractions using a missing mass technique.

$\Gamma(\eta_c(2S)K^+,\ \eta_c \to p\overline{p})/\Gamma_{total}$ — Γ_{229}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.06 × 10^{-7}	95	[1] AAIJ	13S	LHCB	pp at 7 TeV

[1] Measured relative to $B^+ \to J/\psi K^+$ decay with charmonia reconstructed in $p\overline{p}$ final state and using B($B^+ \to J/\psi K^+$) = (1.013 ± 0.034) × 10^{-3} and B($J/\psi \to p\overline{p}$) = (2.17 ± 0.07) × 10^{-3}.

$\Gamma(B^+ \to h_c(1P)K^+)/\Gamma_{total} \times \Gamma(h_c(1P) \to \gamma\eta_c(1S))/\Gamma_{total}$ — $\Gamma_{325}/\Gamma \times \Gamma_9^{h_c(1P)}/\Gamma^{h_c(1P)}$

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<0.48	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 ± 0.032 at $\Upsilon(4S)$.

$\Gamma(B^+ \to \eta_c(2S)K^+)/\Gamma_{total} \times \Gamma(\eta_c(2S) \to \gamma\gamma)/\Gamma_{total}$ — $\Gamma_{228}/\Gamma \times \Gamma_{15}^{\eta_c(2S)}/\Gamma^{\eta_c(2S)}$

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.18	90	[1] WICHT	08	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\eta_c(2S)K^+,\ \eta_c \to K_S^0 K^\mp \pi^\pm)/\Gamma_{total}$ — Γ_{230}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$3.4^{+2.2}_{-1.5}{}^{+0.5}_{-0.4}$	[1,2] VINOKUROVA	11	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^0 and B^+ from Upsilon(4S) decays.
[2] The first uncertainty includes both statistical and interference effects while the second is due to systematics.

$\Gamma(J/\psi(1S)K^+)/\Gamma_{total}$ — Γ_{262}/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
10.26± 0.31 OUR FIT					
10.24± 0.35 OUR AVERAGE					
8.1 ± 1.3 ±0.7		[1] AUBERT	06E	BABR	$e^+e^- \to \Upsilon(4S)$
10.61± 0.15±0.48		[2] AUBERT	05J	BABR	$e^+e^- \to \Upsilon(4S)$
10.4 ± 1.1 ±0.1		[3] AUBERT,B	05L	BABR	$e^+e^- \to \Upsilon(4S)$
10.1 ± 0.2 ±0.7		[2] ABE	03B	BELL	$e^+e^- \to \Upsilon(4S)$
10.2 ± 0.8 ±0.7		[2] JESSOP	97	CLE2	$e^+e^- \to \Upsilon(4S)$
9.24± 3.04±0.05		[4] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
8.09± 3.50±0.04	6	[5] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$

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

10.1 ± 0.3 ±0.5		[2] AUBERT	02	BABR	Repl. by AUBERT 05J
11.0 ± 1.5 ±0.9	59	[2] ALAM	94	CLE2	Repl. by JESSOP 97
22 ±10 ±2		BUSKULIC	92G	ALEP	$e^+e^- \rightarrow Z$
7 ± 4	3	[6] ALBRECHT	87D	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
10 ± 7 ±2	3	[7] BEBEK	87	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
9 ± 5	3	[8] ALAM	86	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Perform measurements of absolute branching fractions using a missing mass technique.

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

[3] AUBERT,B 05L reports $[\Gamma(B^+ \rightarrow J/\psi(1S)K^+)/\Gamma_{total}] \times [B(J/\psi(1S) \rightarrow p\overline{p})] = (2.2 \pm 0.2 \pm 0.1) \times 10^{-6}$ which we divide by our best value $B(J/\psi(1S) \rightarrow p\overline{p}) = (2.120 \pm 0.029) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[4] BORTOLETTO 92 reports $(8 \pm 2 \pm 2) \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \rightarrow J/\psi(1S)K^+)/\Gamma_{total}] \times [B(J/\psi(1S) \rightarrow e^+e^-)]$ assuming $B(J/\psi(1S) \rightarrow e^+e^-) = 0.069 \pm 0.009$, which we rescale to our best value $B(J/\psi(1S) \rightarrow e^+e^-) = (5.971 \pm 0.032) \times 10^{-2}$. 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 $\Upsilon(4S)$.

[5] ALBRECHT 90J reports $(7 \pm 3 \pm 1) \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \rightarrow J/\psi(1S)K^+)/\Gamma_{total}] \times [B(J/\psi(1S) \rightarrow e^+e^-)]$ assuming $B(J/\psi(1S) \rightarrow e^+e^-) = 0.069 \pm 0.009$, which we rescale to our best value $B(J/\psi(1S) \rightarrow e^+e^-) = (5.971 \pm 0.032) \times 10^{-2}$. 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 $\Upsilon(4S)$.

[6] ALBRECHT 87D assume $B^+B^-/B^0\overline{B}^0$ ratio is 55/45. Superseded by ALBRECHT 90J.

[7] BEBEK 87 value has been updated in BERKELMAN 91 to use same assumptions as noted for BORTOLETTO 92.

[8] ALAM 86 assumes $B^\pm/B^0$ ratio is 60/40.

$\Gamma(\eta_c K^+)/\Gamma(J/\psi(1S)K^+)$ — $\Gamma_{221}/\Gamma_{262}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.84±0.10 OUR AVERAGE				
0.82±0.06±0.09	[1] AAIJ	13S	LHCB	pp at 7 TeV
1.33±0.10±0.43	[2] AUBERT,B	04B	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] AAIJ 13S reports $[\Gamma(B^+ \rightarrow \eta_c K^+)/\Gamma(B^+ \rightarrow J/\psi(1S)K^+)] \times [B(\eta_c(1S) \rightarrow p\overline{p})] / [B(J/\psi(1S) \rightarrow p\overline{p})] = 0.578 \pm 0.035 \pm 0.026$ which we multiply or divide by our best values $B(\eta_c(1S) \rightarrow p\overline{p}) = (1.50 \pm 0.16) \times 10^{-3}$, $B(J/\psi(1S) \rightarrow p\overline{p}) = (2.120 \pm 0.029) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

[2] Uses BABAR measurement of $B(B^+ \rightarrow J/\psi K^+) = (10.1 \pm 0.3 \pm 0.5) \times 10^{-4}$.

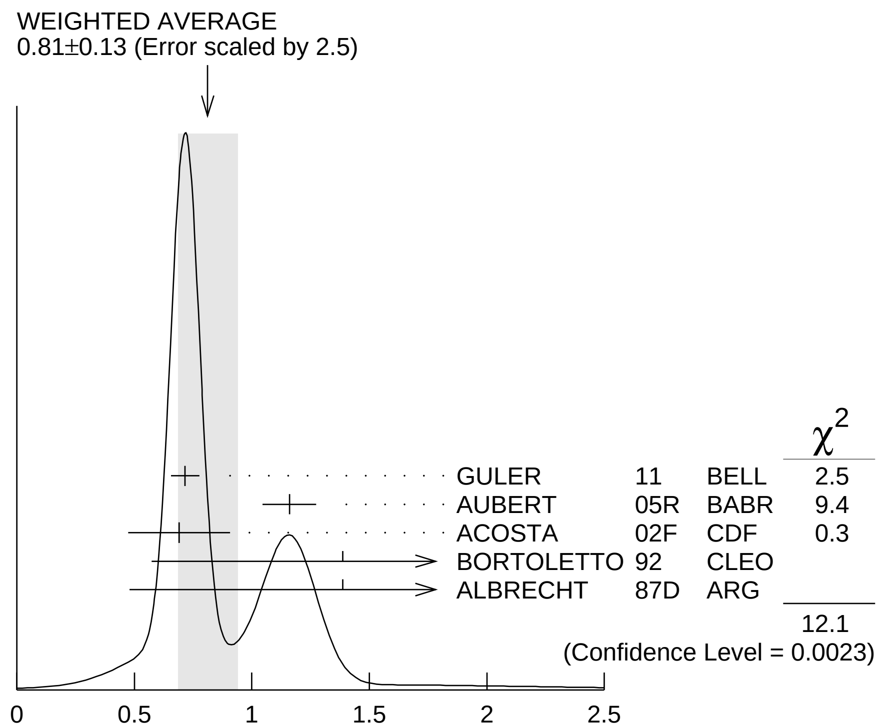
$\Gamma(B^+ \rightarrow J/\psi(1S)K^+)/\Gamma_{total} \times \Gamma(J/\psi(1S) \rightarrow \gamma\gamma)/\Gamma_{total}$ — $\Gamma_{262}/\Gamma \times \Gamma_{238}^{J/\psi(1S)}/\Gamma^{J/\psi(1S)}$

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.16	90	[1] WICHT	08	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(J/\psi(1S) K^+ \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{264}/Γ

VALUE (units 10^{-3})	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
0.81 ±0.13 OUR AVERAGE Error includes scale factor of 2.5. See the ideogram below.						
0.716±0.010±0.060			[1] GULER	11	BELL	$e^+ e^- \to \Upsilon(4S)$
1.16 ±0.07 ±0.09			[1] AUBERT	05R	BABR	$e^+ e^- \to \Upsilon(4S)$
0.69 ±0.18 ±0.12			[2] ACOSTA	02F	CDF	$p\overline{p}$ 1.8 TeV
1.39 ±0.81 ±0.01			[3] BORTOLETTO	92	CLEO	$e^+ e^- \to \Upsilon(4S)$
1.39 ±0.91 ±0.01		6	[4] ALBRECHT	87D	ARG	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<1.8	90		[5] ALBRECHT	90J	ARG	$e^+ e^- \to \Upsilon(4S)$



$\Gamma\left(J/\psi(1S) K^+ \pi^+ \pi^-\right)/\Gamma_{total}$ (units 10^{-3})

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

[2] ACOSTA 02F uses as reference of B($B \to J/\psi(1S) K^+$) = $(10.1 \pm 0.6) \times 10^{-4}$. The second error includes the systematic error and the uncertainties of the branching ratio.

[3] BORTOLETTO 92 reports $(1.2 \pm 0.6 \pm 0.4) \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \to J/\psi(1S) K^+ \pi^+ \pi^-)/\Gamma_{total}] \times [B(J/\psi(1S) \to e^+ e^-)]$ 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 $\Upsilon(4S)$.

[4] ALBRECHT 87D reports $(1.2 \pm 0.8) \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \to J/\psi(1S) K^+ \pi^+ \pi^-)/\Gamma_{total}] \times [B(J/\psi(1S) \to e^+ e^-)]$ 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. They actually report 0.0011 ± 0.0007 assuming $B^+ B^- / B^0 \overline{B}^0$ ratio is 55/45. We rescale to 50/50. Analysis explicitly removes $B^+ \rightarrow \psi(2S) K^+$.

[5] ALBRECHT 90J reports < 1.6×10^{-3} from a measurement of $[\Gamma(B^+ \rightarrow J/\psi(1S) K^+ \pi^+ \pi^-)/\Gamma_{total}] \times [B(J/\psi(1S) \rightarrow e^+ e^-)]$ assuming $B(J/\psi(1S) \rightarrow e^+ e^-) = 0.069$, which we rescale to our best value $B(J/\psi(1S) \rightarrow e^+ e^-) = 5.971 \times 10^{-2}$. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(J/\psi(1S) K^+ K^- K^+)/\Gamma_{total}$ — Γ_{265}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
33.7±2.5±1.4	LEES	15	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

$\Gamma(h_c(1P) K^+,\ h_c \rightarrow J/\psi \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{231}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<3.4 × 10^−6	90	[1] AUBERT	05R	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(X(3730)^0 K^+,\ X^0 \rightarrow \eta_c \eta)/\Gamma_{total}$ — Γ_{232}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<4.6 × 10^−5	90	VINOKUROVA	15	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

$\Gamma(X(3730)^0 K^+,\ X^0 \rightarrow \eta_c \pi^0)/\Gamma_{total}$ — Γ_{233}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<5.7 × 10^−6	90	VINOKUROVA	15	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

$\Gamma(X(3872) K^+)/\Gamma_{total}$ — Γ_{234}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<3.2 × 10^−4	90	[1] AUBERT	06E	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Perform measurements of absolute branching fractions using a missing mass technique.

$\Gamma(B^+ \rightarrow X(3872) K^+)/\Gamma_{total} \times \Gamma(X(3872) \rightarrow \gamma\gamma)/\Gamma_{total}$ — $\Gamma_{234}/\Gamma \times \Gamma_7^{X(3872)}/\Gamma^{X(3872)}$

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.24	90	[1] WICHT	08	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(X(3872) K^+,\ X \rightarrow J/\psi \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{236}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
8.6 ±0.8 OUR AVERAGE				
8.63±0.82±0.52	[1] CHOI	11	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
8.4 ±1.5 ±0.7	[1] AUBERT	08Y	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
10.1 ±2.5 ±1.0	[1] AUBERT	06	BABR	Repl. by AUBERT 08Y
12.8 ±4.1	[1] AUBERT	05R	BABR	Repl. by AUBERT 06
12.5 ±2.8 ±0.5	[2] CHOI	03	BELL	Repl. by CHOI 11

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] CHOI 03 reports $[\Gamma(B^+ \to X(3872) K^+, X \to J/\psi \pi^+ \pi^-)/\Gamma_{total}] / [B(B^+ \to \psi(2S) K^+)] = 0.0200 \pm 0.0038 \pm 0.0023$ which we multiply by our best value $B(B^+ \to \psi(2S) K^+) = (6.26 \pm 0.24) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(X(3872) K^+, X \to J/\psi\gamma)/\Gamma_{total}$ — Γ_{237}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
2.1 ±0.4 OUR AVERAGE Error includes scale factor of 1.1.				
$1.78^{+0.48}_{-0.44} \pm 0.12$	[1] BHARDWAJ	11	BELL	$e^+ e^- \to \Upsilon(4S)$
$2.8 \pm 0.8 \pm 0.1$	[2] AUBERT	09B	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$3.3 \pm 1.0 \pm 0.3$	[1] AUBERT,BE	06M	BABR	Repl. by AUBERT 09B

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Uses $B(\Upsilon(4S) \to B^+ B^-) = (51.6 \pm 0.6)\%$ and $B(\Upsilon(4S) \to B^0 \overline{B}^0) = (48.4 \pm 0.6)\%$.

$\Gamma(X(3872) K^*(892)^+, X \to J/\psi\gamma)/\Gamma_{total}$ — Γ_{253}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<4.8	90	[1] AUBERT	09B	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Uses $B(\Upsilon(4S) \to B^+ B^-) = (51.6 \pm 0.6)\%$ and $B(\Upsilon(4S) \to B^0 \overline{B}^0) = (48.4 \pm 0.6)\%$.

$\Gamma(X(3872) K^+, X \to \psi(2S)\gamma)/\Gamma_{total}$ — Γ_{238}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
4 ±4 OUR AVERAGE Error includes scale factor of 2.5.				
$0.83^{+1.98}_{-1.83} \pm 0.44$	[1,2] BHARDWAJ	11	BELL	$e^+ e^- \to \Upsilon(4S)$
$9.5 \pm 2.7 \pm 0.6$	[3] AUBERT	09B	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] BHARDWAJ 11 measurement is equivalent to a limit of $< 3.45 \times 10^{-6}$ at 90% CL.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[3] Uses $B(\Upsilon(4S) \to B^+ B^-) = (51.6 \pm 0.6)\%$ and $B(\Upsilon(4S) \to B^0 \overline{B}^0) = (48.4 \pm 0.6)\%$.

$\Gamma(X(3872) K^*(892)^+, X \to \psi(2S)\gamma)/\Gamma_{total}$ — Γ_{254}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<28	90	[1] AUBERT	09B	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Uses $B(\Upsilon(4S) \to B^+ B^-) = (51.6 \pm 0.6)\%$ and $B(\Upsilon(4S) \to B^0 \overline{B}^0) = (48.4 \pm 0.6)\%$.

$\Gamma(X(3872) K^+, X \to D^0 \overline{D}^0)/\Gamma_{total}$ — Γ_{240}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.0 \times 10^{-5}$	90	[1] CHISTOV	04	BELL	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(X(3872) K^+, X \to D^+ D^-)/\Gamma_{total}$ — Γ_{241}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<4.0 \times 10^{-5}$	90	[1] CHISTOV	04	BELL	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma\big(X(3872)K^+,\ X \to D^0\overline{D}^0\pi^0\big)/\Gamma_{\text{total}}$ — Γ_{242}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
$1.02\pm0.31^{+0.21}_{-0.29}$		[1] GOKHROO	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.6	90	[2] CHISTOV	04	BELL	Repl. by GOKHROO 06

[1] 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.

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

$\Gamma\big(X(3872)K^+,\ X \to \overline{D}^{*0}D^0\big)/\Gamma_{\text{total}}$ — Γ_{243}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
0.85 ± 0.26 OUR AVERAGE	Error includes scale factor of 1.4.			
$0.77\pm0.16\pm0.10$	[1] AUSHEV	10	BELL	$e^+e^- \to \Upsilon(4S)$
$1.67\pm0.36\pm0.47$	[1] AUBERT	08B	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma\big(X(3872)^0K^+,\ X^0 \to \eta_c\pi^+\pi^-\big)/\Gamma_{\text{total}}$ — Γ_{244}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.0\times10^{-5}$	90	VINOKUROVA	15	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma\big(X(3872)^0K^+,\ X^0 \to \eta_c\omega(782)\big)/\Gamma_{\text{total}}$ — Γ_{245}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.9\times10^{-5}$	90	VINOKUROVA	15	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma\big(X(3872)K^+,\ X \to \chi_{c1}(1P)\pi^+\pi^-\big)/\Gamma_{\text{total}}$ — Γ_{246}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.5\times10^{-6}$	90	[1] BHARDWAJ	16	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma\big(X(3915)^0K^+,\ X^0 \to \eta_c\eta\big)/\Gamma_{\text{total}}$ — Γ_{247}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.3\times10^{-5}$	90	VINOKUROVA	15	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma\big(X(3915)^0K^+,\ X^0 \to \eta_c\pi^0\big)/\Gamma_{\text{total}}$ — Γ_{248}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.8\times10^{-5}$	90	VINOKUROVA	15	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma\big(X(4014)^0K^+,\ X^0 \to \eta_c\eta\big)/\Gamma_{\text{total}}$ — Γ_{249}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.9\times10^{-5}$	90	VINOKUROVA	15	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma\big(X(4014)^0K^+,\ X^0 \to \eta_c\pi^0\big)/\Gamma_{\text{total}}$ — Γ_{250}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.2\times10^{-5}$	90	VINOKUROVA	15	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(X(3900)^0 K^+,\ X^0 \to \eta_c \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{251}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<4.7 × 10^{-5}	90	VINOKUROVA	15	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(X(4020)^0 K^+,\ X^0 \to \eta_c \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{252}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.6 × 10^{-5}	90	VINOKUROVA	15	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(X(3872) K^+,\ X \to J/\psi(1S)\eta)/\Gamma_{total}$ — Γ_{239}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<7.7 × 10^{-6}	90	[1] AUBERT	04Y	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(X(3872)^+ K^0,\ X^+ \to J/\psi(1S)\pi^+\pi^0)/\Gamma_{total}$ — Γ_{255}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 6.1	90	[1,2] CHOI	11	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<22	90	[3] AUBERT	05B	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes $\pi^+ \pi^0$ originates from ρ^+.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. The isovector-X hypothesis is excluded with a likelihood test at 1×10^{-4} level.

$\Gamma(X(3872) K^0 \pi^+,\ X \to J/\psi(1S)\pi^+\pi^-)/\Gamma_{total}$ — Γ_{256}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
10.6±3.0±0.9	BALA	15	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(X(4430)^+ K^0,\ X^+ \to J/\psi \pi^+)/\Gamma_{total}$ — Γ_{257}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
<1.5	95	[1] AUBERT	09AA	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(X(4430)^+ K^0,\ X^+ \to \psi(2S)\pi^+)/\Gamma_{total}$ — Γ_{258}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
<4.7	95	[1] AUBERT	09AA	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(X(4260)^0 K^+,\ X^0 \to J/\psi \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{259}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<29	95	[1] AUBERT	06	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(X(3915) K^+,\ X \to J/\psi \gamma)/\Gamma_{total}$ — Γ_{260}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<14	90	[1] AUBERT,BE	06M	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(X(3930)^0 K^+,\ X^0 \to J/\psi\gamma)/\Gamma_{total}$ Γ_{261}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<2.5	90	[1] AUBERT,BE	06M	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(J/\psi(1S) K^0 \pi^+)/\Gamma_{total}$ Γ_{263}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.101 ± 0.021	[1] AUBERT	09AA	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Does not report systematic uncertainties.

$\Gamma(J/\psi(1S) K^*(892)^+)/\Gamma_{total}$ Γ_{267}/Γ

For polarization information see the Listings at the end of the "B^0 Branching Ratios" section.

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
1.43 ±0.08 OUR FIT					
1.43 ±0.08 OUR AVERAGE					
$1.78\ {}^{+0.36}_{-0.32} \pm 0.02$		[1,2] AUBERT	07AV	BABR	$e^+e^- \to \Upsilon(4S)$
$1.454 \pm 0.047 \pm 0.097$		[2] AUBERT	05J	BABR	$e^+e^- \to \Upsilon(4S)$
$1.28 \pm 0.07 \pm 0.14$		[2] ABE	02N	BELL	$e^+e^- \to \Upsilon(4S)$
$1.41 \pm 0.23 \pm 0.24$		[2] JESSOP	97	CLE2	$e^+e^- \to \Upsilon(4S)$
$1.58 \pm 0.47 \pm 0.27$		[3] ABE	96H	CDF	$p\overline{p}$ at 1.8 TeV
$1.50 \pm 1.08 \pm 0.01$		[4] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
$1.85 \pm 1.30 \pm 0.01$	2	[5] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$1.37 \pm 0.09 \pm 0.11$		[2] AUBERT	02	BABR	Repl. by AUBERT 05J
$1.78 \pm 0.51 \pm 0.23$	13	[2] ALAM	94	CLE2	Sup. by JESSOP 97

[1] AUBERT 07AV reports $[\Gamma(B^+ \to J/\psi(1S) K^*(892)^+)/\Gamma_{total}] \times [B(J/\psi(1S) \to p\overline{p})] = (3.78 {}^{+0.72}_{-0.64} {}^{+0.28}_{-0.23}) \times 10^{-6}$ which we divide by our best value $B(J/\psi(1S) \to p\overline{p}) = (2.120 \pm 0.029) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

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

[3] ABE 96H assumes that $B(B^+ \to J/\psi K^+) = (1.02 \pm 0.14) \times 10^{-3}$.

[4] BORTOLETTO 92 reports $(1.3 \pm 0.9 \pm 0.3) \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \to J/\psi(1S) K^*(892)^+)/\Gamma_{total}] \times [B(J/\psi(1S) \to e^+e^-)]$ 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 $\Upsilon(4S)$.

[5] ALBRECHT 90J reports $(1.6 \pm 1.1 \pm 0.3) \times 10^{-3}$ from a measurement of $[\Gamma(B^+ \to J/\psi(1S) K^*(892)^+)/\Gamma_{total}] \times [B(J/\psi(1S) \to e^+e^-)]$ 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 $\Upsilon(4S)$.

$\Gamma(J/\psi(1S)K^*(892)^+)/\Gamma(J/\psi(1S)K^+)$ — $\Gamma_{267}/\Gamma_{262}$

VALUE	DOCUMENT ID		TECN	COMMENT
1.39±0.09 OUR AVERAGE				
1.37±0.05±0.08	AUBERT	05J	BABR	$e^+e^- \to \Upsilon(4S)$
1.45±0.20±0.17	[1] JESSOP	97	CLE2	$e^+e^- \to \Upsilon(4S)$
1.92±0.60±0.17	ABE	96Q	CDF	$p\overline{p}$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.37±0.10±0.08	[2] AUBERT	02	BABR	Repl. by AUBERT 05J

[1] JESSOP 97 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$. The measurement is actually measured as an average over kaon charged and neutral states.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(J/\psi(1S)K(1270)^+)/\Gamma_{total}$ — Γ_{268}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
1.80±0.34±0.39	[1] ABE	01L	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Uses the PDG value of $B(B^+ \to J/\psi(1S)K^+) = (1.00 \pm 0.10) \times 10^{-3}$.

$\Gamma(J/\psi(1S)K(1400)^+)/\Gamma(J/\psi(1S)K(1270)^+)$ — $\Gamma_{269}/\Gamma_{268}$

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.30	90	ABE	01L	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(J/\psi(1S)\eta K^+)/\Gamma_{total}$ — Γ_{270}/Γ

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
12.4±1.4 OUR AVERAGE				
12.7±1.1±1.1	[1] IWASHITA	14	BELL	$e^+e^- \to \Upsilon(4S)$
10.8±2.3±2.4	[1] AUBERT	04Y	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(X^{c-odd}(3872)K^+,\ X^{c-odd} \to J/\psi\eta)/\Gamma_{total}$ — Γ_{271}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.8 \times 10^{-6}$	90	IWASHITA	14	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\psi(4160)K^+,\ \psi \to J/\psi\eta)/\Gamma_{total}$ — Γ_{272}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<7.4 \times 10^{-6}$	90	IWASHITA	14	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(J/\psi(1S)\eta' K^+)/\Gamma_{total}$ — Γ_{273}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
<8.8	90	[1] XIE	07	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(J/\psi(1S)\phi K^+)/\Gamma_{total}$ — Γ_{274}/Γ

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
5.0 ±0.4 OUR AVERAGE				
5.00±0.37±0.15	LEES	15	BABR	$e^+e^- \to \Upsilon(4S)$
4.4 ±1.4 ±0.5	[1] AUBERT	03O	BABR	$e^+e^- \to \Upsilon(4S)$
$8.8\ ^{+3.5}_{-3.0}\ \pm1.3$	[2] ANASTASSOV	00	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[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($B^+ \rightarrow J/\psi(1S)\phi K^+$)= B($B^0 \rightarrow J/\psi(1S)\phi K^0$).

$\Gamma(J/\psi(1S)K_1(1650),\ K_1 \rightarrow \phi K^+)/\Gamma(J/\psi(1S)\phi K^+)$ $\Gamma_{275}/\Gamma_{274}$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.12 \pm 0.10^{+0.17}_{-0.06}$	[1] AAIJ	17	LHCB	pp at 7, 8 TeV

[1] Measured in amplitude analysis of $B^+ \rightarrow J/\psi(1S)\phi K^+$.

$\Gamma(J/\psi(1S)K^*(1680)^+,\ K^* \rightarrow \phi K^+)/\Gamma(J/\psi(1S)\phi K^+)$ $\Gamma_{276}/\Gamma_{274}$

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
$6.7 \pm 1.9^{+3.2}_{-3.9}$	[1] AAIJ	17	LHCB	pp at 7, 8 TeV

[1] Measured in amplitude analysis of $B^+ \rightarrow J/\psi(1S)\phi K^+$.

$\Gamma(J/\psi(1S)K_2^*(1980),\ K_2^* \rightarrow \phi K^+)/\Gamma(J/\psi(1S)\phi K^+)$ $\Gamma_{277}/\Gamma_{274}$

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
$2.9 \pm 0.8^{+1.7}_{-0.7}$	[1] AAIJ	17	LHCB	pp at 7, 8 TeV

[1] Measured in amplitude analysis of $B^+ \rightarrow J/\psi(1S)\phi K^+$.

$\Gamma(J/\psi(1S)K(1830)^+,\ K(1830)^+ \rightarrow \phi K^+)/\Gamma(J/\psi(1S)\phi K^+)$ $\Gamma_{278}/\Gamma_{274}$

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
$2.6 \pm 1.1^{+2.3}_{-1.8}$	[1] AAIJ	17	LHCB	pp at 7, 8 TeV

[1] Measured in amplitude analysis of $B^+ \rightarrow J/\psi(1S)\phi K^+$.

$\Gamma(X(4140)K^+,\ X \rightarrow J/\psi(1S)\phi)/\Gamma(J/\psi(1S)\phi K^+)$ $\Gamma_{279}/\Gamma_{274}$

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
0.19 ± 0.08 OUR AVERAGE					
$0.13 \pm 0.032^{+4.8}_{-2.0}$		[1] AAIJ	17	LHCB	pp at 7, 8 TeV
$0.19 \pm 0.07 \pm 0.04$		[2] ABAZOV	14A	D0	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.133	90	LEES	15	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
<0.07	90	[3] AAIJ	12AA	LHCB	pp at 7 TeV

[1] Measured in amplitude analysis of $B^+ \rightarrow J/\psi(1S)\phi K^+$.
[2] Reported a threshold enhancement in the $J/\psi\phi$ mass distribution consistent with the $X(4140)$ state with a statistical significance of 3.1 standard deviations.
[3] Branching fractions are normalized to 382 ± 22 events of $B^+ \rightarrow J/\psi\phi K^+$.

$\Gamma(X(4274)K^+,\ X\to J/\psi(1S)\phi)/\Gamma(J/\psi(1S)\phi K^+)$ — $\Gamma_{280}/\Gamma_{274}$

VALUE (units 10^{-2})	CL%	DOCUMENT ID		TECN	COMMENT
$7.1\pm2.5^{+3.5}_{-2.4}$		[1] AAIJ	17	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<18.1	90	LEES	15	BABR	$e^+e^-\to\Upsilon(4S)$
<8	90	[2] AAIJ	12AA	LHCB	Repl. by AAIJ 17

[1] Measured in amplitude analysis of $B^+\to J/\psi(1S)\phi K^+$.
[2] Branching fractions are normalized to 382 ± 22 events of $B^+\to J/\psi\phi K^+$.

$\Gamma(X(4500)K^+,\ X\to J/\psi(1S)\phi)/\Gamma(J/\psi(1S)\phi K^+)$ — $\Gamma_{281}/\Gamma_{274}$

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
$6.6\pm2.4^{+3.5}_{-2.3}$	[1] AAIJ	17	LHCB	pp at 7, 8 TeV

[1] Measured in amplitude analysis of $B^+\to J/\psi(1S)\phi K^+$.

$\Gamma(X(4700)K^+,\ X\to J/\psi(1S)\phi)/\Gamma(J/\psi(1S)\phi K^+)$ — $\Gamma_{282}/\Gamma_{274}$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.12\pm0.05^{+0.09}_{-0.05}$	[1] AAIJ	17	LHCB	pp at 7, 8 TeV

[1] Measured in amplitude analysis of $B^+\to J/\psi(1S)\phi K^+$.

$\Gamma(J/\psi(1S)\omega K^+)/\Gamma_{total}$ — Γ_{283}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$3.2\pm0.1^{+0.6}_{-0.3}$	[1] DEL-AMO-SA..10B		BABR	$e^+e^-\to\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$3.5\pm0.2\pm0.4$	[1] AUBERT	08W	BABR	Repl. by DEL-AMO-SANCHEZ 10B

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

$\Gamma(X(3872)K^+,\ X\to J/\psi\omega)/\Gamma_{total}$ — Γ_{284}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$6\pm2\pm1$	[1] DEL-AMO-SA..10B		BABR	$e^+e^-\to\Upsilon(4S)$

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

$\Gamma(X(3872)K^+,\ X\to p\overline{p})/\Gamma_{total}$ — Γ_{235}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.7\times10^{-8}$	95	[1] AAIJ	13S	LHCB	pp at 7 TeV

[1] Measured relative to $B^+\to J/\psi K^+$ decay with charmonia reconstructed in $p\overline{p}$ final state and using B($B^+\to J/\psi K^+$) = $(1.013\pm0.034)\times10^{-3}$ and B($J/\psi\to p\overline{p}$) = $(2.17\pm0.07)\times10^{-3}$.

$\Gamma(X(3915)K^+,\ X \to J/\psi\omega)/\Gamma_{total}$ — Γ_{285}/Γ

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
$\mathbf{3.0^{+0.7+0.5}_{-0.6-0.3}}$	[1] DEL-AMO-SA...	10B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$4.9^{+1.0}_{-0.9}\pm0.5$	[1] AUBERT	08W	BABR	Repl. by DEL-AMO-SANCHEZ 10B

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

$\Gamma(X(3915)K^+,\ X \to p\overline{p})/\Gamma_{total}$ — Γ_{266}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{<7.1\times10^{-8}}$	95	[1] AAIJ	13S	LHCB	pp at 7 TeV

[1] Measured relative to $B^+ \to J/\psi K^+$ decay with charmonia reconstructed in $p\overline{p}$ final state and using B($B^+ \to J/\psi K^+$) = $(1.013 \pm 0.034) \times 10^{-3}$ and B($J/\psi \to p\overline{p}$) = $(2.17 \pm 0.07) \times 10^{-3}$.

$\Gamma(J/\psi(1S)\pi^+)/\Gamma_{total}$ — Γ_{286}/Γ

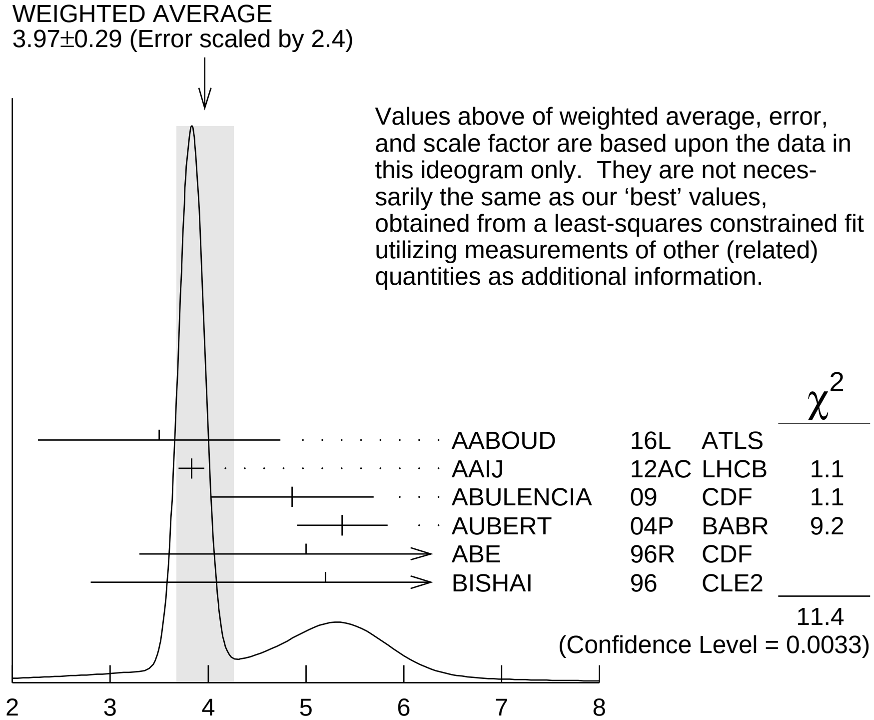
VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{(4.1\pm0.4)\times10^{-5}}$ **OUR FIT**	Error includes scale factor of 2.2.			
$\mathbf{(3.8\pm0.6\pm0.3)\times10^{-5}}$	[1] ABE	03B	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(J/\psi(1S)\pi^+)/\Gamma(J/\psi(1S)K^+)$ — $\Gamma_{286}/\Gamma_{262}$

VALUE (units 10^{-2})	EVTS	DOCUMENT ID		TECN	COMMENT
3.96±0.34 OUR FIT	Error includes scale factor of 2.7.				
3.97±0.29 OUR AVERAGE	Error includes scale factor of 2.4. See the ideogram below.				
$3.5\pm0.3\pm1.2$		AABOUD	16L	ATLS	pp at 7, 8 TeV
$3.83\pm0.11\pm0.07$		AAIJ	12AC	LHCB	pp at 7 TeV
$4.86\pm0.82\pm0.15$		ABULENCIA	09	CDF	$p\overline{p}$ at 1.96 TeV
$5.37\pm0.45\pm0.11$		AUBERT	04P	BABR	$e^+e^- \to \Upsilon(4S)$
$5.0^{+1.9}_{-1.7}\pm0.1$		ABE	96R	CDF	$p\overline{p}$ 1.8 TeV
5.2 ± 2.4		BISHAI	96	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$3.91\pm0.78\pm0.19$		AUBERT	02F	BABR	Repl. by AUBERT 04P
4.3 ± 2.3	5	[1] ALEXANDER	95	CLE2	Sup. by BISHAI 96

[1] Assumes equal production of B^+B^- and $B^0\overline{B}^0$ on $\Upsilon(4S)$.



$\Gamma\big(J/\psi(1S)\pi^+\big)/\Gamma\big(J/\psi(1S)K^+\big)$ (units 10^{-2})

$\Gamma\big(J/\psi(1S)\pi^+\pi^+\pi^+\pi^-\pi^-\big)/\Gamma\big(\psi(2S)K^+\big)$ — $\Gamma_{287}/\Gamma_{298}$

VALUE (units 10^{-2})	DOCUMENT ID		COMMENT
1.88±0.17±0.09	[1] AAIJ	17K	pp at 7 and 8 TeV

[1] Contains also the contribution from $B^+ \to \psi(2S)[\to J/\psi\pi^+\pi^-]\,\pi^+\pi^+\pi^-$ decays.

$\Gamma\big(\psi(2S)\pi^+\pi^+\pi^-\big)/\Gamma\big(\psi(2S)K^+\big)$ — $\Gamma_{288}/\Gamma_{298}$

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
3.04±0.50±0.26	AAIJ	17K	LHCB	pp at 7 and 8 TeV

$\Gamma\big(J/\psi(1S)\rho^+\big)/\Gamma_{\text{total}}$ — Γ_{289}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
5.0±0.7±0.3		[1] AUBERT	07AC	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<77	90	BISHAI	96	CLE2	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma\big(J/\psi(1S)\pi^+\pi^0\,\text{nonresonant}\big)/\Gamma_{\text{total}}$ — Γ_{290}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
<0.73	90	[1] AUBERT	07AC	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma\big(J/\psi(1S)a_1(1260)^+\big)/\Gamma_{\text{total}}$ — Γ_{291}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.2\times10^{-3}$	90	BISHAI	96	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(J/\psi(1S) p\overline{p}\pi^+)/\Gamma_{total}$ — Γ_{292}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<5.0 \times 10^{-7}$	90	[1] AAIJ	13Z	LHCB	pp at 7 TeV

[1] Uses $B(B_s^0 \rightarrow J/\psi(1S)\pi^+\pi^-) = (1.98 \pm 0.20) \times 10^{-4}$.

$\Gamma(J/\psi(1S) p\overline{\Lambda})/\Gamma_{total}$ — Γ_{293}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
11.8±3.1 OUR AVERAGE					
$11.7 \pm 2.8^{+1.8}_{-2.3}$		[1] XIE	05	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$12\ ^{+9}_{-6}$		[1] AUBERT	03K	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<41	90	ZANG	04	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(J/\psi(1S)\overline{\Sigma}^0 p)/\Gamma_{total}$ — Γ_{294}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.1 \times 10^{-5}$	90	[1] XIE	05	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(J/\psi(1S) D^+)/\Gamma_{total}$ — Γ_{295}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
<12	90	[1] AUBERT	05U	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(J/\psi(1S)\overline{D}^0\pi^+)/\Gamma_{total}$ — Γ_{296}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
<2.5	90	[1] ZHANG	05B	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<5.2	90	[1] AUBERT	05R	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\psi(2S)\pi^+)/\Gamma_{total}$ — Γ_{297}/Γ

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
2.44±0.22±0.20	[1] BHARDWAJ	08	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\psi(2S)\pi^+)/\Gamma(\psi(2S)K^+)$ — $\Gamma_{297}/\Gamma_{298}$

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
3.97±0.29 OUR AVERAGE				
3.95±0.40±0.12	AAIJ	12AC	LHCB	pp at 7 TeV
3.99±0.36±0.17	BHARDWAJ	08	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

$\Gamma(\psi(2S)K^+)/\Gamma_{total}$ — Γ_{298}/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
6.26± 0.24 OUR FIT					
6.5 ± 0.4 OUR AVERAGE					
6.65± 0.17±0.55		[1] GULER	11	BELL	$e^+e^- \to \Upsilon(4S)$
4.9 ± 1.6 ±0.4		[2] AUBERT	06E	BABR	$e^+e^- \to \Upsilon(4S)$
6.17± 0.32±0.44		[1] AUBERT	05J	BABR	$e^+e^- \to \Upsilon(4S)$
7.8 ± 0.7 ±0.9		[1] RICHICHI	01	CLE2	$e^+e^- \to \Upsilon(4S)$
18 ± 8 ±4	5	[1] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
6.9 ± 0.6		[1] ABE	03B	BELL	Repl. by GULER 11
6.4 ± 0.5 ±0.8		[1] AUBERT	02	BABR	Repl. by AUBERT 05J
6.1 ± 2.3 ±0.9	7	[1] ALAM	94	CLE2	Repl. by RICHICHI 01
<5 at 90% CL		[1] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
22 ±17	3	[3] ALBRECHT	87D	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Perform measurements of absolute branching fractions using a missing mass technique.
[3] ALBRECHT 87D assume $B^+B^-/B^0\overline{B}^0$ ratio is 55/45. Superseded by ALBRECHT 90J.

$\Gamma(\psi(2S)K^+)/\Gamma(J/\psi(1S)K^+)$ — $\Gamma_{298}/\Gamma_{262}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.610±0.019 OUR FIT				
0.603±0.021 OUR AVERAGE				
0.59 ±0.11 ±0.02	[1] AAIJ	13S	LHCB	pp at 7 TeV
0.604±0.018±0.013	[2,3] AAIJ	12L	LHCB	pp at 7 TeV
0.63 ±0.05 ±0.08	ABAZOV	09Y	D0	$p\overline{p}$ at 1.96 TeV
0.558±0.082±0.056	ABE	98O	CDF	$p\overline{p}$ 1.8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.64 ±0.06 ±0.07	[4] AUBERT	02	BABR	$e^+e^- \to \Upsilon(4S)$

[1] AAIJ 13S reports $[\Gamma(B^+ \to \psi(2S)K^+)/\Gamma(B^+ \to J/\psi(1S)K^+)] \times [B(\psi(2S) \to p\overline{p})] / [B(J/\psi(1S) \to p\overline{p})] = 0.080 \pm 0.012 \pm 0.009$ which we multiply or divide by our best values $B(\psi(2S) \to p\overline{p}) = (2.88 \pm 0.10) \times 10^{-4}$, $B(J/\psi(1S) \to p\overline{p}) = (2.120 \pm 0.029) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.
[2] AAIJ 12L reports $0.594 \pm 0.006 \pm 0.016 \pm 0.015$ from a measurement of $[\Gamma(B^+ \to \psi(2S)K^+)/\Gamma(B^+ \to J/\psi(1S)K^+)] \times [B(J/\psi(1S) \to e^+e^-)] / [B(\psi(2S) \to e^+e^-)]$ 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 $B(J/\psi(1S) \to e^+e^-) = (5.971 \pm 0.032) \times 10^{-2}$, $B(\psi(2S) \to e^+e^-) = (7.89 \pm 0.17) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.
[3] Assumes $B(J/\psi \to \mu^+\mu^-) / B(\psi(2S) \to \mu^+\mu^-) = B(J/\psi \to e^+e^-) / B(\psi(2S) \to e^+e^-) = 7.69 \pm 0.19$.
[4] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\psi(2S) K^*(892)^+)/\Gamma_{total}$ — Γ_{299}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
6.7 ±1.4 OUR AVERAGE		Error includes scale factor of 1.3.			
5.92±0.85±0.89		[1] AUBERT	05J	BABR	$e^+e^- \to \Upsilon(4S)$
9.2 ±1.9 ±1.2		[1] RICHICHI	01	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<30	90	[1] ALAM	94	CLE2	Repl. by RICHICHI 01
<35	90	[1] BORTOLETTO	92	CLEO	$e^+e^- \to \Upsilon(4S)$
<49	90	[1] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\psi(2S) K^*(892)^+)/\Gamma(\psi(2S) K^+)$ — $\Gamma_{299}/\Gamma_{298}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.96±0.15±0.09	AUBERT	05J	BABR	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\psi(2S) K^0 \pi^+)/\Gamma_{total}$ — Γ_{300}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.588±0.034	[1] AUBERT	09AA	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Does not report systematic uncertainties.

$\Gamma(\psi(2S) K^+ \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{301}/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
4.3 ± 0.5 OUR AVERAGE					
4.31± 0.20±0.50		[1] GULER	11	BELL	$e^+e^- \to \Upsilon(4S)$
19 ±11 ±4	3	[1] ALBRECHT	90J	ARG	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\psi(2S) \phi(1020) K^+)/\Gamma_{total}$ — Γ_{302}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
4.0±0.4±0.6	[1,2] KHACHATRY...	17C	CMS	pp at 8 TeV

[1] Measured using $B^+ \to \psi(2S) K^+$ as a normalization channel. The second error represents total systematic uncertainties including those from branching fractions which were taken from PDG 16 as B($\phi \to K^+ K^-$) = 0.489 ± 0.005 and B($B^+ \to \psi(2S) K^+$) = $(6.26 \pm 0.24) \times 10^{-4}$.

[2] An upper limit on the fraction of the non-ϕ component in $B^+ \to \psi(2S) K^+ K^- K^+$ decays is set as 0.26 at the 95% confidence level.

$\Gamma(\psi(3770) K^+)/\Gamma_{total}$ — Γ_{303}/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
0.49±0.13 OUR AVERAGE				
3.5 ±2.5 ±0.3	[1] AUBERT	06E	BABR	$e^+e^- \to \Upsilon(4S)$
0.48±0.11±0.07	[2] CHISTOV	04	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Perform measurements of absolute branching fractions using a missing mass technique.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\psi(3770)K+, \psi \to D^0 \overline{D}^0)/\Gamma_{total}$ — Γ_{304}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
1.5 ±0.5 OUR AVERAGE	Error includes scale factor of 1.4.			
1.18±0.41±0.15	[1] LEES	15C	BABR	$e^+e^- \to \Upsilon(4S)$
2.2 ±0.5 ±0.3	[1] BRODZICKA	08	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.41±0.30±0.22	[1] AUBERT	08B	BABR	Repl. by LEES 15C
3.4 ±0.8 ±0.5	[1] CHISTOV	04	BELL	Repl. by BRODZICKA 08

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

$\Gamma(\psi(3770)K+, \psi \to D^+ D^-)/\Gamma_{total}$ — Γ_{305}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
0.94±0.35 OUR AVERAGE				
0.84±0.32±0.21	[1] AUBERT	08B	BABR	$e^+e^- \to \Upsilon(4S)$
1.4 ±0.8 ±0.2	[1] CHISTOV	04	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\psi(4040)K^+)/\Gamma_{total}$ — Γ_{306}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.3 × 10⁻⁴	90	AAIJ	13BC	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<3.0 \times 10^{-3}$	90	[1] IWASHITA	14	BELL	$e^+e^- \to \Upsilon(4S)$

[1] IWASHITA 14 reports $[\Gamma(B^+ \to \psi(4040)K^+)/\Gamma_{total}] \times [B(\psi(4040) \to J/\psi\eta)] < 15.5 \times 10^{-6}$ which we divide by our best value $B(\psi(4040) \to J/\psi\eta) = 5.2 \times 10^{-3}$.

$\Gamma(\psi(4160)K^+)/\Gamma_{total}$ — Γ_{307}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$\mathbf{5.1^{+1.3+2.5}_{-1.2-2.4}}$	[1] AAIJ	13BC	LHCB	pp at 7, 8 TeV

[1] AAIJ 13BC reports $[\Gamma(B^+ \to \psi(4160)K^+)]/\Gamma_{total}] \times B(\psi(4160) \to \mu^+\mu^-) = (3.5^{+0.9}_{-0.8}) \times 10^{-9}$ which we devide by our best value $B(\psi(4160) \to e^+e^-) = (6.9 \pm 3.3) \times 10^{-6}$ assuming lepton universality. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\psi(4160)K^+, \psi \to \overline{D}^0 D^0)/\Gamma_{total}$ — Γ_{308}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
0.84±0.41±0.33	[1] LEES	15C	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\chi_{c0}\pi^+, \chi_{c0} \to \pi^+\pi^-)/\Gamma_{total}$ — Γ_{309}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.1	90	[1] AUBERT	09L	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.3	90	[1] AUBERT,B	05G	BABR	Repl. by AUBERT 09L

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

$\Gamma(\chi_{c0} K^+)/\Gamma_{total}$ Γ_{310}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
$1.50^{+0.15}_{-0.14}$ OUR AVERAGE					
$1.84 \pm 0.25 \pm 0.14$		[1,2] LEES	12O	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$1.68 \pm 0.32 \pm 0.16$		[1,3] LEES	12O	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$1.8 \pm 0.9 \pm 0.1$		[4] LEES	11I	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$1.26^{+0.28}_{-0.25} \pm 0.05$		[1,5] AUBERT	08AI	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$4.8 \pm 2.2 \pm 0.2$		[6] AUBERT,BE	06M	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$1.12 \pm 0.12^{+0.30}_{-0.20}$		[1] GARMASH	06	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2.7	95	[7] AAIJ	13S	LHCB	pp at 7 TeV
<5	90	[1,8] WICHT	08	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
<1.8	90	[9] AUBERT	06E	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$1.84 \pm 0.32 \pm 0.31$		[1,10] AUBERT	06O	BABR	Repl. by LEES 12O
<8.9	90	[1] AUBERT	05K	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$1.39 \pm 0.49 \pm 0.11$		[11] AUBERT,B	05N	BABR	Repl. by AUBERT 08AI
$1.96 \pm 0.35^{+2.00}_{-0.42}$		[1] GARMASH	05	BELL	Repl. by GARMASH 06
2.7 ± 0.7		[12] AUBERT	04T	BABR	Repl. by AUBERT,B 04P
$3.0 \pm 0.8 \pm 0.3$		[13] AUBERT,B	04P	BABR	Repl. by AUBERT,B 05N
$6.0^{+2.1}_{-1.8} \pm 1.1$		[14] ABE	02B	BELL	Repl. by GARMASH 05
<4.8	90	[15] EDWARDS	01	CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$

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

[2] Measured in the $B^+ \rightarrow K^+ K^- K^+$ decay.

[3] Measured in the $B^+ \rightarrow K^+ K^0_S K^0_S$ decay.

[4] LEES 11I reports $[\Gamma(B^+ \rightarrow \chi_{c0} K^+)/\Gamma_{total}] \times [B(\chi_{c0}(1P) \rightarrow \pi\pi)] = (1.53 \pm 0.66 \pm 0.27) \times 10^{-6}$ which we divide by our best value $B(\chi_{c0}(1P) \rightarrow \pi\pi) = (8.33 \pm 0.35) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[5] AUBERT 08AI reports $(0.70 \pm 0.10^{+0.12}_{-0.10}) \times 10^{-6}$ for $B(B^+ \rightarrow \chi_{c0} K^+) \times B(\chi_{c0} \rightarrow \pi^+ \pi^-)$. We compute $B(B^+ \rightarrow \chi_{c0} K^+)$ using the PDG value $B(\chi_{c0} \rightarrow \pi\pi)=(8.33 \pm 0.35) \times 10^{-3}$ 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.

[6] AUBERT,BE 06M reports $[\Gamma(B^+ \rightarrow \chi_{c0} K^+)/\Gamma_{total}] \times [B(\chi_{c0}(1P) \rightarrow \gamma J/\psi(1S))] = (6.1 \pm 2.6 \pm 1.1) \times 10^{-6}$ which we divide by our best value $B(\chi_{c0}(1P) \rightarrow \gamma J/\psi(1S)) = (1.27 \pm 0.06) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. The significance of the observed signal is 2.4 σ.

[7] AAIJ 13S reports $[\Gamma(B^+ \rightarrow \chi_{c0} K^+)/\Gamma_{total}] \times [B(\chi_{c0}(1P) \rightarrow p\overline{p})] < 6 \times 10^{-8}$ which we divide by our best value $B(\chi_{c0}(1P) \rightarrow p\overline{p}) = 2.25 \times 10^{-4}$.

[8] WICHT 08 reports $[\Gamma(B^+ \rightarrow \chi_{c0} K^+)/\Gamma_{total}] \times [B(\chi_{c0}(1P) \rightarrow \gamma\gamma)] < 0.11 \times 10^{-6}$ which we divide by our best value $B(\chi_{c0}(1P) \rightarrow \gamma\gamma) = 2.23 \times 10^{-4}$.

[9] Perform measurements of absolute branching fractions using a missing mass technique.

[10] Measured in the $B^+ \rightarrow K^+ K^- K^+$ decay.

[11] AUBERT,B 05N reports $(0.66 \pm 0.22 \pm 0.08) \times 10^{-6}$ for B($B^+ \to \chi_c^0 K^+$) × B($\chi_c^0 \to \pi^+\pi^-$). We compute B($B^+ \to \chi_c^0 K^+$) using the PDG value B($\chi_c^0 \to \pi^+\pi^-$) = $(7.1 \pm 0.6) \times 10^{-3}$ and 2/3 for the $\pi^+\pi^-$ fraction.

[12] The measurement performed using decay channels $\chi_{c0} \to \pi^+\pi^-$ and $\chi_{c0} \to K^+K^-$. The ratio of the branching ratios for these channels is found to be consistent with world average.

[13] AUBERT 04P reports B($B^+ \to \chi_{c0} K^+$)×B($\chi_{c0} \to \pi^+\pi^-$) = $(1.5 \pm 0.4 \pm 0.1) \times 10^{-6}$ and used PDG value of B($\chi_{c0} \to \pi\pi$) = $(7.4 \pm 0.8) \times 10^{-3}$ and Clebsh-Gordan coefficient to compute B($B^\pm - > \chi_{c0} K^+$).

[14] ABE 02B measures the ratio of B($B^+ \to \chi_{c0} K^+$)/B($B^+ \to J/\psi(1S) K^+$) = 0.60 + 0.21 − 0.18 ± 0.05 ± 0.08, where the third error is due to the uncertainty in the B($\chi_{c0} \to \pi^+\pi^-$), and uses B($B^+ \to J/\psi(1S) K^+$) = $(10.0 \pm 1.0) \times 10^{-4}$ to obtain the result.

[15] 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.

$\Gamma(\chi_{c0} K^*(892)^+)/\Gamma_{total}$ — Γ_{311}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
< 2.1	90	[1] AUBERT	08BD	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<28.6	90	[1] AUBERT	05K	BABR	Repl. by AUBERT 08BD

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

$\Gamma(\chi_{c1}(1P)\pi^+)/\Gamma_{total}$ — Γ_{312}/Γ

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
2.2±0.4±0.3	[1] KUMAR	06	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\chi_{c1}(1P) K^+)/\Gamma_{total}$ — Γ_{313}/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
4.79± 0.23 OUR AVERAGE					
4.94± 0.11±0.33		[1] BHARDWAJ	11	BELL	$e^+e^- \to \Upsilon(4S)$
4.5 ± 0.1 ±0.3		[2] AUBERT	09B	BABR	$e^+e^- \to \Upsilon(4S)$
8.1 ± 1.4 ±0.7		[3] AUBERT	06E	BABR	$e^+e^- \to \Upsilon(4S)$
15.5 ± 5.4 ±2.0		[4] ACOSTA	02F	CDF	$p\overline{p}$ 1.8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
5.2 ± 0.4 ±0.2		[5] AUBERT,BE	06M	BABR	Repl. by AUBERT 09B
4.49± 0.19±0.53		[1] SONI	06	BELL	Repl. by BHARDWAJ 11
5.79± 0.26±0.65		[1] AUBERT	05J	BABR	Repl. by AUBERT,BE 06M
6.0 ± 0.9 ±0.2		[6] AUBERT	02	BABR	Repl. by AUBERT 05J
9.7 ± 4.0 ±0.9	6	[1] ALAM	94	CLE2	$e^+e^- \to \Upsilon(4S)$
19 ±13 ±6		[7] ALBRECHT	92E	ARG	$e^+e^- \to \Upsilon(4S)$

[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)%.

[3] Perform measurements of absolute branching fractions using a missing mass technique.

[4] ACOSTA 02F uses as reference of B($B \to J/\psi(1S) K^+$) = $(10.1 \pm 0.6) \times 10^{-4}$. The second error includes the systematic error and the uncertainties of the branching ratio.

[5] AUBERT,BE 06M reports $[\Gamma(B^+ \to \chi_{c1}(1P)K^+)/\Gamma_{total}] \times [B(\chi_{c1}(1P) \to \gamma J/\psi(1S))] = (1.76 \pm 0.07 \pm 0.12) \times 10^{-4}$ which we divide by our best value $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = (33.9 \pm 1.2) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[6] AUBERT 02 reports $(7.5 \pm 0.9 \pm 0.8) \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to \chi_{c1}(1P)K^+)/\Gamma_{total}] \times [B(\chi_{c1}(1P) \to \gamma J/\psi(1S))]$ assuming $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = 0.273 \pm 0.016$, which we rescale to our best value $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = (33.9 \pm 1.2) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[7] ALBRECHT 92E assumes no $\chi_{c2}(1P)$ production and $B(\Upsilon(4S) \to B^+B^-) = 50\%$.

$\Gamma(\chi_{c1}(1P)K^+)/\Gamma(J/\psi(1S)K^+)$ — $\Gamma_{313}/\Gamma_{262}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.60±0.07±0.02	[1] AUBERT	02	BABR	$e^+e^- \to \Upsilon(4S)$

[1] AUBERT 02 reports $0.75 \pm 0.08 \pm 0.05$ from a measurement of $[\Gamma(B^+ \to \chi_{c1}(1P)K^+)/\Gamma(B^+ \to J/\psi(1S)K^+)] \times [B(\chi_{c1}(1P) \to \gamma J/\psi(1S))]$ assuming $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = 0.273 \pm 0.016$, which we rescale to our best value $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = (33.9 \pm 1.2) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\chi_{c1}(1P)\pi^+)/\Gamma(\chi_{c1}(1P)K^+)$ — $\Gamma_{312}/\Gamma_{313}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.043±0.008±0.003	[1] KUMAR	06	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\chi_{c1}(1P)K^*(892)^+)/\Gamma_{total}$ — Γ_{314}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
3.0 ±0.6 OUR AVERAGE		Error includes scale factor of 1.1.			
2.6 ±0.5 ±0.4		[1] AUBERT	09B	BABR	$e^+e^- \to \Upsilon(4S)$
4.05±0.59±0.95		[2] SONI	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2.94±0.95±0.98		[2] AUBERT	05J	BABR	Repl. by AUBERT 09B
<21	90	[2] 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 $B(\Upsilon(4S) \to B^0\overline{B}^0) = (48.4 \pm 0.6)\%$.

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

$\Gamma(\chi_{c1}(1P)K^*(892)^+)/\Gamma(\chi_{c1}(1P)K^+)$ — $\Gamma_{314}/\Gamma_{313}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.51±0.17±0.16	AUBERT	05J	BABR	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\chi_{c1}(1P)K^0\pi^+)/\Gamma_{total}$ — Γ_{315}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
5.75±0.26±0.32	[1] BHARDWAJ	16	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\chi_{c1}(1P) K^0 \pi^+)/\Gamma(J/\psi(1S) K^0 \pi^+)$ $\Gamma_{315}/\Gamma_{263}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.508±0.030±0.018	[1] LEES	12B	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] LEES 12B reports $0.501 \pm 0.024 \pm 0.028$ from a measurement of $[\Gamma(B^+ \to \chi_{c1}(1P) K^0 \pi^+)/\Gamma(B^+ \to J/\psi(1S) K^0 \pi^+)] \times [B(\chi_{c1}(1P) \to \gamma J/\psi(1S))]$ 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 $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = (33.9 \pm 1.2) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\chi_{c1}(1P) K^+ \pi^0)/\Gamma_{\text{total}}$ Γ_{316}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
3.29±0.29±0.19	[1] BHARDWAJ	16	BELL	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\chi_{c1}(1P) K^+ \pi^+ \pi^-)/\Gamma_{\text{total}}$ Γ_{317}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
3.74±0.18±0.24	[1] BHARDWAJ	16	BELL	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\chi_{c1}(2P) K^+,\ \chi_{c1}(2P) \to \pi^+ \pi^- \chi_{c1}(1P))/\Gamma_{\text{total}}$ Γ_{318}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.1 × 10⁻⁵	90	[1,2] BHARDWAJ	16	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] BHARDWAJ 16 analysis fixes mass and width of the $\chi_{c1}(2P)$ state to 3920 MeV and 20 MeV.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\chi_{c2} K^+)/\Gamma_{\text{total}}$ Γ_{319}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
$1.11^{+0.36}_{-0.34}\pm0.09$		[1] BHARDWAJ	11	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 1.8	90	[2] AUBERT	09B	BABR	$e^+ e^- \to \Upsilon(4S)$
<20	90	[3] AUBERT	06E	BABR	$e^+ e^- \to \Upsilon(4S)$
< 2.9	90	[1] SONI	06	BELL	Repl. by BHARDWAJ 11
< 3.0	90	[1] AUBERT	05K	BABR	Repl. by AUBERT 06E

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Uses $\chi_{c1,2} \to J/\psi\gamma$. Assumes $B(\Upsilon(4S) \to B^+ B^-) = (51.6 \pm 0.6)\%$ and $B(\Upsilon(4S) \to B^0 \overline{B}^0) = (48.4 \pm 0.6)\%$.
[3] Perform measurements of absolute branching fractions using a missing mass technique.

$\Gamma(B^+ \to \chi_{c2} K^+)/\Gamma_{\text{total}} \times \Gamma(\chi_{c2}(1P) \to \gamma\gamma)/\Gamma_{\text{total}}$ $\Gamma_{319}/\Gamma \times \Gamma_{79}^{\chi_{c2}(1P)}/\Gamma^{\chi_{c2}(1P)}$

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.09	90	[1] WICHT	08	BELL	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\chi_{c2} K^*(892)^+)/\Gamma_{total}$ — Γ_{320}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<12 × 10^{-5}	90	[1] AUBERT	09B	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<12.7 \times 10^{-5}$	90	[2] SONI	06	BELL	$e^+e^- \to \Upsilon(4S)$
$< 1.2 \times 10^{-5}$	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 $\Upsilon(4S)$.

$\Gamma(\chi_{c2} K^0 \pi^+)/\Gamma_{total}$ — Γ_{321}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
1.16±0.22±0.12	[1] BHARDWAJ	16	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\chi_{c2} K^+ \pi^0)/\Gamma_{total}$ — Γ_{322}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.62 × 10^{-4}	90	[1] BHARDWAJ	16	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\chi_{c2} K^+ \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{323}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
1.34±0.17±0.09	[1] BHARDWAJ	16	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\chi_{c2}(2P)\pi^+,\ \chi_{c2} \to \pi^+\pi^-)/\Gamma_{total}$ — Γ_{324}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.1	90	[1] AUBERT	09L	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(h_c(1P) K^+)/\Gamma_{total}$ — Γ_{325}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
<3.8	90	[1] FANG	06	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and B($h_c \to \eta_c \gamma$) = 50%.

$\Gamma(h_c(1P) K^+,\ h_c \to p\overline{p})/\Gamma_{total}$ — Γ_{326}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<6.4 × 10^{-8}	95	[1] AAIJ	13S	LHCB	pp at 7 TeV

[1] Measured relative to $B^+ \to J/\psi K^+$ decay with charmonia reconstructed in $p\overline{p}$ final state and using B($B^+ \to J/\psi K^+$) = (1.013 ± 0.034) × 10^{-3} and B($J/\psi \to p\overline{p}$) = (2.17 ± 0.07) × 10^{-3}.

$\Gamma(K^0\pi^+)/\Gamma_{total}$ — Γ_{327}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
23.7 ± 0.8 OUR FIT				
23.8 ± 0.7 OUR AVERAGE				
23.97 ± 0.53 ± 0.71		[1] DUH 13	BELL	$e^+e^- \to \Upsilon(4S)$
23.9 ± 1.1 ± 1.0		[1] AUBERT,BE 06C	BABR	$e^+e^- \to \Upsilon(4S)$
$18.8\ ^{+3.7}_{-3.3}\ ^{+2.1}_{-1.8}$		[1] BORNHEIM 03	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$22.8\ ^{+0.8}_{-0.7} \pm 1.3$		[1] LIN 07	BELL	Repl. by DUH 13
26.0 ± 1.3 ± 1.0		[1] AUBERT,BE 05E	BABR	Repl. by AUBERT,BE 06C
22.3 ± 1.7 ± 1.1		[1] AUBERT 04M	BABR	Repl. by AUBERT,BE 05E
22.0 ± 1.9 ± 1.1		[1] CHAO 04	BELL	Repl. by LIN 07
$19.4\ ^{+3.1}_{-3.0} \pm 1.6$		[1] CASEY 02	BELL	Repl. by CHAO 04
$13.7\ ^{+5.7}_{-4.8}\ ^{+1.9}_{-1.8}$		[1] ABE 01H	BELL	Repl. by CASEY 02
$18.2\ ^{+3.3}_{-3.0} \pm 2.0$		[1] AUBERT 01E	BABR	Repl. by AUBERT 04M
$18.2\ ^{+4.6}_{-4.0} \pm 1.6$		[1] CRONIN-HEN... 00	CLE2	Repl. by BORNHEIM 03
$23\ ^{+11}_{-10} \pm 3.6$		GODANG 98	CLE2	Repl. by CRONIN-HENNESSY 00
< 48	90	ASNER 96	CLE2	Repl. by GODANG 98
<190	90	ALBRECHT 91B	ARG	$e^+e^- \to \Upsilon(4S)$
<100	90	[2] AVERY 89B	CLEO	$e^+e^- \to \Upsilon(4S)$
<680	90	AVERY 87	CLEO	$e^+e^- \to \Upsilon(4S)$

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

[2] AVERY 89B reports $< 9 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K^+\pi^0)/\Gamma_{total}$ — Γ_{328}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
12.9 ± 0.5 OUR AVERAGE				
12.62 ± 0.31 ± 0.56		[1] DUH 13	BELL	$e^+e^- \to \Upsilon(4S)$
13.6 ± 0.6 ± 0.7		[1] AUBERT 07BC	BABR	$e^+e^- \to \Upsilon(4S)$
$12.9\ ^{+2.4}_{-2.2}\ ^{+1.2}_{-1.1}$		[1] BORNHEIM 03	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
12.4 ± 0.5 ± 0.6		[1] LIN 07A	BELL	Repl. by DUH 13
12.0 ± 0.7 ± 0.6		[1] AUBERT 05L	BABR	Repl. by AUBERT 07BC
$12.0 \pm 1.3\ ^{+1.3}_{-0.9}$		[1] CHAO 04	BELL	Repl. by LIN 07A
$12.8\ ^{+1.2}_{-1.1} \pm 1.0$		[1] AUBERT 03L	BABR	Repl. by AUBERT 05L
$13.0\ ^{+2.5}_{-2.4} \pm 1.3$		[1] CASEY 02	BELL	Repl. by CHAO 04
$16.3\ ^{+3.5}_{-3.3}\ ^{+1.6}_{-1.8}$		[1] ABE 01H	BELL	Repl. by CASEY 02

$10.8\ {}^{+2.1}_{-1.9}\ \pm1.0$		[1] AUBERT	01E	BABR	Repl. by AUBERT 03L
$11.6\ {}^{+3.0}_{-2.7}\ {}^{+1.4}_{-1.3}$		[1] CRONIN-HEN..00		CLE2	Repl. by BORNHEIM 03
<16	90	GODANG	98	CLE2	Repl. by CRONIN-HENNESSY 00
<14	90	ASNER	96	CLE2	Repl. by GODANG 98

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

$\Gamma(K^+\pi^0)/\Gamma(K^0\pi^+)$ — $\Gamma_{328}/\Gamma_{327}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.54±0.03±0.04	LIN	07A	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$2.38{}^{+0.98}_{-1.10}{}^{+0.39}_{-0.26}$	ABE	01H	BELL	Repl. by LIN 07A

$\Gamma(\eta' K^+)/\Gamma_{total}$ — Γ_{329}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
70.6± 2.5 OUR AVERAGE				
71.5± 1.3±3.2	[1] AUBERT	09AV	BABR	$e^+e^- \to \Upsilon(4S)$
$63\ {}^{+10}_{-9}\ \pm2$	[1,2] WICHT	08	BELL	$e^+e^- \to \Upsilon(4S)$
69.2± 2.2±3.7	[1] SCHUEMANN	06	BELL	$e^+e^- \to \Upsilon(4S)$
$80\ {}^{+10}_{-9}\ \pm7$	[1] RICHICHI	00	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
70.0± 1.5±2.8	[1] AUBERT	07AE	BABR	Repl. by AUBERT 09AV
68.9± 2.0±3.2	[1] AUBERT	05M	BABR	Repl. by AUBERT 07AE
76.9± 3.5±4.4	[1] AUBERT	03W	BABR	Repl. by AUBERT 05M
$79\ {}^{+12}_{-11}\ \pm9$	[1] ABE	01M	BELL	Repl. by SCHUEMANN 06
70 ± 8 ±5	[1] AUBERT	01G	BABR	Repl. by AUBERT 03W
$65\ {}^{+15}_{-14}\ \pm9$	BEHRENS	98	CLE2	Repl. by RICHICHI 00

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

[2] WICHT 08 reports $[\Gamma(B^+ \to \eta' K^+)/\Gamma_{total}] \times [B(\eta'(958) \to \gamma\gamma)] = (1.40{}^{+0.16}_{-0.15}{}^{+0.15}_{-0.12}) \times 10^{-6}$ which we divide by our best value $B(\eta'(958) \to \gamma\gamma) = (2.22 \pm 0.08) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\eta' K^*(892)^+)/\Gamma_{total}$ — Γ_{330}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{4.8{}^{+1.6}_{-1.4}\pm0.8}$		[1] DEL-AMO-SA..10A		BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$4.9{}^{+1.9}_{-1.7}\pm0.8$		[1] AUBERT	07E	BABR	Repl. by DEL-AMO-SANCHEZ 10A
< 2.9	90	[1] SCHUEMANN	07	BELL	$e^+e^- \to \Upsilon(4S)$
<14	90	[1] AUBERT,B	04D	BABR	Repl. by AUBERT 07E
<35	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 $\Upsilon(4S)$.

$\Gamma(\eta' K_0^*(1430)^+)/\Gamma_{total}$ — Γ_{331}/Γ

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
5.2±1.9±1.0	[1] DEL-AMO-SA..10A	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\eta' K_2^*(1430)^+)/\Gamma_{total}$ — Γ_{332}/Γ

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$28.0^{+4.6}_{-4.3}\pm2.6$	[1] DEL-AMO-SA..10A	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\eta K^+)/\Gamma_{total}$ — Γ_{333}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
2.4 ±0.4 OUR AVERAGE		Error includes scale factor of 1.7.			
$2.12\pm0.23\pm0.11$		[1] HOI	12	BELL	$e^+e^- \to \Upsilon(4S)$
$2.94^{+0.39}_{-0.34}\pm0.21$		[1] AUBERT	09AV	BABR	$e^+e^- \to \Upsilon(4S)$
$2.2\ ^{+2.8}_{-2.2}$		[1] RICHICHI	00	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$2.21^{+0.48}_{-0.42}\pm0.01$		[1,2] WICHT	08	BELL	Repl. by HOI 12
$3.7\pm0.4\pm0.1$		[1] AUBERT	07AE	BABR	Repl. by AUBERT 09AV
$1.9\pm0.3\ ^{+0.2}_{-0.1}$		[1] CHANG	07B	BELL	Repl. by HOI 12
$3.3\pm0.6\pm0.3$		[1] AUBERT,B	05K	BABR	Repl. by AUBERT 07AE
$2.1\pm0.6\pm0.2$		[1] CHANG	05A	BELL	Repl. by CHANG 07B
$3.4\pm0.8\pm0.2$		[1] AUBERT	04H	BABR	Repl. by AUBERT,B 05K
<14	90	BEHRENS	98	CLE2	Repl. by RICHICHI 00

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

[2] WICHT 08 reports $[\Gamma(B^+ \to \eta K^+)/\Gamma_{total}] \times [B(\eta \to 2\gamma)] = (0.87^{+0.16}_{-0.15}{}^{+0.10}_{-0.07}) \times 10^{-6}$ which we divide by our best value $B(\eta \to 2\gamma) = (39.41 \pm 0.20) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\eta K^*(892)^+)/\Gamma_{total}$ — Γ_{334}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
19.3±1.6 OUR AVERAGE					
$19.3^{+2.0}_{-1.9}\pm1.5$		[1] WANG	07B	BELL	$e^+e^- \to \Upsilon(4S)$
$18.9\pm1.8\pm1.3$		[1] AUBERT,B	06H	BABR	$e^+e^- \to \Upsilon(4S)$
$26.4^{+9.6}_{-8.2}\pm3.3$		[1] RICHICHI	00	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$25.6\pm4.0\pm2.4$		[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 $\Upsilon(4S)$.

$\Gamma(\eta K_0^*(1430)^+)/\Gamma_{total}$ Γ_{335}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
18.2±2.6±2.6	[1] AUBERT,B	06H	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\eta K_2^*(1430)^+)/\Gamma_{total}$ Γ_{336}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
9.1±2.7±1.4	[1] AUBERT,B	06H	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\eta(1295) K^+ \times B(\eta(1295) \to \eta\pi\pi))/\Gamma_{total}$ Γ_{337}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{2.9^{+0.8}_{-0.7}\pm0.2}$	[1] AUBERT	08X	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\eta(1405) K^+ \times B(\eta(1405) \to \eta\pi\pi))/\Gamma_{total}$ Γ_{338}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<1.3	90	[1] AUBERT	08X	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\eta(1405) K^+ \times B(\eta(1405) \to K^* K))/\Gamma_{total}$ Γ_{339}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<1.2	90	[1] AUBERT	08X	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\eta(1475) K^+ \times B(\eta(1475) \to K^* K))/\Gamma_{total}$ Γ_{340}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{13.8^{+1.8+1.0}_{-1.7-0.6}}$	[1] AUBERT	08X	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(f_1(1285) K^+)/\Gamma_{total}$ Γ_{341}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<2.0	90	[1] AUBERT	08X	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(f_1(1420) K^+ \times B(f_1(1420) \to \eta\pi\pi))/\Gamma_{total}$ Γ_{342}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<2.9	90	[1] AUBERT	08X	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(f_1(1420) K^+ \times B(f_1(1420) \to K^* K))/\Gamma_{total}$ Γ_{343}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<4.1	90	[1] AUBERT	08X	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\phi(1680) K^+ \times B(\phi(1680) \to K^* K))/\Gamma_{total}$ Γ_{344}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<3.4	90	[1] AUBERT	08X	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(f_0(1500) K^+)/\Gamma_{total}$ Γ_{345}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
3.7± 2.2 OUR AVERAGE					
$17 \pm 4 \pm 12$		[1] LEES	12O	BABR	$e^+ e^- \to \Upsilon(4S)$
$20 \pm 10 \pm 27$		[2] LEES	12O	BABR	$e^+ e^- \to \Upsilon(4S)$
$3.1^{+2.2}_{-2.3} \pm 0.2$		[3,4] AUBERT	08AI	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<19	90	[4,5] AUBERT,B	05N	BABR	Repl. by AUBERT 08AI

[1] Measured in the $B^+ \to K^+ K^- K^+$ decay.
[2] Measured in the $B^+ \to K^+ K^0_S K^0_S$ decay.
[3] AUBERT 08AI reports $B(B^+ \to f_0(1500) K^+) \cdot B(f_0(1500) \to \pi^+ \pi^-) = (0.73 \pm 0.21^{+0.47}_{-0.48}) \times 10^{-6}$. We divide this result by our best value of $B(f_0(1500) \to \pi\pi) = (34.9 \pm 2.3) \times 10^{-2}$ multiplied by 2/3 to account for the $\pi^+ \pi^-$ fraction. Our first quoted uncertainty is the combined experiment's uncertainty and our second is the systematic uncertainty from using out best value.
[4] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[5] AUBERT,B 05N reports $B(B^+ \to f_0(1500) K^+) \cdot B(f_0(1500) \to \pi^+ \pi^-) < 4.4 \times 10^{-6}$. We divide this result by our best value of $B(f_0(1500) \to \pi\pi) = (34.9 \pm 2.3) \times 10^{-2}$ multiplied by 2/3 to account for the $\pi^+ \pi^-$ fraction. Our first quoted uncertainty is the combined experiment's uncertainty and our second is the systematic uncertainty from using out best value.

$\Gamma(\omega K^+)/\Gamma_{total}$ Γ_{346}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
6.5±0.4 OUR AVERAGE					
$6.8 \pm 0.4 \pm 0.4$		[1] CHOBANOVA	14	BELL	$e^+ e^- \to \Upsilon(4S)$
$6.3 \pm 0.5 \pm 0.3$		[1] AUBERT	07AE	BABR	$e^+ e^- \to \Upsilon(4S)$
$3.2^{+2.4}_{-1.9} \pm 0.8$		[1] JESSOP	00	CLE2	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$6.1 \pm 0.6 \pm 0.4$		[1] AUBERT,B	06E	BABR	AUBERT 07AE
$8.1 \pm 0.6 \pm 0.6$		[1] JEN	06	BELL	Repl. by CHOBANOVA 14
$4.8 \pm 0.8 \pm 0.4$		[1] AUBERT	04H	BABR	Repl. by AUBERT,B 06E
$6.5^{+1.3}_{-1.2} \pm 0.6$		[1] WANG	04A	BELL	Repl. by JEN 06
$9.2^{+2.6}_{-2.3} \pm 1.0$		[1] LU	02	BELL	Repl. by WANG 04A
<4	90	[1] AUBERT	01G	BABR	$e^+ e^- \to \Upsilon(4S)$
$1.5^{+7}_{-6} \pm 2$		[1] BERGFELD	98	CLE2	Repl. by JESSOP 00

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

$\Gamma(\omega K^*(892)^+)/\Gamma_{total}$ — Γ_{347}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 7.4	90	[1] AUBERT	09H	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 3.4	90	[1] AUBERT,B	06T	BABR	Repl. by AUBERT 09H
< 7.4	90	[1] AUBERT	05O	BABR	Repl. by AUBERT,B 06T
<87	90	[1] BERGFELD	98	CLE2	

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

$\Gamma(\omega(K\pi)^{*+}_0)/\Gamma_{total}$ — Γ_{348}/Γ

$(K\pi)^{*+}_0$ is the total S-wave composed of $K^*_0(1430)$ and nonresonant that are described using LASS shape.

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
27.5±3.0±2.6	[1] AUBERT	09H	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\omega K^*_0(1430)^+)/\Gamma_{total}$ — Γ_{349}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
24.0±2.6±4.4	[1] AUBERT	09H	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\omega K^*_2(1430)^+)/\Gamma_{total}$ — Γ_{350}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
21.5±3.6±2.4	[1] AUBERT	09H	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(a_0(980)^0 K^+ \times B(a_0(980)^0 \to \eta\pi^0))/\Gamma_{total}$ — Γ_{352}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<2.5	90	[1] AUBERT,BE	04	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of charged and neutral B mesons from $\Upsilon(4S)$ decays.

$\Gamma(a_0(980)^+ K^0 \times B(a_0(980)^+ \to \eta\pi^+))/\Gamma_{total}$ — Γ_{351}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<3.9	90	[1] AUBERT,BE	04	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of charged and neutral B mesons from $\Upsilon(4S)$ decays.

$\Gamma(K^*(892)^0\pi^+)/\Gamma_{total}$ — Γ_{353}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
10.1 ±0.9 OUR AVERAGE					
$10.8 \pm 0.6 ^{+1.2}_{-1.4}$		[1] AUBERT	08AI	BABR	$e^+e^- \to \Upsilon(4S)$
$9.67 \pm 0.64 ^{+0.81}_{-0.89}$		[1] GARMASH	06	BELL	$e^+e^- \to \Upsilon(4S)$

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

13.5 ±1.2 $^{+0.8}_{-0.9}$		[1] AUBERT,B	05N	BABR	Repl. by AUBERT 08AI
9.8 ±0.9 $^{+1.1}_{-1.2}$		[1] GARMASH	05	BELL	Repl. by GARMASH 06
15.5 ±1.8 $^{+1.5}_{-4.0}$		[1,2] AUBERT,B	04P	BABR	Repl. by AUBERT,B 05N
19.4 $^{+4.2}_{-3.9}$ $^{+4.1}_{-7.1}$		[3] GARMASH	02	BELL	Repl. by GARMASH 05
<119	90	[4] ABE	00C	SLD	$e^+e^- \to Z$
< 16	90	[1] JESSOP	00	CLE2	$e^+e^- \to \Upsilon(4S)$
<390	90	[5] ADAM	96D	DLPH	$e^+e^- \to Z$
< 41	90	ASNER	96	CLE2	Repl. by JESSOP 00
<480	90	[5] ABREU	95N	DLPH	Sup. by ADAM 96D
<170	90	ALBRECHT	91B	ARG	$e^+e^- \to \Upsilon(4S)$
<150	90	[6] AVERY	89B	CLEO	$e^+e^- \to \Upsilon(4S)$
<260	90	AVERY	87	CLEO	$e^+e^- \to \Upsilon(4S)$

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

[2] AUBERT 04P also report a branching ratio for $B^+ \to$ "higher $K*$ resonances" π^+, $K* \to K^+\pi^-$, $(25.1 \pm 2.0^{+11.0}_{-\ 5.7}) \times 10^{-6}$.

[3] Uses a reference decay mode $B^+ \to \overline{D}^0\pi^+$ and $\overline{D}^0 \to K^+\pi^-$ with B($B^+ \to \overline{D}^0\pi^+$)·B($\overline{D}^0 \to K^+\pi^-$) $= (20.3 \pm 2.0) \times 10^{-5}$.

[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 $f_{B_s}=(10.5^{+1.8}_{-2.2})$%.

[5] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12.

[6] AVERY 89B reports $< 1.3 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K^*(892)^+\pi^0)/\Gamma_{total}$ — Γ_{354}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
8.2±1.5±1.1		[1] LEES	11I	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
6.9±2.0±1.3		[1] AUBERT	05X	BABR	Repl. by LEES 11I
<31	90	[1] JESSOP	00	CLE2	$e^+e^- \to \Upsilon(4S)$
<99	90	ASNER	96	CLE2	Repl. by JESSOP 00

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

$\Gamma(K^+\pi^-\pi^+)/\Gamma_{total}$ — Γ_{355}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
51.0±2.9 OUR AVERAGE				
54.4±1.1±4.6	[1] AUBERT	08AI	BABR	$e^+e^- \to \Upsilon(4S)$
48.8±1.1±3.6	[1] GARMASH	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
64.1±2.4±4.0	[1] AUBERT,B	05N	BABR	Repl. by AUBERT 08AI
46.6±2.1±4.3	[1] GARMASH	05	BELL	Repl. by GARMASH 06
53.6±3.1±5.1	[1] GARMASH	04	BELL	Repl. by GARMASH 05
59.1±3.8±3.2	[2] AUBERT	03M	BABR	Repl. by AUBERT,B 05N
55.6±5.8±7.7	[3] GARMASH	02	BELL	Repl. by GARMASH 04

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$; charm and charmonium contributions are subtracted, otherwise no assumptions about intermediate resonances.
[3] Uses a reference decay mode $B^+ \to \overline{D}^0 \pi^+$ and $\overline{D}^0 \to K^+ \pi^-$ with B($B^+ \to \overline{D}^0 \pi^+$)·B($\overline{D}^0 \to K^+ \pi^-$) = $(20.3 \pm 2.0) \times 10^{-5}$.

$\Gamma(K^+ \pi^- \pi^+ \text{nonresonant})/\Gamma_{total}$ — Γ_{356}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
$16.3^{+2.1}_{-1.5}$ OUR AVERAGE				
$9.3 \pm 1.0^{+6.9}_{-1.7}$		[1,2] AUBERT	08AI BABR	$e^+e^- \to \Upsilon(4S)$
$16.9 \pm 1.3^{+1.7}_{-1.6}$		[1] GARMASH	06 BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$2.9 \pm 0.6^{+0.8}_{-0.5}$		[1] AUBERT,B	05N BABR	Repl. by AUBERT 08AI
$17.3 \pm 1.7^{+17.2}_{-8.0}$		[1] GARMASH	05 BELL	Repl. by GARMASH 06
<17	90	[1] AUBERT,B	04P BABR	Repl. by AUBERT,B 05N
<330	90	[3] ADAM	96D DLPH	$e^+e^- \to Z$
<28	90	BERGFELD	96B CLE2	$e^+e^- \to \Upsilon(4S)$
<400	90	[3] ABREU	95N DLPH	Sup. by ADAM 96D
<330	90	ALBRECHT	91E ARG	$e^+e^- \to \Upsilon(4S)$
<190	90	[4] AVERY	89B CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Calculate the total nonresonant contribution by combining the S-wave composed of $K_0^*(1430)$ and nonresonant that are described using LASS shape.
[3] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12.
[4] AVERY 89B reports $< 1.7 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0 \overline{B}^0$. We rescale to 50%.

$\Gamma(\omega(782) K^+)/\Gamma_{total}$ — Γ_{357}/Γ

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$5.9^{+8.8+0.5}_{-9.0-0.4}$	[1,2] AUBERT	08AI BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] AUBERT 08AI reports $[\Gamma(B^+ \to \omega(782) K^+)/\Gamma_{total}] \times [B(\omega(782) \to \pi^+\pi^-)] = (0.09 \pm 0.13^{+0.036}_{-0.045}) \times 10^{-6}$ which we divide by our best value $B(\omega(782) \to \pi^+\pi^-) = (1.53^{+0.11}_{-0.13}) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(K^+ f_0(980) \times B(f_0(980) \to \pi^+\pi^-))/\Gamma_{total}$ — Γ_{358}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
$9.4^{+1.0}_{-1.2}$ OUR AVERAGE				
$10.3 \pm 0.5^{+2.0}_{-1.4}$		[1] AUBERT	08AI BABR	$e^+e^- \to \Upsilon(4S)$
$8.78 \pm 0.82^{+0.85}_{-1.76}$		[1] GARMASH	06 BELL	$e^+e^- \to \Upsilon(4S)$

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

$9.47 \pm 0.97 ^{+0.62}_{-0.88}$		[1] AUBERT,B	05N	BABR	Repl. by AUBERT 08AI
$7.55 \pm 1.24 ^{+1.63}_{-1.18}$		[1] GARMASH	05	BELL	Repl. by GARMASH 06
$9.2 \pm 1.2 ^{+2.1}_{-2.6}$		[2] AUBERT,B	04P	BABR	Repl. by AUBERT,B 05N
$9.6 ^{+2.5}_{-2.3} ^{+3.7}_{-1.7}$		[3] GARMASH	02	BELL	Repl. by GARMASH 05
<80	90	[4] AVERY	89B	CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$

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

[2] AUBERT,B 04P also reports B($B^+ \rightarrow$ "higher f^0 resonances" π^+, $f(980)^0 \rightarrow \pi^+ \pi^-$) $= (3.2 \pm 1.2^{+6.0}_{-2.9}) \times 10^{-6}$.

[3] Uses a reference decay mode $B^+ \rightarrow \overline{D}^0 \pi^+$ and $\overline{D}^0 \rightarrow K^+ \pi^-$ with B($B^+ \rightarrow \overline{D}^0 \pi^+$)×B($\overline{D}^0 \rightarrow K^+ \pi^-$) $= (20.3 \pm 2.0) \times 10^{-5}$. Only charged pions from the $f_0(980)$ are used.

[4] AVERY 89B reports $< 7 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0 \overline{B}^0$. We rescale to 50%.

$\Gamma(f_2(1270)^0 K^+)/\Gamma_{total}$ — Γ_{359}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
1.07±0.27 OUR AVERAGE					
$0.89 ^{+0.38}_{-0.33} ^{+0.01}_{-0.03}$		[1,2] AUBERT	08AI	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$1.33 \pm 0.30 ^{+0.23}_{-0.34}$		[1] GARMASH	06	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<16	90	[3] AUBERT,B	05N	BABR	Repl. by AUBERT 08AI
< 2.3	90	[4] GARMASH	05	BELL	Repl. by GARMASH 06

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

[2] AUBERT 08AI reports $(0.50 \pm 0.15^{+0.15}_{-0.11}) \times 10^{-6}$ for B($B^+ \rightarrow f_2(1270) K^+$) × B($f_2 \rightarrow \pi^+ \pi^-$). We compute B($B^+ \rightarrow f_2(1270) K^+$) using the PDG value B($f_2(1270) \rightarrow \pi\pi$)=$(84.2^{+2.9}_{-0.9}) \times 10^{-2}$ 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.

[3] AUBERT,B 05N reports 8.9×10^{-6} at 90% CL for B($B^+ \rightarrow f_2(1270) K^+$) × B($f_2(1270) \rightarrow \pi^+ \pi^-$). We rescaled it using the PDG value B($f_2(1270) \rightarrow \pi\pi$) = 84.7% and 2/3 for the $\pi^+ \pi^-$ fraction.

[4] GARMASH 05 reports 1.3×10^{-6} at 90% CL for B($B^+ \rightarrow f_2(1270) K^+$) × B($f_2(1270) \rightarrow \pi^+ \pi^-$). We rescaled it using the PDG value B($f_2(1270) \rightarrow \pi\pi$) = 84.7% and 2/3 for the $\pi^+ \pi^-$ fraction.

$\Gamma(f_0(1370)^0 K^+ \times B(f_0(1370)^0 \rightarrow \pi^+ \pi^-))/\Gamma_{total}$ — Γ_{360}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{<10.7 \times 10^{-6}}$	90	[1] AUBERT,B	05N	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\rho^0(1450) K^+ \times B(\rho^0(1450) \rightarrow \pi^+ \pi^-))/\Gamma_{total}$ — Γ_{361}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{<11.7 \times 10^{-6}}$	90	[1] AUBERT,B	05N	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(f_2'(1525)K^+ \times B(f_2'(1525) \to \pi^+\pi^-))/\Gamma_{total}$ — Γ_{362}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<3.4 × 10^{-6}	90	[1] AUBERT,B	05N	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(K^+\rho^0)/\Gamma_{total}$ — Γ_{363}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
3.7 ±0.5 OUR AVERAGE					
$3.56\pm0.45^{+0.57}_{-0.46}$		[1] AUBERT	08AI	BABR	$e^+e^- \to \Upsilon(4S)$
$3.89\pm0.47^{+0.43}_{-0.41}$		[1] GARMASH	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$5.07\pm0.75^{+0.55}_{-0.88}$		[1] AUBERT,B	05N	BABR	Repl. by AUBERT 08AI
$4.78\pm0.75^{+1.01}_{-0.97}$		[1] GARMASH	05	BELL	Repl. by GARMASH 06
< 6.2	90	[2] AUBERT,B	04P	BABR	Repl. by AUBERT,B 05N
< 12	90	[3] GARMASH	02	BELL	$e^+e^- \to \Upsilon(4S)$
< 86	90	[4] ABE	00C	SLD	$e^+e^- \to Z$
< 17	90	[1] JESSOP	00	CLE2	$e^+e^- \to \Upsilon(4S)$
<120	90	[5] ADAM	96D	DLPH	$e^+e^- \to Z$
< 19	90	ASNER	96	CLE2	Repl. by JESSOP 00
<190	90	[5] ABREU	95N	DLPH	Sup. by ADAM 96D
<180	90	ALBRECHT	91B	ARG	$e^+e^- \to \Upsilon(4S)$
< 80	90	[6] AVERY	89B	CLEO	$e^+e^- \to \Upsilon(4S)$
<260	90	AVERY	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] AUBERT 04P reports a central value of $(3.9 \pm 1.2^{+1.3}_{-3.5}) \times 10^{-6}$ for this branching ratio.
[3] Uses a reference decay mode $B^+ \to \overline{D}^0\pi^+$ and $\overline{D}^0 \to K^+\pi^-$ with $B(B^+ \to \overline{D}^0\pi^+)\cdot B(\overline{D}^0 \to K^+\pi^-) = (20.3 \pm 2.0) \times 10^{-5}$.
[4] ABE 00C assumes $B(Z \to b\overline{b})=(21.7 \pm 0.1)\%$ and the B fractions $f_{B^0}=f_{B^+}=(39.7^{+1.8}_{-2.2})\%$ and $f_{B_s}=(10.5^{+1.8}_{-2.2})\%$.
[5] Assumes production fractions $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$.
[6] AVERY 89B reports $< 7 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K_0^*(1430)^0\pi^+)/\Gamma_{total}$ — Γ_{364}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
45 $^{+9}_{-7}$ OUR AVERAGE Error includes scale factor of 1.5.				
$32.0\pm1.2^{+10.8}_{-6.0}$	[1] AUBERT	08AI	BABR	$e^+e^- \to \Upsilon(4S)$
$51.6\pm1.7^{+7.0}_{-7.5}$	[1] GARMASH	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$44.4\pm2.2\pm5.3$	[1,2] AUBERT,B	05N	BABR	Repl. by AUBERT 08AI
$45.0\pm2.9^{+15.0}_{-10.7}$	[1] GARMASH	05	BELL	Repl. by GARMASH 06

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] See erratum: AUBERT,BE 06A.

$\Gamma(K_2^*(1430)^0\pi^+)/\Gamma_{total}$ Γ_{365}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$5.6^{+2.2}_{-1.5}\pm0.1$		[1,2] AUBERT	08AI	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<$ 23	90	[3] AUBERT,B	05N	BABR	Repl. by AUBERT 08AI
$<$ 6.9	90	[4] GARMASH	05	BELL	$e^+e^- \to \Upsilon(4S)$
$<$680	90	ALBRECHT	91B	ARG	$e^+e^- \to \Upsilon(4S)$

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

[2] AUBERT 08AI reports $(1.85 \pm 0.41^{+0.61}_{-0.29}) \times 10^{-6}$ for B($B^+ \to K_2^*(1430)^0\pi^+$) $\times$ B($K_2^*(1430)^0 \to K^+\pi^-$). We compute B($B^+ \to K_2^*(1430)^0\pi^+$) using the PDG value B($K_2^*(1430)^0 \to K\pi$)=$(49.9 \pm 1.2) \times 10^{-2}$ and 2/3 for the $K^+\pi^-$ fraction. Our first error is their experiment's error and the second error is systematic error from using our best value.

[3] AUBERT,B 05N reports 7.7×10^{-6} at 90% CL for B($B^+ \to K_2^*(1430)^0\pi^+$) $\times$ B($K_2^*(1430)^0 \to K^+\pi^-$). We rescaled it using the PDG value B($K_2^*(1430)^0 \to K\pi$) = 49.9% and 2/3 for the $K^+\pi^-$ fraction.

[4] GARMASH 05 reports 2.3×10^{-6} at 90% CL for B($B^+ \to K_2^*(1430)^0\pi^+$) $\times$ B($K_2^*(1430)^0 \to K^+\pi^-$). We rescaled it using the PDG value B($K_2^*(1430)^0 \to K\pi$) = 49.9% and 2/3 for the $K^+\pi^-$ mode.

$\Gamma(K^*(1410)^0\pi^+)/\Gamma_{total}$ Γ_{366}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<45	90	[1] GARMASH	05	BELL	$e^+e^- \to \Upsilon(4S)$

[1] GARMASH 05 reports 2.0×10^{-6} at 90% CL for B($B^+ \to K^*(1410)^0\pi^+$) $\times$ B($K^*(1410)^0 \to K^+\pi^-$). We rescaled it using the PDG value B($K^*(1410)^0 \to K\pi$) = 6.6% and 2/3 for the $K^+\pi^-$ mode.

$\Gamma(K^*(1680)^0\pi^+)/\Gamma_{total}$ Γ_{367}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<12	90	[1] GARMASH	05	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<$15	90	[2] AUBERT,B	05N	BABR	$e^+e^- \to \Upsilon(4S)$

[1] GARMASH 05 reports 3.1×10^{-6} at 90% CL for B($B^+ \to K^*(1680)^0\pi^+$) $\times$ B($K^*(1680)^0 \to K^+\pi^-$). We rescaled it using the PDG value B($K^*(1680)^0 \to K\pi$) = 38.7% and 2/3 for the $K^+\pi^-$ mode.

[2] AUBERT,B 05N reports 3.8×10^{-6} at 90% CL for B($B^+ \to K^*(1680)^0\pi^+$) $\times$ B($K^*(1680)^0 \to K^+\pi^-$). We rescaled it using the PDG value B($K^*(1680)^0 \to K\pi$) = 38.7% and 2/3 for the $K^+\pi^-$ fraction.

$\Gamma(K^+\pi^0\pi^0)/\Gamma_{total}$ Γ_{368}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
16.2±1.2±1.5	[1] LEES	11I	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(f_0(980)K^+ \times B(f_0 \to \pi^0\pi^0))/\Gamma_{total}$ — Γ_{369}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
2.8±0.6±0.5	[1] LEES	11I	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(K^-\pi^+\pi^+)/\Gamma_{total}$ — Γ_{370}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<4.6 × 10⁻⁸	90	AAIJ	17E	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<9.5 \times 10^{-7}$	90	[1] AUBERT	08BE	BABR	$e^+e^- \to \Upsilon(4S)$
$<4.5 \times 10^{-6}$	90	[1] GARMASH	04	BELL	$e^+e^- \to \Upsilon(4S)$
$<1.8 \times 10^{-6}$	90	[2] AUBERT	03M	BABR	Repl. by AUBERT 08BE
$<7.0 \times 10^{-6}$	90	[3] GARMASH	02	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$; charm and charmonium contributions are subtracted, otherwise no assumptions about intermediate resonances.
[3] Uses a reference decay mode $B^+ \to \overline{D}^0\pi^+$ and $\overline{D}^0 \to K^+\pi^-$ with $B(B^+ \to \overline{D}^0\pi^+)\cdot B(\overline{D}^0 \to K^+\pi^-) = (20.3 \pm 2.0) \times 10^{-5}$.

$\Gamma(K^-\pi^+\pi^+ \text{nonresonant})/\Gamma_{total}$ — Γ_{371}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<56	90	BERGFELD	96B	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(K_1(1270)^0\pi^+)/\Gamma_{total}$ — Γ_{372}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<4.0 × 10⁻⁵	90	[1] AUBERT	10D	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(K_1(1400)^0\pi^+)/\Gamma_{total}$ — Γ_{373}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<3.9 × 10⁻⁵	90	[1] AUBERT	10D	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<2.6 \times 10^{-3}$	90	ALBRECHT	91B	ARG	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(K^0\pi^+\pi^0)/\Gamma_{total}$ — Γ_{374}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<66 × 10⁻⁶	90	[1] ECKHART	02	CLE2	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(K^0\rho^+)/\Gamma_{total}$ — Γ_{375}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{8.0^{+1.4}_{-1.3}\pm0.6}$		AUBERT	07Z	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<48	90	ASNER	96	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(K^*(892)^+ \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{376}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
75.3±6.0±8.1		[1] AUBERT,B	06U	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1100	90	ALBRECHT	91E	ARG	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(K^*(892)^+ \rho^0)/\Gamma_{total}$ — Γ_{377}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
4.6±1.0±0.4		[1] DEL-AMO-SA..11D		BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 6.1	90	[1] AUBERT,B	06G	BABR	Repl. by DEL-AMO-SANCHEZ 11D
$10.6^{+3.0}_{-2.6}\pm2.4$		[1] AUBERT	03V	BABR	Repl. by AUBERT,B 06G
< 74	90	[2] GODANG	02	CLE2	$e^+ e^- \to \Upsilon(4S)$
<900	90	ALBRECHT	91B	ARG	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Assumes a helicity 00 configuration. For a helicity 11 configuration, the limit decreases to 4.9×10^{-5}.

$\Gamma(K^*(892)^+ f_0(980))/\Gamma_{total}$ — Γ_{378}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
4.2±0.6±0.3	[1] DEL-AMO-SA..11D		BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
5.2±1.2±0.5	[1] AUBERT,B	06G	BABR	Repl. by DEL-AMO-SANCHEZ 11D

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

$\Gamma(a_1^+ K^0)/\Gamma_{total}$ — Γ_{379}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
34.9±5.0±4.4	[1,2] AUBERT	08F	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Assumes $a_1^\pm$ decays only to 3π and $B(a_1^\pm \to \pi^\pm \pi^\mp \pi^\pm) = 0.5$.

$\Gamma(b_1^+ K^0 \times B(b_1^+ \to \omega\pi^+))/\Gamma_{total}$ — Γ_{380}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
9.6±1.7±0.9	[1] AUBERT	08AG	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(K^*(892)^0 \rho^+)/\Gamma_{total}$ — Γ_{381}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
9.2±1.5 OUR AVERAGE				
9.6±1.7±1.5	[1] AUBERT,B	06G	BABR	$e^+ e^- \to \Upsilon(4S)$
8.9±1.7±1.2	[1] ZHANG	05D	BELL	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(K_1(1400)^+\rho^0)/\Gamma_{total}$ — Γ_{382}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<7.8 × 10^{-4}	90	ALBRECHT	91B	ARG	$e^+e^- \to \Upsilon(4S)$

$\Gamma(K_2^*(1430)^+\rho^0)/\Gamma_{total}$ — Γ_{383}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.5 × 10^{-3}	90	ALBRECHT	91B	ARG	$e^+e^- \to \Upsilon(4S)$

$\Gamma(b_1^0 K^+ \times B(b_1^0 \to \omega\pi^0))/\Gamma_{total}$ — Γ_{384}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
9.1±1.7±1.0	[1] AUBERT	07BI	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(b_1^+ K^{*0} \times B(b_1^+ \to \omega\pi^+))/\Gamma_{total}$ — Γ_{385}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<5.9 × 10^{-6}	90	[1] AUBERT	09AF	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(b_1^0 K^{*+} \times B(b_1^0 \to \omega\pi^0))/\Gamma_{total}$ — Γ_{386}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<6.7 × 10^{-6}	90	[1] AUBERT	09AF	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(K^+\overline{K}^0)/\Gamma_{total}$ — Γ_{387}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
1.31±0.17 OUR FIT Error includes scale factor of 1.2.					
1.19±0.18 OUR AVERAGE					
1.11±0.19±0.05		[1] DUH	13	BELL	$e^+e^- \to \Upsilon(4S)$
1.61±0.44±0.09		[1] AUBERT,BE	06C	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$1.22^{+0.32}_{-0.28}{}^{+0.13}_{-0.16}$		[1] LIN	07	BELL	Repl. by DUH 13
1.0 ±0.4 ±0.1		[1] ABE	05G	BELL	Repl. by LIN 07
1.5 ±0.5 ±0.1		[1] AUBERT,BE	05E	BABR	Repl. by AUBERT,BE 06C
< 2.5	90	[1] AUBERT	04M	BABR	Repl. by AUBERT,BE 05E
< 3.3	90	[1] CHAO	04	BELL	$e^+e^- \to \Upsilon(4S)$
< 3.3	90	[1] BORNHEIM	03	CLE2	$e^+e^- \to \Upsilon(4S)$
< 2.0	90	[1] CASEY	02	BELL	Repl. by CHAO 04
< 5.0	90	[1] ABE	01H	BELL	$e^+e^- \to \Upsilon(4S)$
< 2.4	90	[1] AUBERT	01E	BABR	$e^+e^- \to \Upsilon(4S)$
< 5.1	90	[1] CRONIN-HEN...	00	CLE2	$e^+e^- \to \Upsilon(4S)$
<21	90	GODANG	98	CLE2	Repl. by CRONIN-HENNESSY 00

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

$\Gamma(K^+\overline{K}^0)/\Gamma(K^0\pi^+)$ — $\Gamma_{387}/\Gamma_{327}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.055±0.007 OUR FIT Error includes scale factor of 1.2.				
0.064±0.009±0.004	AAIJ	13BS	LHCB	pp at 7 TeV

$\Gamma(\overline{K}^0 K^+ \pi^0)/\Gamma_{total}$ — Γ_{388}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<24 × 10^{-6}	90	[1] ECKHART 02	CLE2	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(K^+ K^0_S K^0_S)/\Gamma_{total}$ — Γ_{389}/Γ

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
10.8±0.6 OUR AVERAGE			
10.6±0.5±0.3	[1,2] LEES 12O	BABR	$e^+e^- \to \Upsilon(4S)$
13.4±1.9±1.5	[1] GARMASH 04	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
10.7±1.2±1.0	[1] AUBERT,B 04V	BABR	Repl. by LEES 12O

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] All intermediate charmonium and charm resonances are removed, except of χ_{c0}.

$\Gamma(f_0(980)K^+, f_0 \to K^0_S K^0_S)/\Gamma_{total}$ — Γ_{390}/Γ

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
14.7±2.8±1.8	[1] LEES 12O	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(f_0(1710)K^+, f_0 \to K^0_S K^0_S)/\Gamma_{total}$ — Γ_{391}/Γ

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$0.48^{+0.40}_{-0.24}\pm0.11$	[1] LEES 12O	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(K^+ K^0_S K^0_S \text{ nonresonant})/\Gamma_{total}$ — Γ_{392}/Γ

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
19.8±3.7±2.5	[1] LEES 12O	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(K^0_S K^0_S \pi^+)/\Gamma_{total}$ — Γ_{393}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
<0.51	90	[1] AUBERT 09J	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<3.2	90	[1] GARMASH 04	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(K^+ K^- \pi^+)/\Gamma_{total}$ — Γ_{394}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
5.0±0.5±0.5		[1] AUBERT 07BB	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<13	90	[1] GARMASH 04	BELL	$e^+e^- \to \Upsilon(4S)$
< 6.3	90	[1,2] AUBERT 03M	BABR	Repl. by AUBERT 07BB
<12	90	[3] GARMASH 02	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Charm and charmonium contributions are subtracted, otherwise no assumptions about intermediate resonances.
[3] Uses a reference decay mode $B^+ \to \overline{D}^0\pi^+$ and $\overline{D}^0 \to K^+\pi^-$ with B($B^+ \to \overline{D}^0\pi^+$)·B($\overline{D}^0 \to K^+\pi^-$) = $(20.3 \pm 2.0) \times 10^{-5}$.

$\Gamma(K^+K^-\pi^+\text{nonresonant})/\Gamma_{total}$ — Γ_{395}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<75	90	BERGFELD	96B	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(K^+\overline{K}^*(892)^0)/\Gamma_{total}$ — Γ_{396}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 1.1	90	[1] AUBERT	07AR	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<129	90	ABBIENDI	00B	OPAL	$e^+e^- \to Z$
<138	90	[2] ABE	00C	SLD	$e^+e^- \to Z$
< 5.3	90	[1] JESSOP	00	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[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 $f_{B_s}=(10.5^{+1.8}_{-2.2})$%.

$\Gamma(K^+\overline{K}^*_0(1430)^0)/\Gamma_{total}$ — Γ_{397}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<2.2	90	[1] AUBERT	07AR	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(K^+K^+\pi^-)/\Gamma_{total}$ — Γ_{398}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.1 \times 10^{-8}$	90	AAIJ	17E	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.6 \times 10^{-7}$	90	[1] AUBERT	08BE	BABR	$e^+e^- \to \Upsilon(4S)$
$<2.4 \times 10^{-6}$	90	[1] GARMASH	04	BELL	$e^+e^- \to \Upsilon(4S)$
$<1.3 \times 10^{-6}$	90	[2] AUBERT	03M	BABR	Repl. by AUBERT 08BE
$<3.2 \times 10^{-6}$	90	[3] GARMASH	02	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$; charm and charmonium contributions are subtracted, otherwise no assumptions about intermediate resonances.
[3] Uses a reference decay mode $B^+ \to \overline{D}^0\pi^+$ and $\overline{D}^0 \to K^+\pi^-$ with B($B^+ \to \overline{D}^0\pi^+$)·B($\overline{D}^0 \to K^+\pi^-$) = $(20.3 \pm 2.0) \times 10^{-5}$.

$\Gamma(K^+K^+\pi^-\text{nonresonant})/\Gamma_{total}$ — Γ_{399}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<87.9	90	ABBIENDI	00B	OPAL	$e^+e^- \to Z$

$\Gamma(f_2'(1525)K^+)/\Gamma_{total}$ — Γ_{400}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
1.8 ±0.5 OUR AVERAGE		Error includes scale factor of 1.1.			
1.56±0.36±0.30		[1,2] LEES	12O	BABR	$e^+e^- \to \Upsilon(4S)$
$2.8 \pm 0.9\ ^{+0.5}_{-0.4}$		[1,3] LEES	12O	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<8	90	[1,4] GARMASH	05	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Measured in the $B^+ \to K^+K^-K^+$ decay.
[3] Measured in the $B^+ \to K^+K^0_SK^0_S$ decay.
[4] GARMASH 05 reports $B(B^+ \to f_2'(1525)K^+) \cdot B(f_2'(1525) \to K^+K^-) < 4.9\times10^{-6}$ at 90% CL. We divide this result by our best value of $B(f_2'(1525) \to K\overline{K}) = 88.7\times10^{-2}$ multiplied by 2/3 to account for the K^+K^- fraction.

$\Gamma(K^+f_J(2220))/\Gamma_{total}$ — Γ_{401}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
not seen	[1] HUANG	03	BELL	$e^+e^- \to \Upsilon(4S)$

[1] No evidence is found for such decay and set a limit on $B(B^+ \to f_J(2220))\times B(f_J(2220) \to \phi\phi) < 1.2\times10^{-6}$ at 90%CL where the $f_J(2220)$ is a possible glueball state.

$\Gamma(K^{*+}\pi^+K^-)/\Gamma_{total}$ — Γ_{402}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<11.8	90	[1] AUBERT,B	06U	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(K^*(892)^+K^*(892)^0)/\Gamma_{total}$ — Γ_{403}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
0.91±0.29 OUR AVERAGE					
$0.77^{+0.35}_{-0.30}\pm0.12$		[1] GOH	15	BELL	$e^+e^- \to \Upsilon(4S)$
1.2 ±0.5 ±0.1		[2] AUBERT	09F	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<71	90	[3] GODANG	02	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Signal significance is 2.7 standard deviations. This measurement corresponds to an upper limit of $< 1.31\times10^{-6}$ at 90% CL.
[2] Signal signicance is 3.7 standard deviations.
[3] Assumes a helicity 00 configuration. For a helicity 11 configuration, the limit decreases to 4.8×10^{-5}.

$\Gamma(K^{*+}K^+\pi^-)/\Gamma_{total}$ — Γ_{404}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<6.1	90	[1] AUBERT,B	06U	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(K^+ K^- K^+)/\Gamma_{total}$ — Γ_{405}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
34.0±1.4 OUR AVERAGE		Error includes scale factor of 1.4.		
34.6±0.6±0.9		[1,2] LEES	12O	BABR	$e^+e^- \to \Upsilon(4S)$
30.6±1.2±2.3		[1] GARMASH	05	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
35.2±0.9±1.6		[1] AUBERT	06O	BABR	Repl. by LEES 12O
32.8±1.8±2.8		[1] GARMASH	04	BELL	Repl. by GARMASH 05
29.6±2.1±1.6		[3] AUBERT	03M	BABR	Repl. by AUBERT 06O
35.3±3.7±4.5		[4] GARMASH	02	BELL	Repl. by GARMASH 04
<200	90	[5] ADAM	96D	DLPH	$e^+e^- \to Z$
<320	90	[5] ABREU	95N	DLPH	Sup. by ADAM 96D
<350	90	ALBRECHT	91E	ARG	$e^+e^- \to \Upsilon(4S)$

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

[2] All intermediate charmonium and charm resonances are removed, except of χ_{c0}.

[3] Assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$; charm and charmonium contributions are subtracted, otherwise no assumptions about intermediate resonances.

[4] Uses a reference decay mode $B^+ \to \overline{D}^0\pi^+$ and $\overline{D}^0 \to K^+\pi^-$ with $B(B^+ \to \overline{D}^0\pi^+)\cdot B(\overline{D}^0 \to K^+\pi^-) = (20.3 \pm 2.0) \times 10^{-5}$.

[5] Assumes B^0 and B^- production fractions of 0.39, and B_s production fraction of 0.12.

$\Gamma(K^+ \phi)/\Gamma_{total}$ — Γ_{406}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
$8.8^{+0.7}_{-0.6}$ OUR AVERAGE		Error includes scale factor of 1.1.		
$9.2 \pm0.4 ^{+0.7}_{-0.5}$		[1] LEES	12O	BABR	$e^+e^- \to \Upsilon(4S)$
7.6 ±1.3 ±0.6		[2] ACOSTA	05J	CDF	$p\overline{p}$ at 1.96 TeV
$9.60\pm0.92^{+1.05}_{-0.85}$		[1] GARMASH	05	BELL	$e^+e^- \to \Upsilon(4S)$
$5.5 ^{+2.1}_{-1.8} \pm0.6$		[1] BRIERE	01	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
8.4 ±0.7 ±0.7		[1] AUBERT	06O	BABR	Repl. by LEES 12O
$10.0 ^{+0.9}_{-0.8} \pm0.5$		[1] AUBERT	04A	BABR	Repl. by AUBERT 06O
9.4 ±1.1 ±0.7		[1] CHEN	03B	BELL	Repl. by GARMASH 05
$14.6 ^{+3.0}_{-2.8} \pm2.0$		[3] GARMASH	02	BELL	Repl. by CHEN 03B
$7.7 ^{+1.6}_{-1.4} \pm0.8$		[1] AUBERT	01D	BABR	$e^+e^- \to \Upsilon(4S)$
<144	90	[4] ABE	00C	SLD	$e^+e^- \to Z$
< 5	90	[1] BERGFELD	98	CLE2	
<280	90	[5] ADAM	96D	DLPH	$e^+e^- \to Z$
< 12	90	ASNER	96	CLE2	$e^+e^- \to \Upsilon(4S)$
<440	90	[6] ABREU	95N	DLPH	Sup. by ADAM 96D
<180	90	ALBRECHT	91B	ARG	$e^+e^- \to \Upsilon(4S)$
< 90	90	[7] AVERY	89B	CLEO	$e^+e^- \to \Upsilon(4S)$
<210	90	AVERY	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Uses B($B^+ \rightarrow J/\psi K^+$) = $(1.00 \pm 0.04) \times 10^{-3}$ and B($J/\psi \rightarrow \mu^+\mu^-$) = 0.0588 ± 0.0010.
[3] Uses a reference decay mode $B^+ \rightarrow \overline{D}^0 \pi^+$ and $\overline{D}^0 \rightarrow K^+\pi^-$ with B($B^+ \rightarrow \overline{D}^0\pi^+$)·B($\overline{D}^0 \rightarrow K^+\pi^-$) = $(20.3 \pm 2.0) \times 10^{-5}$.
[4] 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 $f_{B_s}=(10.5^{+1.8}_{-2.2})$%.
[5] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$.
[6] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12.
[7] AVERY 89B reports $< 8 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma\big(f_0(980)K^+ \times B(f_0(980) \rightarrow K^+K^-)\big)/\Gamma_{total}$ — Γ_{407}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
9.4±1.6±2.8		[1] LEES	12O	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
6.5±2.5±1.6		[1] AUBERT	06O	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
<2.9	90	[1] GARMASH	05	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma\big(a_2(1320)K^+ \times B(a_2(1320) \rightarrow K^+K^-)\big)/\Gamma_{total}$ — Γ_{408}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.1 × 10^{-6}	90	[1] GARMASH	05	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma\big(X_0(1550)K^+ \times B(X_0(1550) \rightarrow K^+K^-)\big)/\Gamma_{total}$ — Γ_{409}/Γ

$X_0(1550)$ is a possible spin zero state near 1.55 GeV/c^2 invariant mass of K^+K^-.

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
4.3±0.6±0.3	[1] AUBERT	06O	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma\big(\phi(1680)K^+ \times B(\phi(1680) \rightarrow K^+K^-)\big)/\Gamma_{total}$ — Γ_{410}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.8 × 10^{-6}	90	[1] GARMASH	05	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma\big(f_0(1710)K^+ \times B(f_0(1710) \rightarrow K^+K^-)\big)/\Gamma_{total}$ — Γ_{411}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
1.12±0.25±0.50	[1] LEES	12O	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.7 ±1.0 ±0.3	[1] AUBERT	06O	BABR	Repl. by LEES 12O

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

$\Gamma(K^+ K^- K^+ \text{nonresonant})/\Gamma_{total}$ — Γ_{412}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$23.8^{+2.8}_{-5.0}$ OUR AVERAGE					
$22.8 \pm 2.7 \pm 7.6$		[1] LEES	12O	BABR	$e^+ e^- \to \Upsilon(4S)$
$24.0 \pm 1.5 ^{+2.6}_{-6.0}$		[1] GARMASH	05	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$50.0 \pm 6.0 \pm 4.0$		[1] AUBERT	06O	BABR	Repl. by LEES 12O
<38	90	BERGFELD	96B	CLE2	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(K^*(892)^+ K^+ K^-)/\Gamma_{total}$ — Γ_{413}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$36.2 \pm 3.3 \pm 3.6$		[1] AUBERT,B	06U	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1600	90	ALBRECHT	91E	ARG	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(K^*(892)^+ \phi)/\Gamma_{total}$ — Γ_{414}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
10.0 ± 2.0 OUR AVERAGE		Error includes scale factor of 1.7.			
$11.2 \pm 1.0 \pm 0.9$		[1] AUBERT	07BA	BABR	$e^+ e^- \to \Upsilon(4S)$
$6.7 ^{+2.1}_{-1.9} {}^{+0.7}_{-1.0}$		[1] CHEN	03B	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$12.7 ^{+2.2}_{-2.0} \pm 1.1$		[1] AUBERT	03V	BABR	Repl. by AUBERT 07BA
$9.7 ^{+4.2}_{-3.4} \pm 1.7$		[1] AUBERT	01D	BABR	Repl. by AUBERT 03V
< 22.5	90	[1] BRIERE	01	CLE2	$e^+ e^- \to \Upsilon(4S)$
< 41	90	[1] BERGFELD	98	CLE2	
< 70	90	ASNER	96	CLE2	$e^+ e^- \to \Upsilon(4S)$
<1300	90	ALBRECHT	91B	ARG	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\phi (K\pi)_0^{*+})/\Gamma_{total}$ — Γ_{415}/Γ

$(K\pi)_0^{*+}$ is the total S-wave composed of $K_0^*(1430)$ and nonresonant that are described using LASS shape.

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$8.3 \pm 1.4 \pm 0.8$	[1] AUBERT	08BI	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\phi K_1(1270)^+)/\Gamma_{total}$ — Γ_{416}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$6.1 \pm 1.6 \pm 1.1$	[1] AUBERT	08BI	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\phi K_1(1400)^+)/\Gamma_{total}$ — Γ_{417}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 3.2	90	[1] AUBERT	08BI	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1100	90	ALBRECHT	91B	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\phi K^*(1410)^+)/\Gamma_{total}$ — Γ_{418}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<4.3	90	[1] AUBERT	08BI	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\phi K_0^*(1430)^+)/\Gamma_{total}$ — Γ_{419}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
7.0±1.3±0.9	[1] AUBERT	08BI	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\phi K_2^*(1430)^+)/\Gamma_{total}$ — Γ_{420}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
8.4±1.8±1.0		[1] AUBERT	08BI	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<3400	90	ALBRECHT	91B	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\phi K_2^*(1770)^+)/\Gamma_{total}$ — Γ_{421}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<15.0	90	[1] AUBERT	08BI	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\phi K_2^*(1820)^+)/\Gamma_{total}$ — Γ_{422}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<16.3	90	[1] AUBERT	08BI	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(a_1^+ K^{*0})/\Gamma_{total}$ — Γ_{423}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<3.6	90	[1,2] DEL-AMO-SA..10I		BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes $B(a_1^\pm \rightarrow \pi^\pm\pi^\mp\pi^\pm) = 0.5$

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

$\Gamma(K^+\phi\phi)/\Gamma_{total}$ — Γ_{424}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
5.0±1.2 OUR AVERAGE Error includes scale factor of 2.3.				
$5.6\pm0.5\pm0.3$	[1] LEES	11A	BABR	$e^+e^- \to \Upsilon(4S)$
$2.6^{+1.1}_{-0.9}\pm0.3$	[1] HUANG	03	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$7.5\pm1.0\pm0.7$	[1] AUBERT,BE	06H	BABR	Repl. by LEES 11A

[1] Assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$ and for a $\phi\phi$ invariant mass below 2.85 GeV/c^2.

$\Gamma(\eta'\eta' K^+)/\Gamma_{total}$ — Γ_{425}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<25	90	[1] AUBERT,B	06P	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\omega\phi K^+)/\Gamma_{total}$ — Γ_{426}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<1.9	90	[1] LIU	09	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(X(1812)K^+ \times B(X \to \omega\phi))/\Gamma_{total}$ — Γ_{427}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.32	90	[1] LIU	09	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(K^*(892)^+\gamma)/\Gamma_{total}$ — Γ_{428}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
4.21±0.18 OUR AVERAGE					
$4.22\pm0.14\pm0.16$		[1] AUBERT	09AO	BABR	$e^+e^- \to \Upsilon(4S)$
$4.25\pm0.31\pm0.24$		[2] NAKAO	04	BELL	$e^+e^- \to \Upsilon(4S)$
$3.76^{+0.89}_{-0.83}\pm0.28$		[2] COAN	00	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$3.87\pm0.28\pm0.26$		[3] AUBERT,BE	04A	BABR	Repl. by AUBERT 09AO
$3.83\pm0.62\pm0.22$		[2] AUBERT	02C	BABR	Repl. by AUBERT,BE 04A
$5.7\pm3.1\pm1.1$		[4] AMMAR	93	CLE2	Repl. by COAN 00
<55	90	[5] ALBRECHT	89G	ARG	$e^+e^- \to \Upsilon(4S)$
<55	90	[5] AVERY	89B	CLEO	$e^+e^- \to \Upsilon(4S)$
<180	90	AVERY	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Uses $B(\Upsilon(4S) \to B^+B^-) = (51.6\pm0.6)\%$ and $B(\Upsilon(4S) \to B^0\overline{B}^0) = (48.4\pm0.6)\%$.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[3] Uses the production ratio of charged and neutral B from $\Upsilon(4S)$ decays $R^{+/0} = 1.006 \pm 0.048$.
[4] AMMAR 93 observed 4.1 ± 2.3 events above background.
[5] Assumes the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$.

$\Gamma(K_1(1270)^+\gamma)/\Gamma_{total}$ Γ_{429}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
$4.4^{+0.7}_{-0.6}$ OUR AVERAGE					
$4.41^{+0.63}_{-0.44}\pm0.58$		[1,2] DEL-AMO-SA..16		BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$4.3 \pm0.9 \pm0.9$		[3] YANG	05	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<$ 9.9	90	[3] NISHIDA	02	BELL	Repl. by YANG 05
$<$730	90	[4] ALBRECHT	89G	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Requires $M_{K\pi\pi} < 1.8$ GeV/c^2.
[2] Uses B($\Upsilon(4S) \rightarrow B^+B^-$) = 0.513 ± 0.006.
[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[4] ALBRECHT 89G reports < 0.0066 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(\eta K^+\gamma)/\Gamma_{total}$ Γ_{430}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
7.9±0.9 OUR AVERAGE				
$7.7\pm1.0\pm0.4$	[1,2] AUBERT	09	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$8.4\pm1.5^{+1.2}_{-0.9}$	[2,3] NISHIDA	05	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$10.0\pm1.3\pm0.5$	[1,2] AUBERT,B	06M	BABR	Repl. by AUBERT 09

[1] $m_{\eta K} < 3.25$ GeV/c^2.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[3] $m_{\eta K} < 2.4$ GeV/c^2

$\Gamma(\eta' K^+\gamma)/\Gamma_{total}$ Γ_{431}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$2.9^{+1.0}_{-0.9}$ OUR AVERAGE				
$3.6\pm1.2\pm0.4$	[1,2] WEDD	10	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$1.9^{+1.5}_{-1.2}\pm0.1$	[1,3] AUBERT,B	06M	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] $m_{\eta' K} < 3.4$ GeV/c^2.
[3] Set the upper limit of 4.2×10^{-6} at 90% CL with $m_{\eta' K} < 3.25$ GeV/c^2.

$\Gamma(\phi K^+\gamma)/\Gamma_{total}$ Γ_{432}/Γ

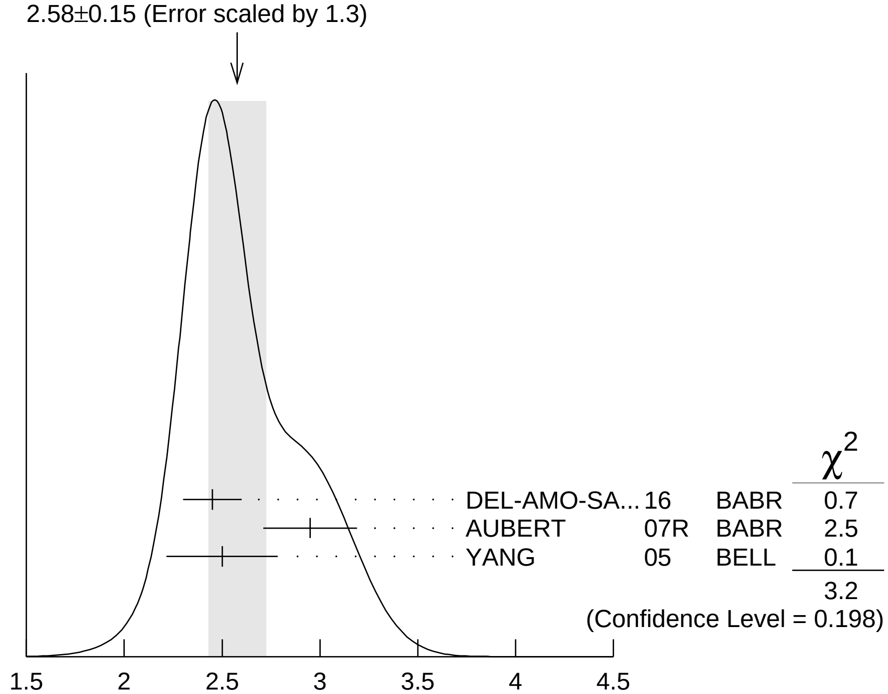
VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
2.7 ±0.4 OUR AVERAGE Error includes scale factor of 1.2.				
$2.48\pm0.30\pm0.24$	[1] SAHOO	11A	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$3.5 \pm0.6 \pm0.4$	[1] AUBERT	07Q	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$3.4 \pm0.9 \pm0.4$	[1] DRUTSKOY	04	BELL	Repl. by SAHOO 11A

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

$\Gamma(K^+\pi^-\pi^+\gamma)/\Gamma_{total}$ Γ_{433}/Γ

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
2.58±0.15 OUR AVERAGE	Error includes scale factor of 1.3. See the ideogram below.			
2.45±0.09±0.12	[1,2] DEL-AMO-SA..16		BABR	$e^+e^- \rightarrow \Upsilon(4S)$
2.95±0.13±0.20	[1,3] AUBERT	07R	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
2.50±0.18±0.22	[3,4] YANG	05	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$2.4 \pm0.5\ ^{+0.4}_{-0.2}$	[3,5] NISHIDA	02	BELL	Repl. by YANG 05

[1] $M_{K\pi\pi} < 1.8$ GeV/c^2.
[2] Uses B($\Upsilon(4S) \rightarrow B^+B^-$) = 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.
[5] $M_{K\pi\pi} < 2.4$ GeV/c^2.



$\Gamma(K^*(892)^0\pi^+\gamma)/\Gamma_{total}$ Γ_{434}/Γ

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
2.33±0.12 OUR AVERAGE				
$2.34\pm0.09^{+0.08}_{-0.07}$	[1,2] DEL-AMO-SA..16		BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$2.0\ ^{+0.7}_{-0.6} \pm0.2$	[3,4] NISHIDA	02	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Requires $M_{K\pi\pi} < 1.8$ GeV/c^2.
[2] Uses B($\Upsilon(4S) \rightarrow B^+B^-$) = 0.513 ± 0.006.
[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[4] $M_{K\pi\pi} < 2.4$ GeV/c^2.

$\Gamma(K^+\rho^0\gamma)/\Gamma_{total}$ — Γ_{435}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
8.2±0.4±0.8		[1,2] DEL-AMO-SA..16	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<20	90	[3,4] NISHIDA 02	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Requires $M_{K\pi\pi} < 1.8$ 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] $M_{K\pi\pi} < 2.4$ GeV/c^2.

$\Gamma((K^+\pi^-)_{NR}\pi^+\gamma)/\Gamma_{total}$ — Γ_{436}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
$9.9\pm0.7^{+1.5}_{-1.9}$		[1,2] DEL-AMO-SA..16	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<9.2	90	[3,4] NISHIDA 02	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Requires $M_{K\pi\pi} < 1.8$ 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] $M_{K\pi\pi} < 2.4$ GeV/c^2.

$\Gamma(K^0\pi^+\pi^0\gamma)/\Gamma_{total}$ — Γ_{437}/Γ

VALUE (units 10^{-5})	DOCUMENT ID	TECN	COMMENT
4.56±0.42±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 $\Upsilon(4S)$.

$\Gamma(K_1(1400)^+\gamma)/\Gamma_{total}$ — Γ_{438}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
$9.7^{+4.6+2.9}_{-2.9-2.4}$		[1,2] DEL-AMO-SA..16	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
< 15	90	[3] YANG 05	BELL	$e^+e^- \to \Upsilon(4S)$
< 50	90	[3] NISHIDA 02	BELL	Repl. by YANG 05
<2200	90	[4] ALBRECHT 89G	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Requires $M_{K\pi\pi} < 1.8$ 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] ALBRECHT 89G reports < 0.0020 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K^*(1410)^+\gamma)/\Gamma_{total}$ — Γ_{439}/Γ

VALUE (units 10^{-5})	DOCUMENT ID	TECN	COMMENT
$2.71^{+0.54+0.59}_{-0.48-0.37}$	[1,2] DEL-AMO-SA..16	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Requires $M_{K\pi\pi} < 1.8$ GeV/c^2.
[2] Uses B($\Upsilon(4S) \to B^+B^-$) = 0.513 ± 0.006.

$\Gamma(K_0^*(1430)^0\pi^+\gamma)/\Gamma_{total}$ — Γ_{440}/Γ

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$1.32^{+0.09+0.24}_{-0.10-0.30}$	[1,2] DEL-AMO-SA..16	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Requires $M_{K\pi\pi} < 1.8$ GeV/c^2.
[2] Uses B($\Upsilon(4S) \rightarrow B^+B^-$) = 0.513 ± 0.006.

$\Gamma(K_2^*(1430)^+\gamma)/\Gamma_{total}$ — Γ_{441}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
1.4 ±0.4 OUR AVERAGE				
$0.87^{+0.70+0.87}_{-0.53-1.04}$		[1,2] DEL-AMO-SA..16	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
1.45±0.40±0.15		[3] AUBERT,B 04U	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<140	90	[4] ALBRECHT 89G	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Requires $M_{K\pi\pi} < 1.8$ GeV/c^2.
[2] Uses B($\Upsilon(4S) \rightarrow B^+B^-$) = 0.513 ± 0.006.
[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[4] ALBRECHT 89G reports < 0.0013 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K^*(1680)^+\gamma)/\Gamma_{total}$ — Γ_{442}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID	TECN	COMMENT
$6.67^{+0.93+1.44}_{-0.78-1.14}$		[1,2] DEL-AMO-SA..16	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<190	90	[3] ALBRECHT 89G	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Requires $M_{K\pi\pi} < 1.8$ GeV/c^2.
[2] Uses B($\Upsilon(4S) \rightarrow B^+B^-$) = 0.513 ± 0.006.
[3] ALBRECHT 89G reports < 0.0017 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K_3^*(1780)^+\gamma)/\Gamma_{total}$ — Γ_{443}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID	TECN	COMMENT
< 39	90	[1,2] NISHIDA 05	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<5500	90	[3] ALBRECHT 89G	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Uses B($K_3^*(1780) \rightarrow \eta K$) = $0.11^{+0.05}_{-0.04}$.
[3] ALBRECHT 89G reports < 0.005 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K_4^*(2045)^+\gamma)/\Gamma_{total}$ — Γ_{444}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.0099	90	[1] ALBRECHT 89G	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] ALBRECHT 89G reports < 0.0090 assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(\rho^+\gamma)/\Gamma_{total}$ Γ_{445}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
0.98±0.25 OUR AVERAGE					
$1.20^{+0.42}_{-0.37}\pm0.20$		[1] AUBERT	08BH	BABR	$e^+e^- \to \Upsilon(4S)$
$0.87^{+0.29}_{-0.27}{}^{+0.09}_{-0.11}$		[1] TANIGUCHI	08	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$1.10^{+0.37}_{-0.33}\pm0.09$		[1] AUBERT	07L	BABR	Repl. by AUBERT 08BH
$0.55^{+0.42}_{-0.36}{}^{+0.09}_{-0.08}$		[1] MOHAPATRA	06	BELL	Repl. by TANIGUCHI 08
$0.9\ ^{+0.6}_{-0.5}\ \pm0.1$	90	[1] AUBERT	05	BABR	Repl. by AUBERT 07L
< 2.2	90	[1] MOHAPATRA	05	BELL	$e^+e^- \to \Upsilon(4S)$
< 2.1	90	[1] AUBERT	04C	BABR	$e^+e^- \to \Upsilon(4S)$
<13	90	[1,2] COAN	00	CLE2	$e^+e^- \to \Upsilon(4S)$

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

[2] No evidence for a nonresonant $K\pi\gamma$ contamination was seen; the central value assumes no contamination.

$\Gamma(\pi^+\pi^0)/\Gamma_{total}$ Γ_{446}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
5.5 ±0.4 OUR AVERAGE		Error includes scale factor of 1.2.			
5.86±0.26±0.38		[1] DUH	13	BELL	$e^+e^- \to \Upsilon(4S)$
5.02±0.46±0.29		[1] AUBERT	07BC	BABR	$e^+e^- \to \Upsilon(4S)$
$4.6\ ^{+1.8}_{-1.6}\ {}^{+0.6}_{-0.7}$		[1] BORNHEIM	03	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
6.5 ±0.4 ±0.4		[1] LIN	07A	BELL	Repl. by DUH 13
5.8 ±0.6 ±0.4		[1] AUBERT	05L	BABR	Repl. by AUBERT 07BC
5.0 ±1.2 ±0.5		[1] CHAO	04	BELL	Repl. by LIN 07A
$5.5\ ^{+1.0}_{-1.9}\ \pm0.6$		[1] AUBERT	03L	BABR	Repl. by AUBERT 05L
$7.4\ ^{+2.3}_{-2.2}\ \pm0.9$		[1] CASEY	02	BELL	Repl. by CHAO 04
< 13.4	90	[1] ABE	01H	BELL	$e^+e^- \to \Upsilon(4S)$
< 9.6	90	[1] AUBERT	01E	BABR	$e^+e^- \to \Upsilon(4S)$
< 12.7	90	[1] CRONIN-HEN...	00	CLE2	$e^+e^- \to \Upsilon(4S)$
< 20	90	GODANG	98	CLE2	Repl. by CRONIN-HENNESSY 00
< 17	90	ASNER	96	CLE2	Repl. by GODANG 98
< 240	90	[1] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$
<2300	90	[2] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$

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

[2] BEBEK 87 assume the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$.

$\Gamma(\pi^+\pi^0)/\Gamma(K^0\pi^+)$ $\Gamma_{446}/\Gamma_{327}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.285±0.02±0.02	LIN	07A	BELL	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\pi^+\pi^+\pi^-)/\Gamma_{total}$ Γ_{447}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$15.2\pm0.6^{+1.3}_{-1.2}$		[1] AUBERT	09L	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$16.2\pm1.2\pm0.9$		[1] AUBERT,B	05G	BABR	Repl. by AUBERT 09L
$10.9\pm3.3\pm1.6$		[1] AUBERT	03M	BABR	Repl. by AUBERT 05G
<130	90	[2] ADAM	96D	DLPH	$e^+e^- \rightarrow Z$
<220	90	[3] ABREU	95N	DLPH	Sup. by ADAM 96D
<450	90	[4] ALBRECHT	90B	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
<190	90	[5] BORTOLETTO	89	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^0 and B^+ at the $\Upsilon(4S)$; charm and charmonium contributions are subtracted, otherwise no assumptions about intermediate resonances.

[2] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$.

[3] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12.

[4] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

[5] BORTOLETTO 89 reports $< 1.7 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(\rho^0\pi^+)/\Gamma_{total}$ Γ_{448}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
8.3±1.2 OUR AVERAGE					
$8.1\pm0.7^{+1.3}_{-1.6}$		[1] AUBERT	09L	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$8.0^{+2.3}_{-2.0}\pm0.7$		[1] GORDON	02	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$10.4^{+3.3}_{-3.4}\pm2.1$		[1] JESSOP	00	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$8.8\pm1.0^{+0.6}_{-0.9}$		[1] AUBERT,B	05G	BABR	Repl. by AUBERT 09L
$9.5\pm1.1\pm0.9$		[1] AUBERT	04Z	BABR	Repl. by AUBERT 05G
<83	90	[2] ABE	00C	SLD	$e^+e^- \rightarrow Z$
<160	90	[3] ADAM	96D	DLPH	$e^+e^- \rightarrow Z$
<43	90	ASNER	96	CLE2	Repl. by JESSOP 00
<260	90	[4] ABREU	95N	DLPH	Sup. by ADAM 96D
<150	90	[1] ALBRECHT	90B	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
<170	90	[5] BORTOLETTO	89	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
<230	90	[5] BEBEK	87	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
<600	90	GILES	84	CLEO	Repl. by BEBEK 87

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

[2] ABE 00C assumes $B(Z \rightarrow b\overline{b})=(21.7 \pm 0.1)\%$ and the B fractions $f_{B^0}=f_{B^+}=(39.7^{+1.8}_{-2.2})\%$ and $f_{B_s}=(10.5^{+1.8}_{-2.2})\%$.

[3] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$.

[4] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12.

[5] Papers assume the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$[\Gamma(K^*(892)^0\pi^+) + \Gamma(\rho^0\pi^+)]/\Gamma_{total}$ $(\Gamma_{353}+\Gamma_{448})/\Gamma$

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{170^{+120}_{-80}\pm20}$	[1] ADAM	96D	DLPH	$e^+e^- \to Z$

[1] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$.

$\Gamma(\pi^+ f_0(980),\ f_0 \to \pi^+\pi^-)/\Gamma_{total}$ Γ_{449}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 1.5	90	[1] AUBERT	09L	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 3.0	90	[1] AUBERT,B	05G	BABR	Repl. by AUBERT 09L
<140	90	[2] BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] BORTOLETTO 89 reports $< 1.2 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(\pi^+ f_2(1270))/\Gamma_{total}$ Γ_{450}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{1.60^{+0.67}_{-0.44}{}^{+0.02}_{-0.06}}$		[1,2] AUBERT	09L	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$4.10\pm1.28^{+0.04}_{-0.14}$		[2,3] AUBERT,B	05G	BABR	Repl. by AUBERT 09L
<240	90	[4] BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] AUBERT 09L reports $[\Gamma(B^+ \to \pi^+ f_2(1270))/\Gamma_{total}] \times [B(f_2(1270) \to \pi^+\pi^-)] = (0.9 \pm 0.2 \pm 0.1^{+0.3}_{-0.1}) \times 10^{-6}$ which we divide by our best value $B(f_2(1270) \to \pi^+\pi^-) = (56.2^{+1.9}_{-0.6}) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[3] AUBERT,B 05G reports $[\Gamma(B^+ \to \pi^+ f_2(1270))/\Gamma_{total}] \times [B(f_2(1270) \to \pi^+\pi^-)] = (2.3 \pm 0.6 \pm 0.4) \times 10^{-6}$ which we divide by our best value $B(f_2(1270) \to \pi^+\pi^-) = (56.2^{+1.9}_{-0.6}) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.
[4] BORTOLETTO 89 reports $< 2.1 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(\rho(1450)^0\pi^+,\ \rho^0 \to \pi^+\pi^-)/\Gamma_{total}$ Γ_{451}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{1.4\pm0.4^{+0.5}_{-0.8}}$		[1] AUBERT	09L	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2.3	90	[1] AUBERT,B	05G	BABR	Repl. by AUBERT 09L

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

$\Gamma(f_0(1370)\pi^+,\ f_0 \to \pi^+\pi^-)/\Gamma_{total}$ — Γ_{452}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<4.0	90	[1] AUBERT	09L	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<3.0	90	[1] AUBERT,B	05G	BABR	Repl. by AUBERT 09L

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

$\Gamma(f_0(500)\pi^+,\ f_0 \to \pi^+\pi^-)/\Gamma_{total}$ — Γ_{453}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<4.1	90	[1] AUBERT,B	05G	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\pi^+\pi^-\pi^+ \text{ nonresonant})/\Gamma_{total}$ — Γ_{454}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{5.3 \pm 0.7^{+1.3}_{-0.8}}$		[1] AUBERT	09L	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 4.6	90	[1] AUBERT,B	05G	BABR	Repl. by AUBERT 09L
<41	90	BERGFELD	96B	CLE2	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\pi^+\pi^0\pi^0)/\Gamma_{total}$ — Γ_{455}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{<8.9 \times 10^{-4}}$	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 $\Upsilon(4S)$.

$\Gamma(\rho^+\pi^0)/\Gamma_{total}$ — Γ_{456}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
10.9±1.4 OUR AVERAGE					
$10.2 \pm 1.4 \pm 0.9$		[1] AUBERT	07X	BABR	$e^+e^- \to \Upsilon(4S)$
$13.2 \pm 2.3^{+1.4}_{-1.9}$		[1] ZHANG	05A	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$10.9 \pm 1.9 \pm 1.9$		[1] AUBERT	04Z	BABR	Repl. by AUBERT 07X
< 43	90	[1,2] JESSOP	00	CLE2	$e^+e^- \to \Upsilon(4S)$
< 77	90	ASNER	96	CLE2	Repl. by JESSOP 00
<550	90	[1] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Assumes no nonresonant contributions of $B^+ \to \pi^+\pi^0\pi^0$.

$\Gamma(\pi^+\pi^-\pi^+\pi^0)/\Gamma_{total}$ — Γ_{457}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{<4.0 \times 10^{-3}}$	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 $\Upsilon(4S)$.

$\Gamma(\rho^+\rho^0)/\Gamma_{total}$ — Γ_{458}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
24.0±1.9 OUR AVERAGE					
23.7±1.4±1.4		[1] AUBERT	09G	BABR	$e^+e^- \to \Upsilon(4S)$
$31.7\pm7.1^{+3.8}_{-6.7}$		[1,2] ZHANG	03B	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
16.8±2.2±2.3		[1] AUBERT,BE	06G	BABR	Repl. by AUBERT 09G
$22.5^{+5.7}_{-5.4}\pm5.8$		[1] AUBERT	03V	BABR	Repl. by AUBERT,BE 06G
< 1000	90	[1] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$

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

[2] The systematic error includes the error associated with the helicity-mix uncertainty.

$\Gamma(\rho^+ f_0(980),\ f_0 \to \pi^+\pi^-)/\Gamma_{total}$ — Γ_{459}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<2.0	90	[1] AUBERT	09G	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1.9	90	[1] AUBERT,BE	06G	BABR	Repl. by AUBERT 09G

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

$\Gamma(a_1(1260)^+\pi^0)/\Gamma_{total}$ — Γ_{460}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
26.4±5.4±4.1		[1,2] AUBERT	07BL	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1700	90	[1] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$

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

[2] Assumes a_1^+ decays only to 3π and B($a_1^+ \to \pi^\pm\pi^\mp\pi^+$) = 0.5.

$\Gamma(a_1(1260)^0\pi^+)/\Gamma_{total}$ — Γ_{461}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
20.4±4.7±3.4		[1,2] AUBERT	07BL	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<900	90	[1] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$

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

[2] Assumes a_1^0 decays only to 3π and B($a_1^+ \to \pi^\pm\pi^\mp\pi^0$) = 1.0.

$\Gamma(\omega\pi^+)/\Gamma_{total}$ — Γ_{462}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
6.9±0.5 OUR AVERAGE					
6.7±0.5±0.4		[1] AUBERT	07AE	BABR	$e^+e^- \to \Upsilon(4S)$
6.9±0.6±0.5		[1] JEN	06	BELL	$e^+e^- \to \Upsilon(4S)$
$11.3^{+3.3}_{-2.9}\pm1.4$		[1] JESSOP	00	CLE2	$e^+e^- \to \Upsilon(4S)$

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

$6.1 \pm 0.7 \pm 0.4$		[1] AUBERT,B	06E	BABR	Repl. by AUBERT 07AE
$5.5 \pm 0.9 \pm 0.5$		[1] AUBERT	04H	BABR	Repl. by AUBERT,B 06E
$5.7^{+1.4}_{-1.3} \pm 0.6$		[1] WANG	04A	BELL	Repl. by JEN 06
$4.2^{+2.0}_{-1.8} \pm 0.5$		[1] LU	02	BELL	Repl. by WANG 04A
$6.6^{+2.1}_{-1.8} \pm 0.7$		[1] AUBERT	01G	BABR	Repl. by AUBERT 04H
< 23	90	[1] BERGFELD	98	CLE2	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 $\Upsilon(4S)$.

$\Gamma(\omega \rho^+)/\Gamma_{total}$ — Γ_{463}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$15.9 \pm 1.6 \pm 1.4$		[1] AUBERT	09H	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$10.6 \pm 2.1^{+1.6}_{-1.0}$		[1] AUBERT,B	06T	BABR	Repl. by AUBERT 09H
$12.6^{+3.7}_{-3.3} \pm 1.6$		[1] AUBERT	05O	BABR	Repl. by AUBERT,B 06T
< 61	90	[1] BERGFELD	98	CLE2	

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

$\Gamma(\eta \pi^+)/\Gamma_{total}$ — Γ_{464}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
4.02 ± 0.27 OUR AVERAGE					
$4.07 \pm 0.26 \pm 0.21$		[1] HOI	12	BELL	$e^+ e^- \to \Upsilon(4S)$
$4.00 \pm 0.40 \pm 0.24$		[1] AUBERT	09AV	BABR	$e^+ e^- \to \Upsilon(4S)$
$1.2\ ^{+2.8}_{-1.2}$		[1] RICHICHI	00	CLE2	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$5.0 \pm 0.5 \pm 0.3$		[1] AUBERT	07AE	BABR	Repl. by AUBERT 09AV
$4.2 \pm 0.4 \pm 0.2$		[1] CHANG	07B	BELL	Repl. by HOI 12
$5.1 \pm 0.6 \pm 0.3$		[1] AUBERT,B	05K	BABR	Repl. by AUBERT 07AE
$4.8 \pm 0.7 \pm 0.3$		[1] CHANG	05A	BELL	Repl. by CHANG 07B
$5.3 \pm 1.0 \pm 0.3$		[1] AUBERT	04H	BABR	Repl. by AUBERT,B 05K
< 15	90	BEHRENS	98	CLE2	Repl. by RICHICHI 00
< 700	90	[1] ALBRECHT	90B	ARG	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\eta \rho^+)/\Gamma_{total}$ — Γ_{465}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
7.0 ± 2.9 OUR AVERAGE	Error includes scale factor of 2.8.				
$9.9 \pm 1.2 \pm 0.8$		[1] AUBERT	08AH	BABR	$e^+ e^- \to \Upsilon(4S)$
$4.1^{+1.4}_{-1.3} \pm 0.4$		[1] WANG	07B	BELL	$e^+ e^- \to \Upsilon(4S)$

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

$8.4 \pm 1.9 \pm 1.1$		[1] AUBERT,B	05K	BABR	Repl. by AUBERT 08AH
<14	90	[1] AUBERT,B	04D	BABR	Repl. by AUBERT,B 05K
<15	90	[1] RICHICHI	00	CLE2	$e^+ e^- \to \Upsilon(4S)$
<32	90	BEHRENS	98	CLE2	Repl. by RICHICHI 00

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

$\Gamma(\eta' \pi^+)/\Gamma_{total}$ Γ_{466}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
2.7 ±0.9 OUR AVERAGE		Error includes scale factor of 1.9.			
$3.5 \pm 0.6 \pm 0.2$		[1] AUBERT	09AV	BABR	$e^+ e^- \to \Upsilon(4S)$
$1.76^{+0.67}_{-0.62}{}^{+0.15}_{-0.14}$		[1] SCHUEMANN	06	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$3.9 \pm 0.7 \pm 0.3$		[1] AUBERT	07AE	BABR	Repl. by AUBERT 09AV
$4.0 \pm 0.8 \pm 0.4$		[1] AUBERT,B	05K	BABR	Repl. by AUBERT 07AE
< 4.5	90	[1] AUBERT	04H	BABR	Repl. by AUBERT,B 05K
< 7.0	90	[1] ABE	01M	BELL	$e^+ e^- \to \Upsilon(4S)$
<12	90	[1] AUBERT	01G	BABR	$e^+ e^- \to \Upsilon(4S)$
<12	90	[1] RICHICHI	00	CLE2	$e^+ e^- \to \Upsilon(4S)$
<31	90	BEHRENS	98	CLE2	Repl. by RICHICHI 00

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

$\Gamma(\eta' \rho^+)/\Gamma_{total}$ Γ_{467}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{9.7^{+1.9}_{-1.8} \pm 1.1}$		[1] DEL-AMO-SA..	10A	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$8.7^{+3.1}_{-2.8}{}^{+2.3}_{-1.3}$		[1] AUBERT	07E	BABR	Repl. by DEL-AMO-SANCHEZ 10A
< 5.8	90	[1] SCHUEMANN	07	BELL	$e^+ e^- \to \Upsilon(4S)$
<22	90	[1] AUBERT,B	04D	BABR	Repl. by AUBERT 07E
<33	90	[1] RICHICHI	00	CLE2	$e^+ e^- \to \Upsilon(4S)$
<47	90	BEHRENS	98	CLE2	Repl. by RICHICHI 00

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

$\Gamma(\phi \pi^+)/\Gamma_{total}$ Γ_{468}/Γ

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
< 1.5	90	[1] AAIJ	14A	LHCB	pp at 7 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 3.3	90	[2] KIM	12A	BELL	$e^+ e^- \to \Upsilon(4S)$
< 2.4	90	[2] AUBERT,B	06C	BABR	$e^+ e^- \to \Upsilon(4S)$
< 4.1	90	[2] AUBERT	04A	BABR	Repl. by AUBERT,B 06C
< 14	90	[2] AUBERT	01D	BABR	$e^+ e^- \to \Upsilon(4S)$
<1530	90	[3] ABE	00C	SLD	$e^+ e^- \to Z$
< 50	90	[2] BERGFELD	98	CLE2	

[1] Measures B($B^+ \to \phi\pi^+$)/B($B^+ \to \phi K^+$)< 0.018 at 90% C.L. and assumes B($B^+ \to \phi K^+$) = $(8.8^{+0.7}_{-0.6}) \times 10^{-6}$.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[3] 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 $f_{B_s}=(10.5^{+1.8}_{-2.2})$%.

$\Gamma(\phi\rho^+)/\Gamma_{total}$ — Γ_{469}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 3.0	90	[1] AUBERT	08BK	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<16		[1] BERGFELD	98	CLE2	

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

$\Gamma(a_0(980)^0\pi^+,\ a_0^0 \to \eta\pi^0)/\Gamma_{total}$ — Γ_{470}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<5.8	90	[1] AUBERT,BE	04	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of charged and neutral B mesons from $\Upsilon(4S)$ decays.

$\Gamma(a_0(980)^+\pi^0,\ a_0^+ \to \eta\pi^+)/\Gamma_{total}$ — Γ_{471}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<1.4	90	[1] AUBERT	08A	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\pi^+\pi^+\pi^+\pi^-\pi^-)/\Gamma_{total}$ — Γ_{472}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<8.6 × 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 $\Upsilon(4S)$.

$\Gamma(\rho^0 a_1(1260)^+)/\Gamma_{total}$ — Γ_{473}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<6.2 × 10^{-4}	90	[1] BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<6.0 \times 10^{-4}$	90	[2] ALBRECHT	90B	ARG	$e^+e^- \to \Upsilon(4S)$
$<3.2 \times 10^{-3}$	90	[1] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] BORTOLETTO 89 reports $< 5.4 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.
[2] ALBRECHT 90B limit assumes equal production of $B^0\overline{B}^0$ and B^+B^- at $\Upsilon(4S)$.

$\Gamma(\rho^0 a_2(1320)^+)/\Gamma_{total}$ — Γ_{474}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<7.2 × 10^{-4}	90	[1] BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<2.6 \times 10^{-3}$	90	[2] BEBEK	87	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] BORTOLETTO 89 reports $< 6.3 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.
[2] BEBEK 87reports $< 2.3 \times 10^{-3}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(b_1^0\pi^+,\ b_1^0 \to \omega\pi^0)/\Gamma_{total}$ — Γ_{475}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
6.7±1.7±1.0	[1] AUBERT	07BI	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(b_1^+\pi^0,\ b_1^+ \to \omega\pi^+)/\Gamma_{total}$ — Γ_{476}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<3.3	90	[1] AUBERT	08AG	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\pi^+\pi^+\pi^+\pi^-\pi^-\pi^0)/\Gamma_{total}$ — Γ_{477}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.3 \times 10^{-3}$	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 $\Upsilon(4S)$.

$\Gamma(b_1^+\rho^0,\ b_1^+ \to \omega\pi^+)/\Gamma_{total}$ — Γ_{478}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<5.2 \times 10^{-6}$	90	[1] AUBERT	09AF	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(b_1^0\rho^+,\ b_1^0 \to \omega\pi^0)/\Gamma_{total}$ — Γ_{480}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.3 \times 10^{-6}$	90	[1] AUBERT	09AF	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(a_1(1260)^+a_1(1260)^0)/\Gamma_{total}$ — Γ_{479}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.3 \times 10^{-2}$	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 $\Upsilon(4S)$.

$\Gamma(h^+\pi^0)/\Gamma_{total}$ — Γ_{481}/Γ

$h^+ = K^+$ or π^+

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$16^{+6}_{-5}\pm3.6$	GODANG	98	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\omega h^+)/\Gamma_{total}$ — Γ_{482}/Γ

$h^+ = K^+$ or π^+

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$13.8^{+2.7}_{-2.4}$ OUR AVERAGE				
$13.4^{+3.3}_{-2.9}\pm1.1$	[1] LU	02	BELL	$e^+e^- \to \Upsilon(4S)$
$14.3^{+3.6}_{-3.2}\pm2.0$	[1] JESSOP	00	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$25\ ^{+8}_{-7}\ \pm3$	[1] BERGFELD	98	CLE2	Repl. by JESSOP 00

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

$\Gamma(h^+ X^0 (\text{Familon}))/\Gamma_{\text{total}}$ Γ_{483}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<49	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.

$\Gamma(p\overline{p}\pi^+)/\Gamma_{\text{total}}$ Γ_{484}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
1.62± 0.20 OUR AVERAGE					
$1.60^{+0.22}_{-0.19} \pm 0.12$		[1,2,3] WEI	08	BELL	$e^+ e^- \to \Upsilon(4S)$
$1.69 \pm 0.29 \pm 0.26$		[1] AUBERT	07AV	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$1.07 \pm 0.11 \pm 0.11$		[4] AAIJ	14AF	LHCB	pp at 7, 8 TeV
$3.06^{+0.73}_{-0.62} \pm 0.37$		[1,3] WANG	04	BELL	Repl. by WEI 08
< 3.7	90	[1,2] ABE	02K	BELL	Repl. by WANG 04
<500	90	[5] ABREU	95N	DLPH	Repl. by ADAM 96D
<160	90	[6] BEBEK	89	CLEO	$e^+ e^- \to \Upsilon(4S)$
$570 \pm 150 \pm 210$		[7] ALBRECHT	88F	ARG	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Explicitly vetoes resonant production of $p\overline{p}$ from Charmonium states.
[3] Also provides results with $m_{p\overline{p}} < 2.85$ GeV/c^2 and angular asymmetry of $p\overline{p}$ system.
[4] Requires $m_{p\overline{p}} < 2.85$ GeV/c^2.
[5] Assumes a B^0, B^- production fraction of 0.39 and a B_s production fraction of 0.12.
[6] BEBEK 89 reports $< 1.4 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.
[7] ALBRECHT 88F reports $(5.2 \pm 1.4 \pm 1.9) \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(p\overline{p}\pi^+ \text{nonresonant})/\Gamma_{\text{total}}$ Γ_{485}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<53	90	BERGFELD	96B	CLE2	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(p\overline{p}\pi^+\pi^+\pi^-)/\Gamma_{\text{total}}$ Γ_{486}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<5.2 \times 10^{-4}$	90	[1] ALBRECHT	88F	ARG	$e^+ e^- \to \Upsilon(4S)$

[1] ALBRECHT 88F reports $< 4.7 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(p\overline{p}K^+)/\Gamma_{\text{total}}$ Γ_{487}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
5.9 ±0.5 OUR AVERAGE Error includes scale factor of 1.5.				
$5.54^{+0.27}_{-0.25} \pm 0.36$	[1,2,3] WEI	08	BELL	$e^+ e^- \to \Upsilon(4S)$
$6.7 \pm 0.5 \pm 0.4$	[1,3] AUBERT,B	05L	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$4.59^{+0.38}_{-0.34}\pm0.50$		[1,2,3] WANG	05A	BELL	Repl. by WEI 08
$5.66^{+0.67}_{-0.57}\pm0.62$		[1,2,3] WANG	04	BELL	Repl. by WANG 05A
$4.3\ ^{+1.1}_{-0.9}\ \pm0.5$		[1,2] ABE	02K	BELL	Repl. by WANG 04

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Explicitly vetoes resonant production of $p\overline{p}$ from Charmonium states.
[3] Provides also results with $m_{p\overline{p}} < 2.85$ GeV/c^2 and angular asymmetry of $p\overline{p}$ system.

$\Gamma(p\overline{p}K^+)/\Gamma(J/\psi(1S)K^+)$ — $\Gamma_{487}/\Gamma_{262}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.0104±0.0005±0.0001	[1,2] AAIJ	13S	LHCB	pp at 7 TeV

[1] AAIJ 13S reports $[\Gamma(B^+ \to p\overline{p}K^+)/\Gamma(B^+ \to J/\psi(1S)K^+)]$ / $[B(J/\psi(1S) \to p\overline{p})]$ $= 4.91 \pm 0.19 \pm 0.14$ which we multiply by our best value $B(J/\psi(1S) \to p\overline{p}) = (2.120 \pm 0.029) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.
[2] Measurement includes contribution where $p\overline{p}$ is produced in charmonia decays.

$\Gamma(\Theta(1710)^{++}\overline{p},\ \Theta^{++} \to pK^+)/\Gamma_{total}$ — Γ_{488}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.091	90	[1] WANG	05A	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.1	90	[1,2] AUBERT,B	05L	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Provides upper limits depending on the pentaquark masses between 1.43 to 2.0 GeV/c^2.

$\Gamma(f_J(2220)K^+,\ f_J \to p\overline{p})/\Gamma_{total}$ — Γ_{489}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.41	90	[1] WANG	05A	BELL	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(p\overline{\Lambda}(1520))/\Gamma_{total}$ — Γ_{490}/Γ

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
3.15±0.48±0.27		[1] AAIJ	14AF	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$3.9\ ^{+1.0}_{-0.9}\ \pm0.3$		[1] AAIJ	13AU	LHCB	Repl. by AAIJ 14AF
<15	90	[2] AUBERT,B	05L	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses $B(B^+ \to J/\psi K^+) = (1.016 \pm 0.033) \times 10^{-3}$, $B(J/\psi \to p\overline{p}) = (2.17 \pm 0.07) \times 10^{-3}$ and $B(\Lambda(1520) \to K^- p) = 0.234 \pm 0.016$.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(p\overline{p}K^+\ \text{nonresonant})/\Gamma_{total}$ — Γ_{491}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<89	90	BERGFELD	96B	CLE2	$e^+e^- \to \Upsilon(4S)$

$\Gamma(p\overline{p}K^*(892)^+)/\Gamma_{total}$ Γ_{492}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
3.6 $^{+0.8}_{-0.7}$ OUR AVERAGE				
$3.38^{+0.73}_{-0.60}\pm0.39$	[1,2] CHEN	08C	BELL	$e^+e^- \to \Upsilon(4S)$
$5.3 \pm1.5 \pm1.3$	[2] AUBERT	07AV	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$10.3\ ^{+3.6}_{-2.8}\ ^{+1.3}_{-1.7}$	[2,3] WANG	04	BELL	Repl. by CHEN 08C

[1] Explicitly vetoes resonant production of $p\overline{p}$ from charmonium states.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[3] Explicitly vetoes resonant production of $p\overline{p}$ from charmonium states. The branching fraction for $M_{p\overline{p}} < 2.85$ GeV/c^2 is also reported.

$\Gamma(f_J(2220)K^{*+},\ f_J \to p\overline{p})/\Gamma_{total}$ Γ_{493}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.77	90	[1] AUBERT	07AV	BABR	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(p\overline{\Lambda})/\Gamma_{total}$ Γ_{494}/Γ

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. • • •					
< 0.49	90	[1] CHANG	05	BELL	Repl. by TSAI 07
< 1.5	90	[1] BORNHEIM	03	CLE2	$e^+e^- \to \Upsilon(4S)$
< 2.2	90	[1] ABE	02O	BELL	$e^+e^- \to \Upsilon(4S)$
< 2.6	90	[1] COAN	99	CLE2	$e^+e^- \to \Upsilon(4S)$
<60	90	[2] AVERY	89B	CLEO	$e^+e^- \to \Upsilon(4S)$
<93	90	[3] ALBRECHT	88F	ARG	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] AVERY 89B reports $< 5 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.
[3] ALBRECHT 88F reports $< 8.5 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(p\overline{\Lambda}\gamma)/\Gamma_{total}$ Γ_{495}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$2.45^{+0.44}_{-0.38}\pm0.22$		[1] WANG	07C	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$2.16^{+0.58}_{-0.53}\pm0.20$		[1] LEE	05	BELL	Repl. by WANG 07C
<3.9	90	[2] EDWARDS	03	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Corresponds to $E_\gamma > 1.5$ GeV. The limit changes to 3.3×10^{-6} for $E_\gamma > 2.0$ GeV.

$\Gamma(p\overline{\Lambda}\pi^0)/\Gamma_{total}$ Γ_{496}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{3.00^{+0.61}_{-0.53}\pm0.33}$	[1] WANG	07C	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(p\overline{\Sigma}(1385)^0)/\Gamma_{total}$ Γ_{497}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.47	90	[1] WANG	07C	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\Delta^+\overline{\Lambda})/\Gamma_{total}$ Γ_{498}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.82	90	[1] WANG	07C	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(p\overline{\Sigma}\gamma)/\Gamma_{total}$ Γ_{499}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<4.6	90	[1] LEE	05	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<7.9	90	[2] EDWARDS	03	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Corresponds to $E_\gamma > 1.5$ GeV. The limit changes to 6.4×10^{-6} for $E_\gamma > 2.0$ GeV.

$\Gamma(p\overline{\Lambda}\pi^+\pi^-)/\Gamma_{total}$ Γ_{500}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
$\mathbf{5.92^{+0.88}_{-0.84}\pm0.69}$		[1] CHEN	09C	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<200	90	[2] ALBRECHT	88F	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] ALBRECHT 88F reports $< 1.8 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(p\overline{\Lambda}\rho^0)/\Gamma_{total}$ Γ_{501}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{4.78^{+0.67}_{-0.64}\pm0.60}$	[1] CHEN	09C	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(p\overline{\Lambda}f_2(1270))/\Gamma_{total}$ Γ_{502}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{2.03^{+0.77}_{-0.72}\pm0.27}$	[1] CHEN	09C	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\Lambda\overline{\Lambda}\pi^+)/\Gamma_{total}$ — Γ_{503}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.94	90	[1,2] CHANG	09	BELL	Repl. by CHANG 09
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2.8	90	[2] LEE	04	BELL	$e^+e^- \to \Upsilon(4S)$

[1] For $m_{\Lambda\overline{\Lambda}} < 2.85$ GeV/c^2.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\Lambda\overline{\Lambda}K^+)/\Gamma_{total}$ — Γ_{504}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{3.38^{+0.41}_{-0.36}\pm0.41}$	[1,2] CHANG	09	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$2.91^{+0.9}_{-0.70}\pm0.38$	[2] LEE	04	BELL	Repl. by CHANG 09

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

$\Gamma(\Lambda\overline{\Lambda}K^{*+})/\Gamma_{total}$ — Γ_{505}/Γ

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$\mathbf{2.19^{+1.13}_{-0.88}\pm0.33}$	[1,2] CHANG	09	BELL	$e^+e^- \to \Upsilon(4S)$

[1] For $m_{\Lambda\overline{\Lambda}} < 2.85$ GeV/c^2.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\overline{\Delta}^0 p)/\Gamma_{total}$ — Γ_{506}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 1.38	90	[1] WEI	08	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<380	90	[2] BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] BORTOLETTO 89 reports $< 3.3 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(\Delta^{++}\overline{p})/\Gamma_{total}$ — Γ_{507}/Γ

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
< 0.14	90	[1] WEI	08	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<150	90	[2] BORTOLETTO	89	CLEO	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] BORTOLETTO 89 reports $< 1.3 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(D^+ p\overline{p})/\Gamma_{total}$ — Γ_{508}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.5 \times 10^{-5}$	90	[1] ABE	02W	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(D^*(2010)^+ p\overline{p})/\Gamma_{total}$ — Γ_{509}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.5 \times 10^{-5}$	90	[1] ABE	02W	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\overline{D}^0 p\overline{p}\pi^+)/\Gamma_{total}$ — Γ_{510}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$3.72 \pm 0.11 \pm 0.25$	[1,2] DEL-AMO-SA..12		BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Uses the values of D and D^* branching fractions from PDG 08.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(\overline{D}^{*0} p\overline{p}\pi^+)/\Gamma_{total}$ — Γ_{511}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$3.73 \pm 0.17 \pm 0.27$	[1,2] DEL-AMO-SA..12		BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Uses the values of D and D^* branching fractions from PDG 08.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(D^- p\overline{p}\pi^+\pi^-)/\Gamma_{total}$ — Γ_{512}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$1.66 \pm 0.13 \pm 0.27$	[1,2] DEL-AMO-SA..12		BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Uses the values of D and D^* branching fractions from PDG 08.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(D^{*-} p\overline{p}\pi^+\pi^-)/\Gamma_{total}$ — Γ_{513}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$1.86 \pm 0.16 \pm 0.19$	[1,2] DEL-AMO-SA..12		BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Uses the values of D and D^* branching fractions from PDG 08.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

$\Gamma(p\overline{\Lambda}^0 \overline{D}^0)/\Gamma_{total}$ — Γ_{514}/Γ

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
$1.43^{+0.28}_{-0.25} \pm 0.18$	[1,2] CHEN	11F	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Uses B($\Lambda \rightarrow p\pi^-$) = 63.9 ± 0.5%, B($D^0 \rightarrow K^-\pi^+$) = 3.89 ± 0.05%, and B($D^0 \rightarrow K^-\pi^+\pi^0$) = 13.9 ± 0.5%.
[2] Assumes equal production of B^0 and B^+ from Upsilon(4S) decays.

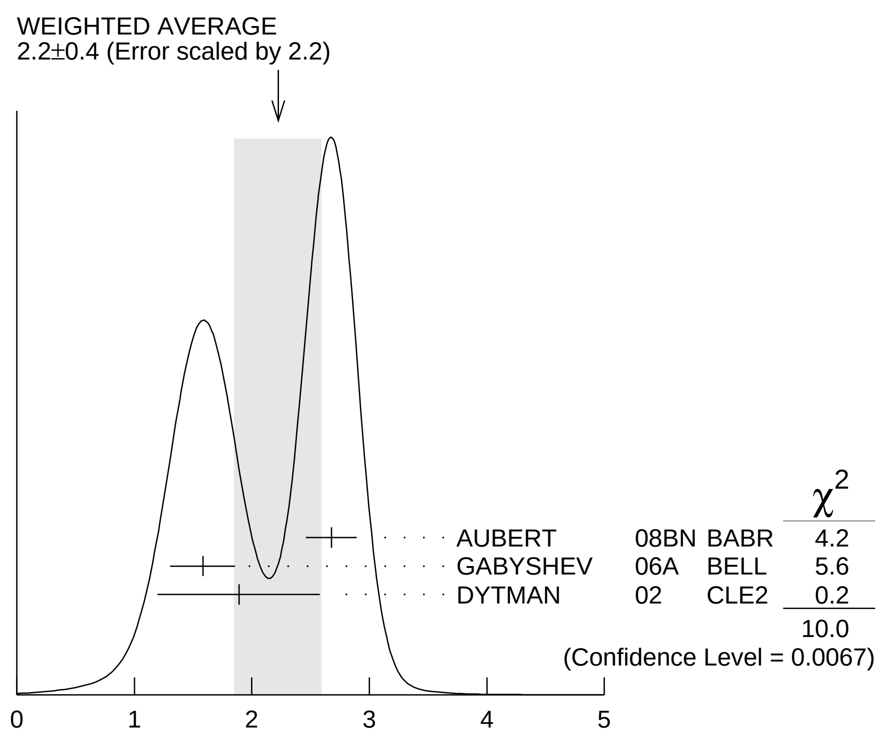
$\Gamma(p\overline{\Lambda}^0\overline{D}^*(2007)^0)/\Gamma_{total}$ Γ_{515}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
<5	90	[1,2,3] CHEN	11F	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

[1] CHEN 11F reports $< 4.8 \times 10^{-5}$ from a measurement of $[\Gamma(B^+ \rightarrow p\overline{\Lambda}^0\overline{D}^*(2007)^0)/\Gamma_{total}]$ / $[B(D^*(2007)^0 \rightarrow D^0\pi^0)]$ assuming $B(D^*(2007)^0 \rightarrow D^0\pi^0) = (61.9 \pm 2.9) \times 10^{-2}$, which we rescale to our best value $B(D^*(2007)^0 \rightarrow D^0\pi^0) = 64.7 \times 10^{-2}$.
[2] Uses $B(\Lambda \rightarrow p\pi^-) = 63.9 \pm 0.5\%$ and $B(D^0 \rightarrow K^-\pi^+) = 3.89 \pm 0.05\%$.
[3] Assumes equal production of B^0 and B^+ from Upsilon(4S) decays.

$\Gamma(\overline{\Lambda}_c^- p\pi^+)/\Gamma_{total}$ Γ_{516}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
2.2 ±0.4 OUR AVERAGE	Error includes scale factor of 2.2. See the ideogram below.			
2.68±0.15±0.14	[1,2] AUBERT	08BN	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
1.58±0.20±0.08	[1,3] GABYSHEV	06A	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
1.9 ±0.5 ±0.1	[1,4] DYTMAN	02	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.5 ±0.4 ±0.1	[1,5] GABYSHEV	02	BELL	Repl. by GABYSHEV 06A
6.2 $^{+2.3}_{-2.0}$ ±1.6	[1,6] FU	97	CLE2	Repl. by DYTMAN 02



$\Gamma(\overline{\Lambda}_c^- p\pi^+)/\Gamma_{total}$ (units 10^{-4})

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] AUBERT 08BN reports $(3.4 \pm 0.1 \pm 0.9) \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \rightarrow \overline{\Lambda}_c^- p\pi^+)/\Gamma_{total}] \times [B(\Lambda_c^+ \rightarrow pK^-\pi^+)]$ assuming $B(\Lambda_c^+ \rightarrow pK^-\pi^+) = (5.0 \pm 1.3) \times 10^{-2}$, which we rescale to our best value $B(\Lambda_c^+ \rightarrow pK^-\pi^+) = (6.35 \pm 0.33) \times 10^{-2}$.

Our first error is their experiment's error and our second error is the systematic error from using our best value.

[3] GABYSHEV 06A reports $(2.01 \pm 0.15 \pm 0.20) \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to \overline{\Lambda}_c^- p \pi^+)/\Gamma_{\text{total}}] \times [B(\Lambda_c^+ \to p K^- \pi^+)]$ assuming $B(\Lambda_c^+ \to p K^- \pi^+) = 0.05$, which we rescale to our best value $B(\Lambda_c^+ \to p K^- \pi^+) = (6.35 \pm 0.33) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[4] DYTMAN 02 reports $(2.4^{+0.63}_{-0.62}) \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to \overline{\Lambda}_c^- p \pi^+)/\Gamma_{\text{total}}] \times [B(\Lambda_c^+ \to p K^- \pi^+)]$ assuming $B(\Lambda_c^+ \to p K^- \pi^+) = 0.05$, which we rescale to our best value $B(\Lambda_c^+ \to p K^- \pi^+) = (6.35 \pm 0.33) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[5] GABYSHEV 02 reports $(1.87^{+0.51}_{-0.49}) \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to \overline{\Lambda}_c^- p \pi^+)/\Gamma_{\text{total}}] \times [B(\Lambda_c^+ \to p K^- \pi^+)]$ assuming $B(\Lambda_c^+ \to p K^- \pi^+) = 0.05$, which we rescale to our best value $B(\Lambda_c^+ \to p K^- \pi^+) = (6.35 \pm 0.33) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[6] FU 97 uses PDG 96 values of Λ_c branching fraction.

$\Gamma(\overline{\Lambda}_c^- \Delta(1232)^{++})/\Gamma_{\text{total}}$ — Γ_{517}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
<1.9	90	GABYSHEV	06A	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma(\overline{\Lambda}_c^- \Delta_X(1600)^{++})/\Gamma_{\text{total}}$ — Γ_{518}/Γ

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
4.6±0.9±0.2	[1] GABYSHEV	06A	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] GABYSHEV 06A reports $(5.9 \pm 1.0 \pm 0.6) \times 10^{-5}$ from a measurement of $[\Gamma(B^+ \to \overline{\Lambda}_c^- \Delta_X(1600)^{++})/\Gamma_{\text{total}}] \times [B(\Lambda_c^+ \to p K^- \pi^+)]$ assuming $B(\Lambda_c^+ \to p K^- \pi^+) = 0.05$, which we rescale to our best value $B(\Lambda_c^+ \to p K^- \pi^+) = (6.35 \pm 0.33) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\overline{\Lambda}_c^- \Delta_X(2420)^{++})/\Gamma_{\text{total}}$ — Γ_{519}/Γ

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
3.7±0.8±0.2	[1] GABYSHEV	06A	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] GABYSHEV 06A reports $(4.7^{+1.0}_{-0.9} \pm 0.4) \times 10^{-5}$ from a measurement of $[\Gamma(B^+ \to \overline{\Lambda}_c^- \Delta_X(2420)^{++})/\Gamma_{\text{total}}] \times [B(\Lambda_c^+ \to p K^- \pi^+)]$ assuming $B(\Lambda_c^+ \to p K^- \pi^+) = 0.05$, which we rescale to our best value $B(\Lambda_c^+ \to p K^- \pi^+) = (6.35 \pm 0.33) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma((\overline{\Lambda}_c^- p)_s \pi^+)/\Gamma_{\text{total}}$ — Γ_{520}/Γ

$(\overline{\Lambda}_c^- p)_s$ denotes a low-mass enhancement near 3.35 GeV/c^2.

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
$3.1^{+0.7}_{-0.6}$±0.2	[1] GABYSHEV	06A	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] GABYSHEV 06A reports $(3.9^{+0.8}_{-0.7} \pm 0.4) \times 10^{-5}$ from a measurement of $[\Gamma(B^+ \to (\overline{\Lambda}_c^- p)_s \pi^+)/\Gamma_{\text{total}}] \times [B(\Lambda_c^+ \to pK^-\pi^+)]$ assuming $B(\Lambda_c^+ \to pK^-\pi^+) = 0.05$, which we rescale to our best value $B(\Lambda_c^+ \to pK^-\pi^+) = (6.35 \pm 0.33) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\overline{\Sigma}_c(2520)^0 p)/\Gamma_{\text{total}}$ — Γ_{521}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
<0.3	90	[1,2] AUBERT	08BN	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2.7	90	[1,2] GABYSHEV	06A	BELL	$e^+e^- \to \Upsilon(4S)$
<4.6	90	[1,2] GABYSHEV	02	BELL	Repl. by GABYSHEV 06A

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Uses the value for $\Lambda_c \to pK^-\pi^+$ branching ratio $(5.0 \pm 1.3)\%$.

$\Gamma(\overline{\Sigma}_c(2520)^0 p)/\Gamma(\overline{\Lambda}_c^- p\pi^+)$ — $\Gamma_{521}/\Gamma_{516}$

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
<9	90	AUBERT	08BN	BABR	$e^+e^- \to \Upsilon(4S)$

$\Gamma(\overline{\Sigma}_c(2800)^0 p)/\Gamma_{\text{total}}$ — Γ_{522}/Γ

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
2.6±0.7±0.4	[1] AUBERT	08BN	BABR	$e^+e^- \to \Upsilon(4S)$

[1] AUBERT 08BN reports $[\Gamma(B^+ \to \overline{\Sigma}_c(2800)^0 p)/\Gamma_{\text{total}}] / [B(B^+ \to \overline{\Lambda}_c^- p\pi^+)] = 0.117 \pm 0.023 \pm 0.024$ which we multiply by our best value $B(B^+ \to \overline{\Lambda}_c^- p\pi^+) = (2.2 \pm 0.4) \times 10^{-4}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\overline{\Lambda}_c^- p\pi^+\pi^0)/\Gamma_{\text{total}}$ — Γ_{523}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
$1.81 \pm 0.29^{+0.52}_{-0.50}$		[1,2] DYTMAN	02	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<3.12	90	[3] FU	97	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[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.
[3] FU 97 uses PDG 96 values of Λ_c branching ratio.

$\Gamma(\overline{\Lambda}_c^- p\pi^+\pi^+\pi^-)/\Gamma_{\text{total}}$ — Γ_{524}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
$2.25 \pm 0.25^{+0.63}_{-0.61}$		[1,2] DYTMAN	02	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1.46	90	[3] FU	97	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[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.
[3] FU 97 uses PDG 96 values of Λ_c branching ratio.

$\Gamma(\overline{\Lambda}_c^- p\pi^+\pi^+\pi^-\pi^0)/\Gamma_{total}$ — Γ_{525}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.34\times10^{-2}$	90	[1] FU	97	CLE2	$e^+e^-\rightarrow\Upsilon(4S)$

[1] FU 97 uses PDG 96 values of Λ_c branching ratio.

$\Gamma(\Lambda_c^+\Lambda_c^- K^+)/\Gamma_{total}$ — Γ_{526}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
6.9±2.2 OUR AVERAGE				
$9.0\pm4.4\pm0.5$	[1,2] AUBERT	08H	BABR	$e^+e^-\rightarrow\Upsilon(4S)$
$6.2^{+2.5}_{-2.4}\pm0.3$	[2,3] GABYSHEV	06	BELL	$e^+e^-\rightarrow\Upsilon(4S)$

[1] AUBERT 08H reports $(1.14\pm0.15\pm0.62)\times10^{-3}$ from a measurement of $[\Gamma(B^+\rightarrow\Lambda_c^+\Lambda_c^- K^+)/\Gamma_{total}]\times[B(\Lambda_c^+\rightarrow pK^-\pi^+)]$ assuming $B(\Lambda_c^+\rightarrow pK^-\pi^+)=(5.0\pm1.3)\times10^{-2}$, which we rescale to our best value $B(\Lambda_c^+\rightarrow pK^-\pi^+)=(6.35\pm0.33)\times10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

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

[3] GABYSHEV 06 reports $(7.9^{+1.0}_{-0.9}\pm3.6)\times10^{-4}$ from a measurement of $[\Gamma(B^+\rightarrow\Lambda_c^+\Lambda_c^- K^+)/\Gamma_{total}]\times[B(\Lambda_c^+\rightarrow pK^-\pi^+)]$ assuming $B(\Lambda_c^+\rightarrow pK^-\pi^+)=(5.0\pm1.3)\times10^{-2}$, which we rescale to our best value $B(\Lambda_c^+\rightarrow pK^-\pi^+)=(6.35\pm0.33)\times10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\overline{\Sigma}_c(2455)^0 p)/\Gamma_{total}$ — Γ_{527}/Γ

VALUE (units 10^{-5})	CL%	DOCUMENT ID		TECN	COMMENT
$2.9\pm0.6^{+0.2}_{-0.1}$		[1,2] GABYSHEV	06A	BELL	$e^+e^-\rightarrow\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<8	90	[1,3] DYTMAN	02	CLE2	$e^+e^-\rightarrow\Upsilon(4S)$
<9.3	90	[1,4] GABYSHEV	02	BELL	Repl. by GABYSHEV 06A

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

[2] GABYSHEV 06A reports $(3.7\pm0.7\pm0.4)\times10^{-5}$ from a measurement of $[\Gamma(B^+\rightarrow\overline{\Sigma}_c(2455)^0 p)/\Gamma_{total}]\times[B(\Lambda_c^+\rightarrow pK^-\pi^+)]$ assuming $B(\Lambda_c^+\rightarrow pK^-\pi^+)=0.05$, which we rescale to our best value $B(\Lambda_c^+\rightarrow pK^-\pi^+)=(6.35\pm0.33)\times10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[3] DYTMAN 02 measurement uses $B(\Lambda_c^-\rightarrow\overline{p}K^+\pi^-)=5.0\pm1.3\%$. The second error includes the systematic and the uncertainty of the branching ratio.

[4] Uses the value for $\Lambda_c\rightarrow pK^-\pi^+$ branching ratio $(5.0\pm1.3)\%$.

$\Gamma(\overline{\Sigma}_c(2455)^0 p)/\Gamma(\overline{\Lambda}_c^- p\pi^+)$ — $\Gamma_{527}/\Gamma_{516}$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.123\pm0.012\pm0.008$	[1] AUBERT	08BN	BABR	$e^+e^-\rightarrow\Upsilon(4S)$

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

$\Gamma\big(\overline{\Sigma}_c(2455)^0 p\pi^0\big)/\Gamma_{total}$ — Γ_{528}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
3.5±1.1±0.2	[1,2] DYTMAN	02	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] DYTMAN 02 reports $(4.4 \pm 1.4) \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to \overline{\Sigma}_c(2455)^0 p\pi^0)/\Gamma_{total}] \times [B(\Lambda_c^+ \to pK^-\pi^+)]$ assuming $B(\Lambda_c^+ \to pK^-\pi^+) = 0.05$, which we rescale to our best value $B(\Lambda_c^+ \to pK^-\pi^+) = (6.35 \pm 0.33) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

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

$\Gamma\big(\overline{\Sigma}_c(2455)^0 p\pi^-\pi^+\big)/\Gamma_{total}$ — Γ_{529}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
3.5±1.0±0.2	[1,2] DYTMAN	02	CLE2	$e^+e^- \to \Upsilon(4S)$

[1] DYTMAN 02 reports $(4.4 \pm 1.3) \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to \overline{\Sigma}_c(2455)^0 p\pi^-\pi^+)/\Gamma_{total}] \times [B(\Lambda_c^+ \to pK^-\pi^+)]$ assuming $B(\Lambda_c^+ \to pK^-\pi^+) = 0.05$, which we rescale to our best value $B(\Lambda_c^+ \to pK^-\pi^+) = (6.35 \pm 0.33) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

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

$\Gamma\big(\overline{\Sigma}_c(2455)^{--} p\pi^+\pi^+\big)/\Gamma_{total}$ — Γ_{530}/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
2.34±0.20 OUR AVERAGE				
$2.35\pm0.16^{+0.13}_{-0.12}$	[1,2] LEES	12Z	BABR	$e^+e^- \to \Upsilon(4S)$
2.2 ±0.8 ±0.1	[1,3] DYTMAN	02	CLE2	$e^+e^- \to \Upsilon(4S)$

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

[2] LEES 12Z reports $(2.98 \pm 0.16 \pm 0.15 \pm 0.77) \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to \overline{\Sigma}_c(2455)^{--} p\pi^+\pi^+)/\Gamma_{total}] \times [B(\Lambda_c^+ \to pK^-\pi^+)]$ assuming $B(\Lambda_c^+ \to pK^-\pi^+) = (5.0 \pm 1.3) \times 10^{-2}$, which we rescale to our best value $B(\Lambda_c^+ \to pK^-\pi^+) = (6.35 \pm 0.33) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

[3] DYTMAN 02 reports $(2.8 \pm 0.9 \pm 0.5 \pm 0.7) \times 10^{-4}$ from a measurement of $[\Gamma(B^+ \to \overline{\Sigma}_c(2455)^{--} p\pi^+\pi^+)/\Gamma_{total}] \times [B(\Lambda_c^+ \to pK^-\pi^+)]$ assuming $B(\Lambda_c^+ \to pK^-\pi^+) = (5.0 \pm 1.3) \times 10^{-2}$, which we rescale to our best value $B(\Lambda_c^+ \to pK^-\pi^+) = (6.35 \pm 0.33) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma\big(\overline{\Lambda}_c(2593)^- / \overline{\Lambda}_c(2625)^- p\pi^+\big)/\Gamma_{total}$ — Γ_{531}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.9 \times 10^{-4}$	90	[1,2] DYTMAN	02	CLE2	$e^+e^- \to \Upsilon(4S)$

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

[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.

$\Gamma(\Xi_c^0 \Lambda_c^+,\ \Xi_c^0 \to \Xi^+ \pi^-)/\Gamma_{total}$ — Γ_{532}/Γ

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
2.4±0.9 OUR AVERAGE Error includes scale factor of 1.4.				
$2.0 \pm 0.7 \pm 0.1$	[1,2] AUBERT	08H	BABR	$e^+ e^- \to \Upsilon(4S)$
$4.4^{+1.8}_{-1.5} \pm 0.2$	[2,3] CHISTOV	06A	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] AUBERT 08H reports $(2.51 \pm 0.89 \pm 0.61) \times 10^{-5}$ from a measurement of $[\Gamma(B^+ \to \Xi_c^0 \Lambda_c^+,\ \Xi_c^0 \to \Xi^+ \pi^-)/\Gamma_{total}] \times [B(\Lambda_c^+ \to p K^- \pi^+)]$ assuming $B(\Lambda_c^+ \to p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$, which we rescale to our best value $B(\Lambda_c^+ \to p K^- \pi^+) = (6.35 \pm 0.33) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

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

[3] CHISTOV 06A reports $(5.6^{+1.9}_{-1.5} \pm 1.9) \times 10^{-5}$ from a measurement of $[\Gamma(B^+ \to \Xi_c^0 \Lambda_c^+,\ \Xi_c^0 \to \Xi^+ \pi^-)/\Gamma_{total}] \times [B(\Lambda_c^+ \to p K^- \pi^+)]$ assuming $B(\Lambda_c^+ \to p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$, which we rescale to our best value $B(\Lambda_c^+ \to p K^- \pi^+) = (6.35 \pm 0.33) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\Xi_c^0 \Lambda_c^+,\ \Xi_c^0 \to \Lambda K^+ \pi^-)/\Gamma_{total}$ — Γ_{533}/Γ

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
2.1±0.9 OUR AVERAGE Error includes scale factor of 1.5.				
$1.3 \pm 0.8 \pm 0.1$	[1,2] AUBERT	08H	BABR	$e^+ e^- \to \Upsilon(4S)$
$3.1^{+1.1}_{-0.9} \pm 0.2$	[2,3] CHISTOV	06A	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] AUBERT 08H reports $(1.70 \pm 0.93 \pm 0.53) \times 10^{-5}$ from a measurement of $[\Gamma(B^+ \to \Xi_c^0 \Lambda_c^+,\ \Xi_c^0 \to \Lambda K^+ \pi^-)/\Gamma_{total}] \times [B(\Lambda_c^+ \to p K^- \pi^+)]$ assuming $B(\Lambda_c^+ \to p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$, which we rescale to our best value $B(\Lambda_c^+ \to p K^- \pi^+) = (6.35 \pm 0.33) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

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

[3] CHISTOV 06A reports $(4.0^{+1.1}_{-0.9} \pm 1.3) \times 10^{-5}$ from a measurement of $[\Gamma(B^+ \to \Xi_c^0 \Lambda_c^+,\ \Xi_c^0 \to \Lambda K^+ \pi^-)/\Gamma_{total}] \times [B(\Lambda_c^+ \to p K^- \pi^+)]$ assuming $B(\Lambda_c^+ \to p K^- \pi^+) = (5.0 \pm 1.3) \times 10^{-2}$, which we rescale to our best value $B(\Lambda_c^+ \to p K^- \pi^+) = (6.35 \pm 0.33) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(\pi^+ \ell^+ \ell^-)/\Gamma_{total}$ — Γ_{534}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<4.9 \times 10^{-8}$	90	[1] WEI	08A	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<6.6 \times 10^{-8}$	90	[1] LEES	13M	BABR	$e^+ e^- \to \Upsilon(4S)$
$<1.2 \times 10^{-7}$	90	[1] AUBERT	07AG	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(\pi^+ e^+ e^-)/\Gamma_{total}$ — Γ_{535}/Γ

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 8.0 \times 10^{-8}$	90	[1] WEI	08A	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<12.5 \times 10^{-8}$	90	[1] LEES	13M	BABR	$e^+ e^- \to \Upsilon(4S)$
$<18 \times 10^{-8}$	90	[1] AUBERT	07AG	BABR	$e^+ e^- \to \Upsilon(4S)$
$< 3.9 \times 10^{-3}$	90	[2] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

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

[2] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(\pi^+ \mu^+ \mu^-)/\Gamma_{total}$ — Γ_{536}/Γ

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

VALUE (units 10^{-8})	CL%	DOCUMENT ID		TECN	COMMENT
1.79±0.22±0.05		[1] AAIJ	15AR	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 5.5	90	[2] LEES	13M	BABR	$e^+ e^- \to \Upsilon(4S)$
2.3 ±0.6 ±0.1		AAIJ	12AY	LHCB	Repl. by AAIJ 15AR
< 6.9	90	[2] WEI	08A	BELL	$e^+ e^- \to \Upsilon(4S)$
<28	90	[2] AUBERT	07AG	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] AAIJ 15AR reports $(1.83 \pm 0.24 \pm 0.05) \times 10^{-8}$ from a measurement of $[\Gamma(B^+ \to \pi^+ \mu^+ \mu^-)/\Gamma_{total}]$ / $[B(B^+ \to J/\psi(1S) K^+)]$ / $[B(J/\psi(1S) \to \mu^+ \mu^-)]$ assuming $B(B^+ \to J/\psi(1S) K^+) = (1.05 \pm 0.05) \times 10^{-3}$,$B(J/\psi(1S) \to \mu^+ \mu^-) = (5.961 \pm 0.033) \times 10^{-2}$, which we rescale to our best values $B(B^+ \to J/\psi(1S) K^+) = (1.026 \pm 0.031) \times 10^{-3}$, $B(J/\psi(1S) \to \mu^+ \mu^-) = (5.961 \pm 0.033) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

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

$\Gamma(\pi^+ \mu^+ \mu^-)/\Gamma(K^+ \mu^+ \mu^-)$ — $\Gamma_{536}/\Gamma_{540}$

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.053±0.014±0.001	AAIJ	12AY	LHCB	Repl. by AAIJ 15AR

$\Gamma(\pi^+ \nu \overline{\nu})/\Gamma_{total}$ — Γ_{537}/Γ

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<9.8 \times 10^{-5}$	90	[1] LUTZ	13	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.7 \times 10^{-4}$	90	[1] CHEN	07D	BELL	$e^+ e^- \to \Upsilon(4S)$
$<1.0 \times 10^{-4}$	90	[1] AUBERT	05H	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(K^+ \ell^+ \ell^-)/\Gamma_{total}$ Γ_{538}/Γ

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
4.51±0.23 OUR AVERAGE Error includes scale factor of 1.1.				
$4.36 \pm 0.15 \pm 0.18$	[1] AAIJ	13H	LHCB	pp at 7 TeV
$4.8 \pm 0.9 \pm 0.2$	[2] AUBERT	09T	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$5.3^{+0.6}_{-0.5} \pm 0.3$	[2] WEI	09A	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$3.8^{+0.9}_{-0.8} \pm 0.2$	[2] AUBERT,B	06J	BABR	Repl. by AUBERT 09T
$5.3^{+1.1}_{-1.0} \pm 0.3$	[2] ISHIKAWA	03	BELL	Repl. by WEI 09A

[1] Uses $B(B^+ \rightarrow J/\psi K^+ \rightarrow \mu^+ \mu^- K^+) = (6.01 \pm 0.21) \times 10^{-5}$.

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

$\Gamma(K^+ e^+ e^-)/\Gamma_{total}$ Γ_{539}/Γ

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
5.5±0.7 OUR AVERAGE					
$5.1^{+1.2}_{-1.1} \pm 0.2$		[1] AUBERT	09T	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$5.7^{+0.9}_{-0.8} \pm 0.3$		[1] WEI	09A	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$4.2^{+1.2}_{-1.1} \pm 0.2$		[1] AUBERT,B	06J	BABR	Repl. by AUBERT 09T
$10.5^{+2.5}_{-2.2} \pm 0.7$		[1] AUBERT	03U	BABR	Repl. by AUBERT,B 06J
$6.3^{+1.9}_{-1.7} \pm 0.3$		[2] ISHIKAWA	03	BELL	Repl. by WEI 09A
< 14	90	[1] ABE	02	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
< 9	90	[1] AUBERT	02L	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
< 24	90	[3] ANDERSON	01B	CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$
< 990	90	[4] ALBRECHT	91E	ARG	$e^+ e^- \rightarrow \Upsilon(4S)$
<68000	90	[5] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV
< 600	90	[6] AVERY	89B	CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$
< 2500	90	[7] AVERY	87	CLEO	$e^+ e^- \rightarrow \Upsilon(4S)$

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

[2] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$. The second error is a total of systematic uncertainties including model dependence.

[3] The result is for di-lepton masses above 0.5 GeV.

[4] ALBRECHT 91E reports $< 9.0 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0 \overline{B}^0$. We rescale to 50%.

[5] WEIR 90B assumes B^+ production cross section from LUND.

[6] AVERY 89B reports $< 5 \times 10^{-5}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0 \overline{B}^0$. We rescale to 50%.

[7] AVERY 87 reports $< 2.1 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 40% to $B^0 \overline{B}^0$. We rescale to 50%.

$\Gamma(K^+\mu^+\mu^-)/\Gamma_{total}$ Γ_{540}/Γ

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
4.43±0.24 OUR FIT Error includes scale factor of 1.2.					
4.36±0.27 OUR AVERAGE Error includes scale factor of 1.3.					
$4.29\pm0.07\pm0.21$		[1] AAIJ	14M	LHCB	pp at 7, 8 TeV
$4.1\ ^{+1.6}_{-1.5}\ \pm0.2$		[2] AUBERT	09T	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$5.3\ ^{+0.8}_{-0.7}\ \pm0.3$		[2] WEI	09A	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$4.36\pm0.15\pm0.18$		[3] AAIJ	13H	LHCB	Repl. by AAIJ 14M
$3.1\ ^{+1.5}_{-1.2}\ \pm0.3$		[2] AUBERT,B	06J	BABR	Repl. by AUBERT 09T
$0.7\ ^{+1.9}_{-1.1}\ \pm0.2$		[2] AUBERT	03U	BABR	Repl. by AUBERT,B 06J
$4.5\ ^{+1.4}_{-1.2}\ \pm0.3$		[4] ISHIKAWA	03	BELL	Repl. by WEI 09A
$9.8\ ^{+4.6}_{-3.6}\ \pm1.6$		[2] ABE	02	BELL	Repl. by ISHIKAWA 03
$<$ 12	90	[2] AUBERT	02L	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<$ 36.8	90	[5] ANDERSON	01B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
$<$ 52	90	[6] AFFOLDER	99B	CDF	$p\overline{p}$ at 1.8 TeV
$<$ 100	90	[7] ABE	96L	CDF	Repl. by AFFOLDER 99B
$<$ 2400	90	[8] ALBRECHT	91E	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
$<$64000	90	[9] WEIR	90B	MRK2	e^+e^- 29 GeV
$<$ 1700	90	[10] AVERY	89B	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
$<$ 3800	90	[11] AVERY	87	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Uses B($B^+ \rightarrow J/\psi(1S)K^+$) = $(0.998 \pm 0.014 \pm 0.040) \times 10^{-3}$ for normalization.
[2] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[3] Uses B($B^+ \rightarrow J/\psi K^+ \rightarrow \mu^+\mu^- K^+$) = $(6.01 \pm 0.21) \times 10^{-5}$.
[4] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$. The second error is a total of systematic uncertainties including model dependence.
[5] The result is for di-lepton masses above 0.5 GeV.
[6] AFFOLDER 99B measured relative to $B^+ \rightarrow J/\psi(1S)K^+$.
[7] ABE 96L measured relative to $B^+ \rightarrow J/\psi(1S)K^+$ using PDG 94 branching ratios.
[8] ALBRECHT 91E reports $< 2.2 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.
[9] WEIR 90B assumes B^+ production cross section from LUND.
[10] AVERY 89B reports $< 1.5 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%.
[11] AVERY 87 reports $< 3.2 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 40% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K^+\tau^+\tau^-)/\Gamma_{total}$ Γ_{541}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.25 \times 10^{-3}$	90	[1,2] LEES	17	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

[1] Uses only leptonic decays of τ and the quoted limit combines the final states $K^+e^+e^-$, $K^+\mu^+\mu^-$, and $K^+e^\pm\mu^\mp$.
[2] If observed events are interpreted as a signal the branching fraction measurement becomes $(1.31^{+0.66}_{-0.61}{}^{+0.35}_{-0.25}) \times 10^{-3}$.

$\Gamma(K^+\mu^+\mu^-)/\Gamma(J/\psi(1S)K^+)$ — $\Gamma_{540}/\Gamma_{262}$

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
0.431±0.025 OUR FIT Error includes scale factor of 1.2.				
0.46 ±0.04 ±0.02	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.38 ±0.05 ±0.02	AALTONEN	11L	CDF	Repl. by AALTONEN 11AI
0.59 ±0.15 ±0.03	AALTONEN	09B	CDF	Repl. by AALTONEN 11L

$\Gamma(K^+\overline{\nu}\nu)/\Gamma_{total}$ — Γ_{542}/Γ

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.6 × 10^−5	90	[1,2] LEES	13I	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<5.5 \times 10^{-5}$	90	[1] LUTZ	13	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$<1.3 \times 10^{-5}$	90	[1] DEL-AMO-SA...	10Q	BABR	Repl. by LEES 13I
$<1.4 \times 10^{-5}$	90	[1] CHEN	07D	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
$<5.2 \times 10^{-5}$	90	[1] AUBERT	05H	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<2.4 \times 10^{-4}$	90	[1] BROWDER	01	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

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

[2] Also reported a limit $< 3.7 \times 10^{-5}$ at 90% CL obtained using a fully reconstructed hadronic B-tag evnets.

$\Gamma(\rho^+\nu\overline{\nu})/\Gamma_{total}$ — Γ_{543}/Γ

Test for $\Delta B = 1$ weak neutral current. Allowed by higher-order electroweak interaction.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<2.13 × 10^−4	90	[1] LUTZ	13	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.5 \times 10^{-4}$	90	[1] CHEN	07D	BELL	Repl. by LUTZ 13

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

$\Gamma(K^*(892)^+\ell^+\ell^-)/\Gamma_{total}$ — Γ_{544}/Γ

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
10.1 ±1.1 OUR AVERAGE Error includes scale factor of 1.1.					
9.24±0.93±0.67		AAIJ	14M	LHCB	pp at 7, 8 TeV
$14.0\ ^{+4.0}_{-3.7}\ \pm0.9$		[1] AUBERT	09T	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$12.4\ ^{+2.3}_{-2.1}\ \pm1.3$		[1] WEI	09A	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
11.6 ±1.9		[2] AAIJ	12AH	LHCB	Repl. by AAIJ 14M
$7.3\ ^{+5.0}_{-4.2}\ \pm2.1$		[1] AUBERT,B	06J	BABR	Repl. by AUBERT 09T
<22	90	[1] ISHIKAWA	03	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

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

[2] Measured in $B^+ \rightarrow K^*(892)^+\mu^+\mu^-$ decays.

$\Gamma(K^*(892)^+ e^+ e^-)/\Gamma_{total}$ Γ_{545}/Γ

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
$15.5^{+4.0}_{-3.1}$ OUR AVERAGE					
$13.8^{+4.7}_{-4.2}\pm0.8$		[1] AUBERT	09T	BABR	$e^+e^- \to \Upsilon(4S)$
$17.3^{+5.0}_{-4.2}\pm2.0$		[1] WEI	09A	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$7.5^{+7.6}_{-6.5}\pm3.8$		[1] AUBERT,B	06J	BABR	Repl. by AUBERT 09T
$2.0^{+13.4}_{-8.7}\pm2.8$		[1] AUBERT	03U	BABR	$e^+e^- \to \Upsilon(4S)$
$<$ 46	90	[2] ISHIKAWA	03	BELL	$e^+e^- \to \Upsilon(4S)$
$<$ 89	90	[1] ABE	02	BELL	Repl. by ISHIKAWA 03
$<$ 95	90	[1] AUBERT	02L	BABR	$e^+e^- \to \Upsilon(4S)$
$<$6900	90	[3] ALBRECHT	91E	ARG	$e^+e^- \to \Upsilon(4S)$

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

[2] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$. The second error is a total of systematic uncertainties including model dependence.

[3] ALBRECHT 91E reports $< 6.3 \times 10^{-4}$ assuming the $\Upsilon(4S)$ decays 45% to $B^0\overline{B}^0$. We rescale to 50%.

$\Gamma(K^*(892)^+ \mu^+ \mu^-)/\Gamma_{total}$ Γ_{546}/Γ

Test for ΔB=1 weak neutral current. Allowed by higher-order electroweak interactions.

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
9.6 ± 1.0 OUR FIT					
9.6 ± 1.1 OUR AVERAGE					
$9.24\pm0.93\pm0.67$		[1] AAIJ	14M	LHCB	pp at 7, 8 TeV
$14.6^{+7.9}_{-7.5}\pm1.2$		[2] AUBERT	09T	BABR	$e^+e^- \to \Upsilon(4S)$
$11.1^{+3.2}_{-2.7}\pm1.0$		[2] WEI	09A	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
11.6 ± 1.9		AAIJ	12AH	LHCB	Repl. by AAIJ 14M
$9.7^{+9.4}_{-6.9}\pm1.4$		[2] AUBERT,B	06J	BABR	Repl. by AUBERT 09T
$30.7^{+25.8}_{-17.8}\pm4.2$		[2] AUBERT	03U	BABR	$e^+e^- \to \Upsilon(4S)$
$6.5^{+6.9}_{-5.3}{}^{+1.5}_{-1.6}$		[3] ISHIKAWA	03	BELL	Repl. by WEI 09A
$<$ 39	90	[2] ABE	02	BELL	Repl. by ISHIKAWA 03
$<$170	90	[2] AUBERT	02L	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Uses $B(B^+ \to J/\psi(1S) K^*(892)^+) = (1.431 \pm 0.027 \pm 0.090) \times 10^{-3}$ for normalization.

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

[3] Assumes equal production of B^0 and B^+ at $\Upsilon(4S)$. The second error is a total of systematic uncertainties including model dependence. The 90% C.L. upper limit is 2.2×10^{-6}.

$\Gamma(K^*(892)^+ \mu^+ \mu^-)/\Gamma(J/\psi(1S) K^*(892)^+)$ — $\Gamma_{546}/\Gamma_{267}$

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
0.67±0.08 OUR FIT				
0.67±0.22±0.04	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

$\Gamma(K^*(892)^+ \nu\overline{\nu})/\Gamma_{total}$ — Γ_{547}/Γ

Test for $\Delta B = 1$ weak neutral current. Allowed by higher-order electroweak interaction.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<4.0 × 10^−5	90	[1] LUTZ	13	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<6.4 \times 10^{-5}$	90	[1,2] LEES	13I	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$<8 \times 10^{-5}$	90	AUBERT	08BC	BABR	Repl. by LEES 13I
$<1.4 \times 10^{-4}$	90	[1] CHEN	07D	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] Also reported a limit $< 11.6 \times 10^{-5}$ at 90% CL obtained using a fully reconstructed hadronic B-tag evnets.

$\Gamma(K^+ \pi^+ \pi^- \mu^+ \mu^-)/\Gamma(\psi(2S) K^+)$ — $\Gamma_{548}/\Gamma_{298}$

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$\mathbf{6.95^{+0.46}_{-0.43}\pm0.34}$	AAIJ	14AZ	LHCB	pp at 7, 8 TeV

$\Gamma(\phi K^+ \mu^+ \mu^-)/\Gamma(J/\psi(1S) \phi K^+)$ — $\Gamma_{549}/\Gamma_{274}$

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
$\mathbf{1.58^{+0.36}_{-0.32}{}^{+0.19}_{-0.07}}$	AAIJ	14AZ	LHCB	pp at 7, 8 TeV

$\Gamma(\pi^+ e^+ \mu^-)/\Gamma_{total}$ — Γ_{550}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0064	90	[1] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

[1] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(\pi^+ e^- \mu^+)/\Gamma_{total}$ — Γ_{551}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0064	90	[1] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

[1] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(\pi^+ e^\pm \mu^\mp)/\Gamma_{total}$ — Γ_{552}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.7 × 10^−7	90	[1] AUBERT	07AG	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\pi^+ e^+ \tau^-)/\Gamma_{total}$ — Γ_{553}/Γ

Test of lepton family number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<74	90	[1] LEES	12P	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\pi^+ e^- \tau^+)/\Gamma_{total}$ Γ_{554}/Γ

Test of lepton family number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<20	90	[1] LEES	12P	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\pi^+ e^\pm \tau^\mp)/\Gamma_{total}$ Γ_{555}/Γ

Test of lepton family number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<75	90	[1,2] LEES	12P	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Assumes $B(B^+ \rightarrow h^+ \ell^+ \tau^-) = B(B^+ \rightarrow h^+ \ell^- \tau^+)$.
[2] Uses a fully reconstructed hadronic B decay as a tag on the recoil side.

$\Gamma(\pi^+ \mu^+ \tau^-)/\Gamma_{total}$ Γ_{556}/Γ

Test of lepton family number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<62	90	[1] LEES	12P	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\pi^+ \mu^- \tau^+)/\Gamma_{total}$ Γ_{557}/Γ

Test of lepton family number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<45	90	[1] LEES	12P	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(\pi^+ \mu^\pm \tau^\mp)/\Gamma_{total}$ Γ_{558}/Γ

Test of lepton family number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<72	90	[1,2] LEES	12P	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Assumes $B(B^+ \rightarrow h^+ \ell^+ \tau^-) = B(B^+ \rightarrow h^+ \ell^- \tau^+)$.
[2] Uses a fully reconstructed hadronic B decay as a tag on the recoil side.

$\Gamma(K^+ e^+ \mu^-)/\Gamma_{total}$ Γ_{559}/Γ

Test of lepton family number conservation.

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
<0.91	90	[1] AUBERT,B	06J	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<8	90	[1] AUBERT	02L	BABR	Repl. by AUBERT,B 06J
$<6.4 \times 10^4$	90	[2] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(K^+ e^- \mu^+)/\Gamma_{total}$ — Γ_{560}/Γ

Test of lepton family number conservation.

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
<1.3	90	[1] AUBERT,B	06J	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<6.4 \times 10^4$	90	[2] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(K^+ e^\pm \mu^\mp)/\Gamma_{total}$ — Γ_{561}/Γ

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
<0.91	90	[1] AUBERT,B	06J	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(K^+ e^+ \tau^-)/\Gamma_{total}$ — Γ_{562}/Γ

Test of lepton family number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<43	90	[1] LEES	12P	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(K^+ e^- \tau^+)/\Gamma_{total}$ — Γ_{563}/Γ

Test of lepton family number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<15	90	[1] LEES	12P	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(K^+ e^\pm \tau^\mp)/\Gamma_{total}$ — Γ_{564}/Γ

Test of lepton family number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<30	90	[1,2] LEES	12P	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes $B(B^+ \to h^+ \ell^+ \tau^-) = B(B^+ \to h^+ \ell^- \tau^+)$.
[2] Uses a fully reconstructed hadronic B decay as a tag on the recoil side.

$\Gamma(K^+ \mu^+ \tau^-)/\Gamma_{total}$ — Γ_{565}/Γ

Test of lepton family number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<45	90	[1] LEES	12P	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(K^+ \mu^- \tau^+)/\Gamma_{total}$ — Γ_{566}/Γ

Test of lepton family number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<28	90	[1] LEES	12P	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(K^+ \mu^\pm \tau^\mp)/\Gamma_{total}$ — Γ_{567}/Γ

Test of lepton family number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<48	90	[1,2] LEES	12P	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<77	90	[1] AUBERT	07AZ	BABR	Repl. by LEES 12P

[1] Uses a fully reconstructed hadronic B decay as a tag on the recoil side.
[2] Assumes $B(B^+ \to h^+ \ell^+ \tau^-) = B(B^+ \to h^+ \ell^- \tau^+)$.

$\Gamma(K^*(892)^+ e^+ \mu^-)/\Gamma_{total}$ — Γ_{568}/Γ

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
<13	90	[1] AUBERT,B	06J	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(K^*(892)^+ e^- \mu^+)/\Gamma_{total}$ — Γ_{569}/Γ

VALUE (units 10^{-7})	CL%	DOCUMENT ID		TECN	COMMENT
<9.9	90	[1] AUBERT,B	06J	BABR	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(K^*(892)^+ e^\pm \mu^\mp)/\Gamma_{total}$ — Γ_{570}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.4 \times 10^{-6}$	90	[1] AUBERT,B	06J	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<7.9 \times 10^{-6}$	90	[1] AUBERT	02L	BABR	Repl. by AUBERT,B 06J

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

$\Gamma(\pi^- e^+ e^+)/\Gamma_{total}$ — Γ_{571}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.3 \times 10^{-8}$	90	[1] LEES	12J	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.6 \times 10^{-6}$	90	[1] EDWARDS	02B	CLE2	$e^+ e^- \to \Upsilon(4S)$
<0.0039	90	[2] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(\pi^- \mu^+ \mu^+)/\Gamma_{total}$ — Γ_{572}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 4.0 \times 10^{-9}$	95	[1] AAIJ	14AC	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$< 1.3 \times 10^{-8}$	95	[2] AAIJ	12AD	LHCB	Repl. by AAIJ 14AC
$< 4.4 \times 10^{-8}$	90	AAIJ	12C	LHCB	pp at 7 TeV
$<10.7 \times 10^{-8}$	90	[3] LEES	12J	BABR	$e^+ e^- \to \Upsilon(4S)$
$< 1.4 \times 10^{-6}$	90	[3] EDWARDS	02B	CLE2	$e^+ e^- \to \Upsilon(4S)$
$< 9.1 \times 10^{-3}$	90	[4] WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

[1] Uses $B^+ \to J/\psi K^+$, $J/\psi \to \mu^+\mu^-$ mode for normalization. Obtains neutrino-mass-dependent upper limits in the range 0.4–4.0 $\times 10^{-9}$. This limit is applicable for Majorana neutrino lifetime < 1 ps.
[2] Uses $B^+ \to J/\psi K^+$, $J/\psi \to \mu^+\mu^-$ mode for normalization. Obtains neutrino-mass-dependent upper limits in the range 0.4–1.0 $\times 10^{-8}$.
[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[4] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(\pi^- e^+ \mu^+)/\Gamma_{total}$ — Γ_{573}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.5 $\times 10^{-7}$	90	[1] LEES	14A	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.3 \times 10^{-6}$	90	[1] EDWARDS	02B	CLE2	$e^+e^- \to \Upsilon(4S)$
<0.0064	90	[2] WEIR	90B	MRK2	e^+e^- 29 GeV

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(\rho^- e^+ e^+)/\Gamma_{total}$ — Γ_{574}/Γ

Test of total lepton number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.17	90	[1] LEES	14A	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2.6	90	[1] EDWARDS	02B	CLE2	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\rho^- \mu^+ \mu^+)/\Gamma_{total}$ — Γ_{575}/Γ

Test of total lepton number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.42	90	LEES	14A	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<5.0	90	[1] EDWARDS	02B	CLE2	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(\rho^- e^+ \mu^+)/\Gamma_{total}$ — Γ_{576}/Γ

Test of total lepton number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.47	90	[1] LEES	14A	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<3.3	90	[1] EDWARDS	02B	CLE2	$e^+e^- \to \Upsilon(4S)$

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

$\Gamma(K^- e^+ e^+)/\Gamma_{total}$ Γ_{577}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<3.0 × 10^{-8}	90	[1] LEES	12J	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.0 \times 10^{-6}$	90	[1] EDWARDS	02B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
<0.0039	90	[2] WEIR	90B	MRK2	e^+e^- 29 GeV

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(K^- \mu^+ \mu^+)/\Gamma_{total}$ Γ_{578}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<4.1 × 10^{-8}	90	AAIJ	12C	LHCB	pp at 7 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<6.7 \times 10^{-8}$	90	[1] LEES	12J	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$<1.8 \times 10^{-6}$	90	[1] EDWARDS	02B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
$<9.1 \times 10^{-3}$	90	[2] WEIR	90B	MRK2	e^+e^- 29 GeV

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(K^- e^+ \mu^+)/\Gamma_{total}$ Γ_{579}/Γ

Test of total lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.6 × 10^{-7}	90	[1] LEES	14A	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<2.0 \times 10^{-6}$	90	[1] EDWARDS	02B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
<0.0064	90	[2] WEIR	90B	MRK2	e^+e^- 29 GeV

[1] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.
[2] WEIR 90B assumes B^+ production cross section from LUND.

$\Gamma(K^*(892)^- e^+ e^+)/\Gamma_{total}$ Γ_{580}/Γ

Test of total lepton number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.40	90	[1] LEES	14A	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2.8	90	[1] EDWARDS	02B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(K^*(892)^- \mu^+ \mu^+)/\Gamma_{total}$ Γ_{581}/Γ

Test of total lepton number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.59	90	[1] LEES	14A	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<8.3	90	[1] EDWARDS	02B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

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

$\Gamma(K^*(892)^- e^+ \mu^+)/\Gamma_{total}$ — Γ_{582}/Γ

Test of total lepton number conservation.

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
<0.30	90	[1] LEES	14A	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<4.4	90	[1] EDWARDS	02B	CLE2	$e^+ e^- \to \Upsilon(4S)$

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

$\Gamma(D^- e^+ e^+)/\Gamma_{total}$ — Γ_{583}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<2.6 × 10⁻⁶	90	[1] LEES	14A	BABR	$e^+ e^- \to \Upsilon(4S)$
<2.6 × 10⁻⁶	90	[1,2] SEON	11	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^0 and B^+ from Upsilon(4S) decays.
[2] Uses $D^- \to K^+ \pi^- \pi^-$ mode and 3-body phase-space hypothesis for the signal decays.

$\Gamma(D^- e^+ \mu^+)/\Gamma_{total}$ — Γ_{584}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.8 × 10⁻⁶	90	[1,2] SEON	11	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<2.1 \times 10^{-6}$	90	[1] LEES	14A	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Assumes equal production of B^0 and B^+ from Upsilon(4S) decays.
[2] Uses $D^- \to K^+ \pi^- \pi^-$ mode and 3-body phase-space hypothesis for the signal decays.

$\Gamma(D^- \mu^+ \mu^+)/\Gamma_{total}$ — Γ_{585}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
< 6.9 × 10⁻⁷	95	[1] AAIJ	12AD	LHCB	pp at 7 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<17 \times 10^{-7}$	90	[2] LEES	14A	BABR	$e^+ e^- \to \Upsilon(4S)$
$< 1.1 \times 10^{-6}$	90	[2,3] SEON	11	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Uses $B^+ \to \psi(2S) K^+$, $\psi(2S) \to J/\psi \pi^+ \pi^-$ mode for normalization.
[2] Assumes equal production of B^0 and B^+ from Upsilon(4S) decays.
[3] Uses $D^- \to K^+ \pi^- \pi^-$ mode and 3-body phase-space hypothesis for the signal decays.

$\Gamma(D^{*-} \mu^+ \mu^+)/\Gamma_{total}$ — Γ_{586}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<2.4 × 10⁻⁶	95	[1] AAIJ	12AD	LHCB	pp at 7 TeV

[1] Uses $B^+ \to \psi(2S) K^+$, $\psi(2S) \to J/\psi \pi^+ \pi^-$ mode for normalization.

$\Gamma(D_s^- \mu^+ \mu^+)/\Gamma_{total}$ — Γ_{587}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<5.8 × 10⁻⁷	95	[1] AAIJ	12AD	LHCB	pp at 7 TeV

[1] Uses $B^+ \to \psi(2S) K^+$, $\psi(2S) \to J/\psi \pi^+ \pi^-$ mode for normalization. Obtains neutrino-mass-dependent upper limits in the range 1.5–8.0 $\times 10^{-7}$.

$\Gamma(\overline{D}^0 \pi^- \mu^+ \mu^+)/\Gamma_{total}$ — Γ_{588}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<1.5 × 10⁻⁶	95	[1] AAIJ 12AD	LHCB	pp at 7 TeV

[1] Uses $B^+ \rightarrow \psi(2S) K^+$, $\psi(2S) \rightarrow J/\psi \pi^+ \pi^-$ mode for normalization. Obtains neutrino-mass-dependent upper limits in the range 0.3–1.5 × 10^{-6}.

$\Gamma(\Lambda^0 \mu^+)/\Gamma_{total}$ — Γ_{589}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<6 × 10⁻⁸	90	[1,2] DEL-AMO-SA..11K	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] DEL-AMO-SANCHEZ 11K reports $< 6.1 \times 10^{-8}$ from a measurement of $[\Gamma(B^+ \rightarrow \Lambda^0 \mu^+)/\Gamma_{total}] \times [B(\Lambda \rightarrow p\pi^-)]$ assuming $B(\Lambda \rightarrow p\pi^-) = (63.9 \pm 0.5) \times 10^{-2}$.
[2] Uses $B(\Upsilon(4S) \rightarrow B^0 \overline{B}^0) = (51.6 \pm 0.6)\%$ and $B(\Upsilon(4S) \rightarrow B^+ B^-) = (48.4 \pm 0.6)\%$.

$\Gamma(\Lambda^0 e^+)/\Gamma_{total}$ — Γ_{590}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<3.2 × 10⁻⁸	90	[1,2] DEL-AMO-SA..11K	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] DEL-AMO-SANCHEZ 11K reports $< 3.2 \times 10^{-8}$ from a measurement of $[\Gamma(B^+ \rightarrow \Lambda^0 e^+)/\Gamma_{total}] \times [B(\Lambda \rightarrow p\pi^-)]$ assuming $B(\Lambda \rightarrow p\pi^-) = (63.9 \pm 0.5) \times 10^{-2}$.
[2] Uses $B(\Upsilon(4S) \rightarrow B^0 \overline{B}^0) = (51.6 \pm 0.6)\%$ and $B(\Upsilon(4S) \rightarrow B^+ B^-) = (48.4 \pm 0.6)\%$.

$\Gamma(\overline{\Lambda}^0 \mu^+)/\Gamma_{total}$ — Γ_{591}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<6 × 10⁻⁸	90	[1,2] DEL-AMO-SA..11K	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] DEL-AMO-SANCHEZ 11K reports $< 6.2 \times 10^{-8}$ from a measurement of $[\Gamma(B^+ \rightarrow \overline{\Lambda}^0 \mu^+)/\Gamma_{total}] \times [B(\Lambda \rightarrow p\pi^-)]$ assuming $B(\Lambda \rightarrow p\pi^-) = (63.9 \pm 0.5) \times 10^{-2}$.
[2] Uses $B(\Upsilon(4S) \rightarrow B^0 \overline{B}^0) = (51.6 \pm 0.6)\%$ and $B(\Upsilon(4S) \rightarrow B^+ B^-) = (48.4 \pm 0.6)\%$.

$\Gamma(\overline{\Lambda}^0 e^+)/\Gamma_{total}$ — Γ_{592}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<8 × 10⁻⁸	90	[1,2] DEL-AMO-SA..11K	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] DEL-AMO-SANCHEZ 11K reports $< 8.1 \times 10^{-8}$ from a measurement of $[\Gamma(B^+ \rightarrow \overline{\Lambda}^0 e^+)/\Gamma_{total}] \times [B(\Lambda \rightarrow p\pi^-)]$ assuming $B(\Lambda \rightarrow p\pi^-) = (63.9 \pm 0.5) \times 10^{-2}$.
[2] Uses $B(\Upsilon(4S) \rightarrow B^0 \overline{B}^0) = (51.6 \pm 0.6)\%$ and $B(\Upsilon(4S) \rightarrow B^+ B^-) = (48.4 \pm 0.6)\%$.

POLARIZATION IN B^+ DECAY

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.

Γ_L/Γ in $B^+ \rightarrow \overline{D}^{*0} \rho^+$

VALUE	DOCUMENT ID	TECN	COMMENT
0.892±0.018±0.016	CSORNA 03	CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$

Γ_L/Γ in $B^+ \to \overline{D}^{*0} K^{*+}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.86±0.06±0.03	AUBERT	04K	BABR	$e^+ e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^+ \to J/\psi K^{*+}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.604±0.015±0.018	ITOH	05	BELL	$e^+ e^- \to \Upsilon(4S)$

$\Gamma_\perp/\Gamma$ in $B^+ \to J/\psi K^{*+}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.180±0.014±0.010	ITOH	05	BELL	$e^+ e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^+ \to \omega K^{*+}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.41±0.18±0.05	AUBERT	09H	BABR	$e^+ e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^+ \to \omega K_2^*(1430)^+$

VALUE	DOCUMENT ID		TECN	COMMENT
0.56±0.10±0.04	AUBERT	09H	BABR	$e^+ e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^+ \to K^{*+} \overline{K}^{*0}$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.82^{+0.15}_{-0.21}$ OUR AVERAGE				
1.06±0.30±0.14	[1] GOH	15	BELL	$e^+ e^- \to \Upsilon(4S)$
$0.75^{+0.16}_{-0.26}\pm0.03$	[2,3] AUBERT	09F	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] Signal significance 2.7 standard deviations.
[2] Signal significance 3.7 standard deviations.
[3] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

Γ_L/Γ in $B^+ \to \phi K^*(892)^+$

VALUE	DOCUMENT ID		TECN	COMMENT
0.50±0.05 OUR AVERAGE				
0.49±0.05±0.03	AUBERT	07BA	BABR	$e^+ e^- \to \Upsilon(4S)$
0.52±0.08±0.03	CHEN	05A	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.46±0.12±0.03	AUBERT	03V	BABR	Repl. by AUBERT 07BA

$\Gamma_\perp/\Gamma$ in $B^+ \to \phi K^{*+}$

VALUE	DOCUMENT ID		TECN	COMMENT
0.20±0.05 OUR AVERAGE				
0.21±0.05±0.02	AUBERT	07BA	BABR	$e^+ e^- \to \Upsilon(4S)$
0.19±0.08±0.02	CHEN	05A	BELL	$e^+ e^- \to \Upsilon(4S)$

$\phi_\parallel$ in $B^+ \to \phi K^{*+}$

VALUE (°)	DOCUMENT ID		TECN	COMMENT
2.34±0.18 OUR AVERAGE				
2.47±0.20±0.07	AUBERT	07BA	BABR	$e^+ e^- \to \Upsilon(4S)$
2.10±0.28±0.04	CHEN	05A	BELL	$e^+ e^- \to \Upsilon(4S)$

$\phi_\perp$ in $B^+ \to \phi K^{*+}$

VALUE (°)	DOCUMENT ID		TECN	COMMENT
2.58±0.17 OUR AVERAGE				
2.69±0.20±0.03	AUBERT	07BA	BABR	$e^+e^- \to \Upsilon(4S)$
2.31±0.30±0.07	CHEN	05A	BELL	$e^+e^- \to \Upsilon(4S)$

$\delta_0(B^+ \to \phi K^{*+})$

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
3.07±0.18±0.06	AUBERT	07BA	BABR	$e^+e^- \to \Upsilon(4S)$

$A^0_{CP}(B^+ \to \phi K^{*+})$

VALUE	DOCUMENT ID		TECN	COMMENT
0.17±0.11±0.02	AUBERT	07BA	BABR	$e^+e^- \to \Upsilon(4S)$

$A^\perp_{CP}(B^+ \to \phi K^{*+})$

VALUE	DOCUMENT ID		TECN	COMMENT
0.22±0.24±0.08	AUBERT	07BA	BABR	$e^+e^- \to \Upsilon(4S)$

$\Delta\phi_\parallel(B^+ \to \phi K^{*+})$

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
0.07±0.20±0.05	AUBERT	07BA	BABR	$e^+e^- \to \Upsilon(4S)$

$\Delta\phi_\perp(B^+ \to \phi K^{*+})$

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
0.19±0.20±0.07	AUBERT	07BA	BABR	$e^+e^- \to \Upsilon(4S)$

$\Delta\delta_0(B^+ \to \phi K^{*+})$

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
0.20±0.18±0.03	AUBERT	07BA	BABR	$e^+e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^+ \to \phi K_1(1270)^+$

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.46^{+0.12}_{-0.13}{}^{+0.06}_{-0.07}}$	AUBERT	08BI	BABR	$e^+e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^+ \to \phi K^*_2(1430)^+$

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.80^{+0.09}_{-0.10}\pm0.03}$	AUBERT	08BI	BABR	$e^+e^- \to \Upsilon(4S)$

$\delta_0(B^+ \to \phi K^*_2(1430)^+)$

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
3.59±0.19±0.12	AUBERT	08BI	BABR	$e^+e^- \to \Upsilon(4S)$

$\Delta\delta_0(B^+ \to \phi K^*_2(1430)^+)$

VALUE (rad)	DOCUMENT ID		TECN	COMMENT
−0.05±0.19±0.06	AUBERT	08BI	BABR	$e^+e^- \to \Upsilon(4S)$

Γ_L/Γ in $B^+ \rightarrow \rho^0 K^*(892)^+$

VALUE	DOCUMENT ID		TECN	COMMENT
0.78±0.12±0.03	DEL-AMO-SA...	11D	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.96^{+0.04}_{-0.15}\pm0.04$	AUBERT	03V	BABR	Repl. by DEL-AMO-SANCHEZ 11D

$\Gamma_L/\Gamma(B^+ \rightarrow K^*(892)^0 \rho^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.48±0.08 OUR AVERAGE				
0.52±0.10±0.04	AUBERT,B	06G	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$0.43\pm0.11^{+0.05}_{-0.02}$	ZHANG	05D	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

Γ_L/Γ in $B^+ \rightarrow \rho^+ \rho^0$

VALUE	DOCUMENT ID		TECN	COMMENT
0.950±0.016 OUR AVERAGE				
0.950±0.015±0.006	AUBERT	09G	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
0.948±0.106±0.021	ZHANG	03B	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.905\pm0.042^{+0.023}_{-0.027}$	AUBERT,BE	06G	BABR	Repl. by AUBERT 09G
$0.97^{+0.03}_{-0.07}\pm0.04$	AUBERT	03V	BABR	Repl. by AUBERT,BE 06G

Γ_L/Γ in $B^+ \rightarrow \omega \rho^+$

VALUE	DOCUMENT ID		TECN	COMMENT
0.90±0.05±0.03	AUBERT	09H	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.82±0.11±0.02	AUBERT,B	06T	BABR	Repl. by AUBERT 09H
$0.88^{+0.12}_{-0.15}\pm0.03$	AUBERT	05O	BABR	Repl. by AUBERT,B 06T

Γ_L/Γ in $B^+ \rightarrow p\overline{p}K^*(892)^+$

VALUE	DOCUMENT ID		TECN	COMMENT
0.32±0.17±0.09	CHEN	08C	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

CP VIOLATION

A_{CP} is defined as

$$\frac{B(B^- \rightarrow \overline{f}) - B(B^+ \rightarrow f)}{B(B^- \rightarrow \overline{f}) + B(B^+ \rightarrow f)},$$

the *CP*-violation charge asymmetry of exclusive B^- and B^+ decay.

$A_{CP}(B^+ \rightarrow J/\psi(1S) K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.003 ±0.006 OUR AVERAGE Error includes scale factor of 1.8. See the ideogram below.				
0.0059±0.0036±0.0007	ABAZOV	13M	D0	$p\overline{p}$ at 1.96 TeV
−0.0076±0.0050±0.0022	SAKAI	10	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
0.09 ±0.07 ±0.02	[1] WEI	08	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
0.030 ±0.014 ±0.010	[2] AUBERT	05J	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
0.018 ±0.043 ±0.004	[3] BONVICINI	00	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

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

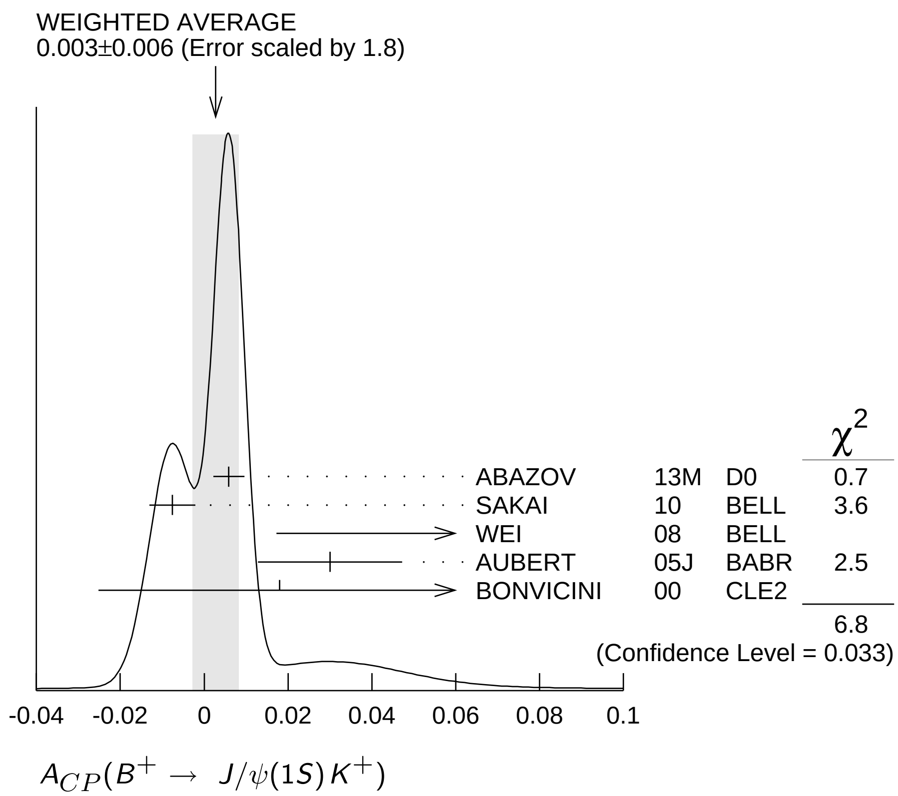
$0.0075 \pm 0.0061 \pm 0.0030$	[4] ABAZOV	08O	D0	Repl. by ABAZOV 13M
$0.03 \pm 0.015 \pm 0.006$	AUBERT	04P	BABR	Repl. by AUBERT 05J
$-0.026 \pm 0.022 \pm 0.017$	ABE	03B	BELL	Repl. by SAKAI 10
$0.003 \pm 0.030 \pm 0.004$	AUBERT	02F	BABR	Repl. by AUBERT 04P

[1] Uses $B^+ \rightarrow J/\psi K^+$, where $J/\psi \rightarrow p\overline{p}$.

[2] The result reported corresponds to $-A_{CP}$.

[3] A $+0.3\%$ correction is applied due to a slightly higher reconstruction efficiency for the positive kaons.

[4] Uses $J/\psi \rightarrow \mu^+\mu^-$ decay.



$A_{CP}(B^+ \rightarrow J/\psi(1S)\pi^+)$

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
0.1± 2.8 OUR AVERAGE	Error includes scale factor of 1.2.			
$-4.2 \pm 4.4 \pm 0.9$	ABAZOV	13M	D0	$p\overline{p}$ at 1.96 TeV
$0.5 \pm 2.7 \pm 1.1$	[1] AAIJ	12AC	LHCB	pp at 7 TeV
$12.3 \pm 8.5 \pm 0.4$	AUBERT	04P	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
$-2.3 \pm 16.4 \pm 1.5$	ABE	03B	BELL	$e^+e^- \rightarrow \Upsilon(4S)$

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

$-9 \pm 8 \pm 3$	[2] ABAZOV	08O	D0	Repl. by ABAZOV 13M
$1 \pm 22 \pm 1$	AUBERT	02F	BABR	Repl. by AUBERT 04P

[1] Uses $A_{CP}(B^+ \rightarrow J/\psi K^+) = 0.001 \pm 0.007$ to extract production asymmetry.

[2] Uses $J/\psi \rightarrow \mu^+\mu^-$ decay.

$A_{CP}(B^+ \to J/\psi \rho^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
−0.11±0.12±0.08	AUBERT 07AC	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to J/\psi K^*(892)^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
−0.048±0.029±0.016	[1] AUBERT 05J	BABR	$e^+ e^- \to \Upsilon(4S)$

[1] The result reported corresponds to $-A_{CP}$.

$A_{CP}(B^+ \to \eta_c K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.01 ±0.07 OUR AVERAGE	Error includes scale factor of 2.2.		
0.040±0.034±0.004	[1] AAIJ 14AF	LHCB	pp at 7, 8 TeV
−0.16 ±0.08 ±0.02	[1] WEI 08	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.046±0.057±0.007	[1] AAIJ 13AU	LHCB	Repl. by AAIJ 14AF

[1] Uses $B^+ \to \eta_c K^+$, where $\eta_c \to p\overline{p}$.

$A_{CP}(B^+ \to \psi(2S)\pi^+)$

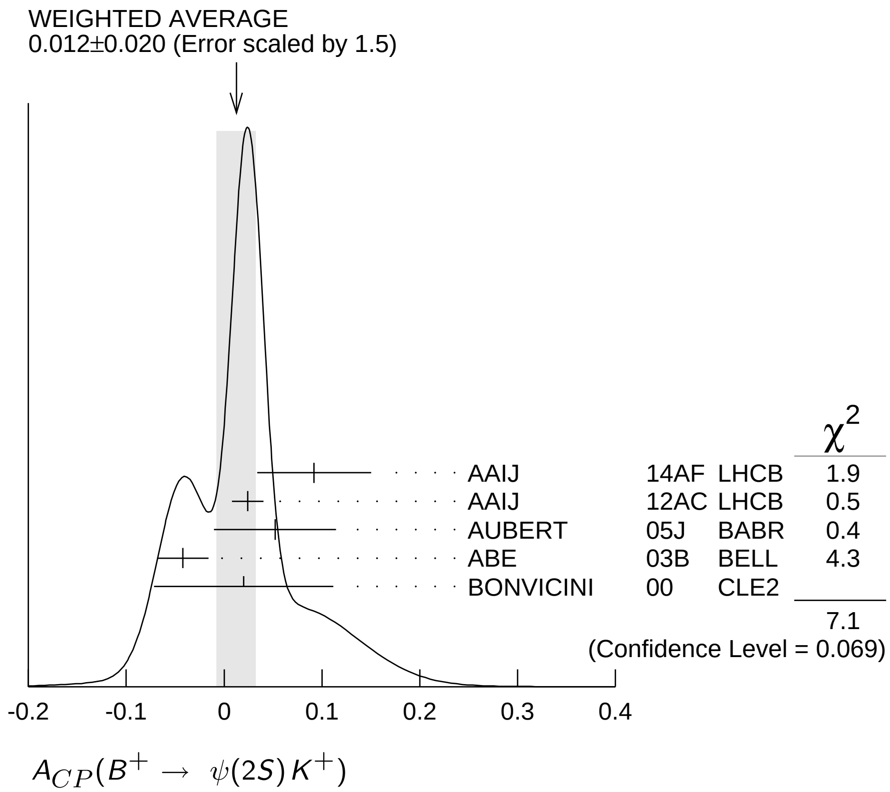
VALUE	DOCUMENT ID	TECN	COMMENT
0.03 ±0.06 OUR AVERAGE			
0.048±0.090±0.011	[1] AAIJ 12AC	LHCB	pp at 7 TeV
0.022±0.085±0.016	BHARDWAJ 08	BELL	$e^+ e^- \to \Upsilon(4S)$

[1] Uses $A_{CP}(B^+ \to J/\psi K^+) = 0.001 \pm 0.007$ to extract production asymmetry.

$A_{CP}(B^+ \to \psi(2S) K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.012±0.020 OUR AVERAGE	Error includes scale factor of 1.5. See the ideogram below.		
0.092±0.058±0.004	[1] AAIJ 14AF	LHCB	pp at 7, 8 TeV
0.024±0.014±0.008	[2] AAIJ 12AC	LHCB	pp at 7 TeV
0.052±0.059±0.020	AUBERT 05J	BABR	$e^+ e^- \to \Upsilon(4S)$
−0.042±0.020±0.017	ABE 03B	BELL	$e^+ e^- \to \Upsilon(4S)$
0.02 ±0.091±0.01	[3] BONVICINI 00	CLE2	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
−0.002±0.123±0.012	[1,2] AAIJ 13AU	LHCB	Repl. by AAIJ 14AF

[1] Uses $\psi(2S) \to p\overline{p}$ decays.
[2] Uses $A_{CP}(B^+ \to J/\psi K^+) = 0.001 \pm 0.007$ to extract production asymmetry.
[3] A +0.3% correction is applied due to a slightly higher reconstruction efficiency for the positive kaons.



$A_{CP}(B^+ \rightarrow \psi(2S) K^*(892)^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.077±0.207±0.051	[1] AUBERT	05J	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

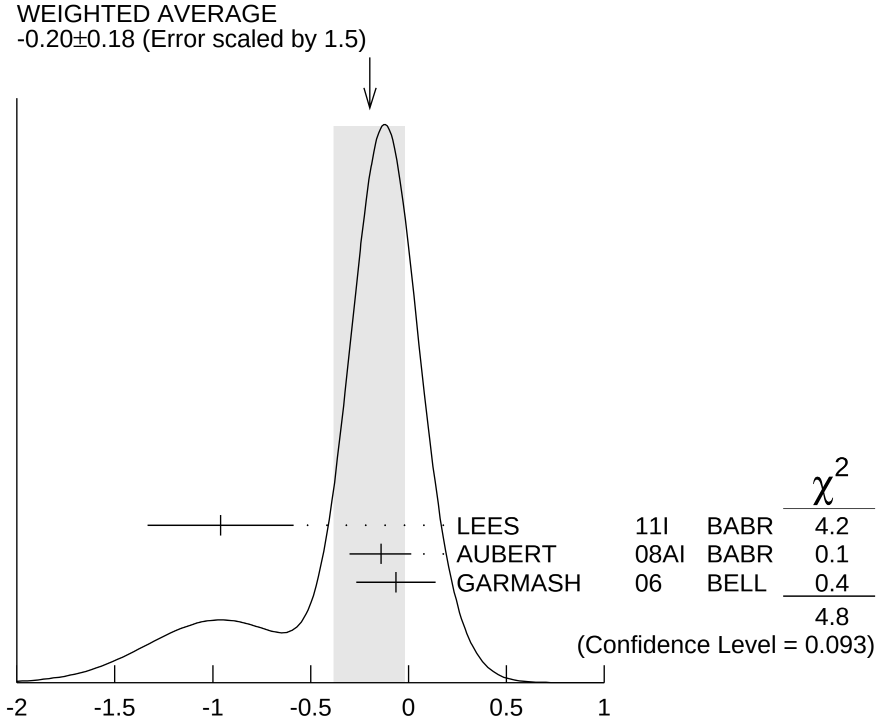
[1] The result reported corresponds to $-A_{CP}$.

$A_{CP}(B^+ \rightarrow \chi_{c1}(1P) \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.07±0.18±0.02	KUMAR	06	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

$A_{CP}(B^+ \rightarrow \chi_{c0} K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.20 ±0.18 OUR AVERAGE	Error includes scale factor of 1.5. See the ideogram below.			
$-0.96 \pm 0.37 \pm 0.04$	LEES	11I	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$-0.14 \pm 0.15 ^{+0.03}_{-0.06}$	AUBERT	08AI	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$-0.065 \pm 0.20 ^{+0.035}_{-0.024}$	GARMASH	06	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$



$A_{CP}(B^+ \rightarrow \chi_{c0} K^+)$

$A_{CP}(B^+ \rightarrow \chi_{c1} K^+)$

VALUE		DOCUMENT ID		TECN	COMMENT
−0.009±0.033 OUR AVERAGE					
−0.01 ±0.03 ±0.02		KUMAR	06	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
−0.003±0.076±0.017	1	AUBERT	05J	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] The result reported corresponds to $-A_{CP}$.

$A_{CP}(B^+ \rightarrow \chi_{c1} K^*(892)^+)$

VALUE		DOCUMENT ID		TECN	COMMENT
0.471±0.378±0.268	1	AUBERT	05J	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] The result reported corresponds to $-A_{CP}$.

$A_{CP}(B^+ \rightarrow D^0 \ell^+ \nu_\ell)$

VALUE (units 10^{-2})		DOCUMENT ID		TECN	COMMENT
−0.14±0.14±0.14	1	ABAZOV	17A	D0	$p\overline{p}$ at 1.96 TeV

[1] Uses $D^0 \rightarrow K^- \pi^+$ decays and f(B^+) = 0.56 ± 0.01 from 10.4 fb^{-1} of Run II data.

$A_{CP}(B^+ \rightarrow \overline{D}^0 \pi^+)$

VALUE		DOCUMENT ID		TECN	COMMENT
−0.007±0.007 OUR AVERAGE					
−0.006±0.005±0.010	1	AAIJ	13AE	LHCB	pp at 7 TeV
−0.008±0.008		ABE	06	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$

[1] Uses $B^\pm \rightarrow [K^\pm \pi^\mp \pi^+ \pi^-]_D h^\pm$ mode.

$A_{CP}(B^+ \to D_{CP(+1)} \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.008 ±0.005 OUR AVERAGE				
−0.0098±0.0043±0.0021	AAIJ	16L	LHCB	pp at 7, 8 TeV
0.035 ±0.024	ABE	06	BELL	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to D_{CP(-1)} \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.017±0.026	ABE	06	BELL	$e^+e^- \to \Upsilon(4S)$

$A_{CP}([K^\mp \pi^\pm \pi^+ \pi^-]_D \pi^+)$

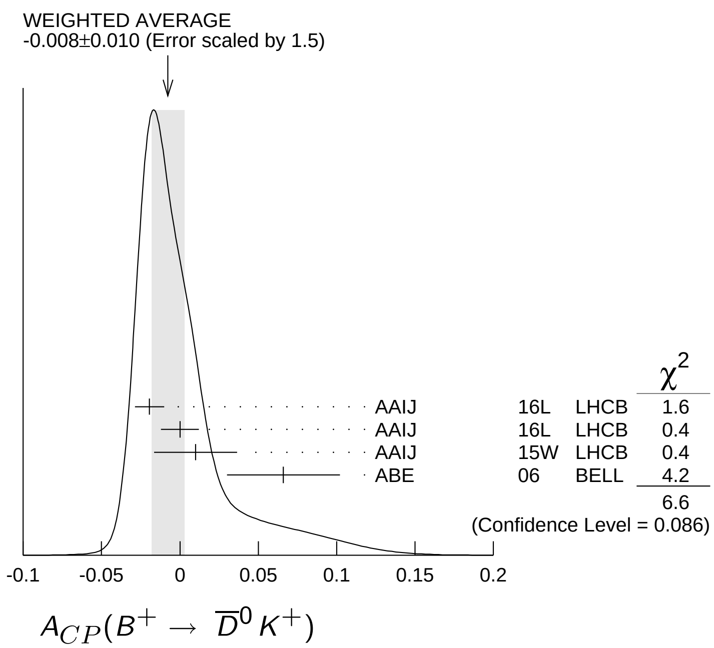
VALUE	DOCUMENT ID		TECN	COMMENT
0.023 +-0.048 + 0.005	AAIJ	16L	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.13±0.10	AAIJ	13AE	LHCB	Repl. by AAIJ 16L

$A_{CP}(B^+ \to [\pi^+ \pi^+ \pi^- \pi^-]_D K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.100±0.034±0.018	AAIJ	16L	LHCB	pp at 7, 8 TeV

$A_{CP}(B^+ \to \overline{D}^0 K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.008 ±0.010 OUR AVERAGE Error includes scale factor of 1.5. See the ideogram below.				
−0.0194±0.0072±0.0060	AAIJ	16L	LHCB	pp at 7, 8 TeV
0.000 ±0.012 ±0.002	[1] AAIJ	16L	LHCB	pp at 7, 8 TeV
0.010 ±0.026 ±0.005	[2] AAIJ	15W	LHCB	pp at 7, 8 TeV
0.066 ±0.036	ABE	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.029 ±0.020 ±0.018	[1] AAIJ	13AE	LHCB	Repl. by AAIJ 16L
0.003 ±0.080 ±0.037	[3] ABE	03D	BELL	Repl. by SWAIN 03
0.04 ±0.06 ±0.03	[4] SWAIN	03	BELL	Repl. by ABE 06



[1] Uses $B^{\pm} \to [K^{\pm}\pi^{\mp}\pi^{+}\pi^{-}]_D h^{\pm}$ mode.
[2] Uses $D^0 \to K^-\pi^+\pi^0$ for the favored mode, and $D^0 \to K^+\pi^-\pi^0$ for the suppressed mode.
[3] Corresponds to 90% confidence range $-0.15 < A_{CP} < 0.16$.
[4] Corresponds to 90% confidence range $-0.07 < A_{CP} < 0.15$.

$A_{CP}([K^{\mp}\pi^{\pm}\pi^{+}\pi^{-}]_D K^{+})$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.313 \pm 0.102 \pm 0.038$	AAIJ	16L	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
-0.42 ± 0.22	AAIJ	13AE	LHCB	Repl. by AAIJ 16L

$A_{CP}(B^+ \to [\pi^+\pi^+\pi^-\pi^-]_D \pi^+)$

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
$-4.1 \pm 7.9 \pm 2.4$	AAIJ	16L	LHCB	pp at 7, 8 TeV

$A_{CP}(B^+ \to [K^-\pi^+]_D K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
-0.58 ± 0.21 OUR AVERAGE				
$-0.82 \pm 0.44 \pm 0.09$	AALTONEN	11AJ	CDF	$p\overline{p}$ at 1.96 TeV
$-0.39^{+0.26}_{-0.28}{}^{+0.04}_{-0.03}$	HORII	11	BELL	$e^+e^- \to \Upsilon(4S)$
$-0.86 \pm 0.47^{+0.12}_{-0.16}$	DEL-AMO-SA...	10H	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.1^{+0.8}_{-1.0} \pm 0.4$	HORII	08	BELL	Repl. by HORII 11
$+0.88^{+0.77}_{-0.62} \pm 0.06$	SAIGO	05	BELL	Repl. by HORII 08

$A_{CP}(B^+ \to [K^-\pi^+\pi^0]_D K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.07 ± 0.30 OUR AVERAGE	Error includes scale factor of 1.5.			
$-0.20 \pm 0.27 \pm 0.04$	[1] AAIJ	15W	LHCB	pp at 7, 8 TeV
$0.41 \pm 0.30 \pm 0.05$	NAYAK	13	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Uses $D^0 \to K^-\pi^+\pi^0$ for the favored mode, and $D^0 \to K^+\pi^-\pi^0$ for the suppressed mode.

$A_{CP}(B^+ \to [K^+K^-\pi^0]_D K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.30 \pm 0.20 \pm 0.02$	[1] AAIJ	15W	LHCB	pp at 7, 8 TeV

[1] Uses $D \to K^+K^-\pi^0$ mode.

$A_{CP}(B^+ \to [\pi^+\pi^-\pi^0]_D K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.054 \pm 0.091 \pm 0.011$	[1] AAIJ	15W	LHCB	pp at 7, 8 TeV

[1] Uses $D \to \pi^+\pi^-\pi^0$ mode.

$A_{CP}(B^+ \to [K^-\pi^+]_{\overline{D}} K^*(892)^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.34\pm0.43\pm0.16$	AUBERT	09AJ	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.22\pm0.61\pm0.17$	AUBERT,B	05V	BABR	Repl. by AUBERT 09AJ

$A_{CP}(B^+ \to [K^-\pi^+]_D \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.00 ± 0.09 OUR AVERAGE				
$0.13\pm0.25\pm0.02$	AALTONEN	11AJ	CDF	$p\overline{p}$ at 1.96 TeV
$-0.04\pm0.11{}^{+0.02}_{-0.01}$	HORII	11	BELL	$e^+e^- \to \Upsilon(4S)$
$0.03\pm0.17\pm0.04$	DEL-AMO-SA...	10H	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.02{}^{+0.15}_{-0.16}\pm0.04$	HORII	08	BELL	Repl. by HORII 11
$+0.30{}^{+0.29}_{-0.25}\pm0.06$	SAIGO	05	BELL	Repl. by HORII 08

$A_{CP}(B^+ \to [K^-\pi^+\pi^0]_D \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.35\ \pm0.16$ OUR AVERAGE				
$0.438\pm0.190\pm0.011$	[1] AAIJ	15W	LHCB	pp at 7, 8 TeV
$0.16\ \pm0.27\ {}^{+0.03}_{-0.04}$	NAYAK	13	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Uses $D^0 \to K^-\pi^+\pi^0$ for the favored mode, and $D^0 \to K^+\pi^-\pi^0$ for the suppressed mode.

$A_{CP}(B^+ \to [K^+K^-\pi^0]_D \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.030\pm0.040\pm0.005$	[1] AAIJ	15W	LHCB	pp at 7, 8 TeV

[1] Uses $D \to K^+K^-$ mode.

$A_{CP}(B^+ \to [\pi^+\pi^-\pi^0]_D \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.016\pm0.020\pm0.004$	[1] AAIJ	15W	LHCB	pp at 7, 8 TeV

[1] Uses $D \to \pi^+\pi^-$ mode.

$A_{CP}(B^+ \to [K^-\pi^+]_{(D\pi)} \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.09\pm0.27\pm0.05$	DEL-AMO-SA..	10H	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to [K^-\pi^+]_{(D\gamma)} \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.65\pm0.55\pm0.22$	DEL-AMO-SA..	10H	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to [K^-\pi^+]_{(D\pi)} K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.77\pm0.35\pm0.12$	DEL-AMO-SA..	10H	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to [K^-\pi^+]_{(D\gamma)} K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.36 \pm 0.94^{+0.25}_{-0.41}$	DEL-AMO-SA..10H		BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to [\pi^+\pi^-\pi^0]_D K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.02 \pm 0.15 \pm 0.03$	[1] AUBERT	07BJ	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.02 \pm 0.16 \pm 0.03$	AUBERT,B	05T	BABR	Repl. by AUBERT 07BJ

[1] Uses a Dalitz plot analysis of $D^0 \to \pi^+\pi^-\pi^0$. Also reports the one-sigma regions: $0.06 < r_B < 0.78$, $-30^\circ < \gamma < 76^\circ$, and $-27^\circ < \delta < 78^\circ$.

$A_{CP}(B^+ \to [K^0_S K^+\pi^-]_D K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.040 \pm 0.091 \pm 0.018$	[1] AAIJ	14V	LHCB	pp at 7, 8 TeV

[1] The anaysis uses all of $D \to K^0_S K\pi$ Dalitz decays.

$A_{CP}(B^+ \to [K^0_S K^-\pi^+]_D K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.233 \pm 0.129 \pm 0.024$	[1] AAIJ	14V	LHCB	pp at 7, 8 TeV

[1] The anaysis uses all of $D \to K^0_S K\pi$ Dalitz decays.

$A_{CP}(B^+ \to [K^0_S K^-\pi^+]_D \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.052 \pm 0.029 \pm 0.017$	[1] AAIJ	14V	LHCB	pp at 7, 8 TeV

[1] The anaysis uses all of $D \to K^0_S K\pi$ Dalitz decays.

$A_{CP}(B^+ \to [K^0_S K^+\pi^-]_D \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.025 \pm 0.024 \pm 0.010$	[1] AAIJ	14V	LHCB	pp at 7, 8 TeV

[1] The anaysis uses all of $D \to K^0_S K\pi$ Dalitz decays.

$A_{CP}(B^+ \to [K^*(892)^- K^+]_D K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.026 \pm 0.109 \pm 0.029$	[1] AAIJ	14V	LHCB	pp at 7, 8 TeV

[1] The Analysis uses $D \to K^*(892) K \to K^0_S K\pi$ decays.

$A_{CP}(B^+ \to [K^*(892)^+ K^-]_D K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.336 \pm 0.208 \pm 0.026$	[1] AAIJ	14V	LHCB	pp at 7, 8 TeV

[1] The Analysis uses $D \to K^*(892) K \to K^0_S K\pi$ decays.

$A_{CP}(B^+ \to [K^*(892)^+ K^-]_D \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.054 \pm 0.043 \pm 0.017$	[1] AAIJ	14V	LHCB	pp at 7, 8 TeV

[1] The Analysis uses $D \to K^*(892) K \to K^0_S K\pi$ decays.

$A_{CP}(B^+ \to [K^*(892)^- K^+]_D \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.012±0.028±0.010	[1] AAIJ	14V	LHCB	pp at 7, 8 TeV

[1] The Analysis uses $D \to K^*(892) K \to K^0_S K \pi$ decays.

$A_{CP}(B^+ \to D_{CP(+1)} K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.11 ±0.04 OUR AVERAGE	Error includes scale factor of 2.3.			
0.097±0.018±0.009	AAIJ	16L	LHCB	pp at 7, 8 TeV
0.39 ±0.17 ±0.04	AALTONEN	10A	CDF	$p\overline{p}$ at 1.96 TeV
0.25 ±0.06 ±0.02	[1] DEL-AMO-SA...	10G	BABR	$e^+ e^- \to \Upsilon(4S)$
0.06 ±0.14 ±0.05	ABE	06	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.145±0.032±0.010	[2] AAIJ	12M	LHCB	Repl. by AAIJ 16L
0.27 ±0.09 ±0.04	AUBERT	08AA	BABR	Repl. by DEL-AMO-SANCHEZ 10G
0.35 ±0.13 ±0.04	AUBERT	06J	BABR	Repl. by AUBERT 08AA
0.07 ±0.17 ±0.06	AUBERT	04N	BABR	Repl. by AUBERT 06J
0.29 ±0.26 ±0.05	[3] ABE	03D	BELL	Repl. by SWAIN 03
0.06 ±0.19 ±0.04	[4] SWAIN	03	BELL	Repl. by ABE 06

[1] Reports the first evidence for direct CP violation in $B \to D K$ decays with 3.6 standard deviations.

[2] AAIJ 12M reports an evidence of direct CP violation in $B^\pm \to D K^\pm$ decays with a total significance of 5.8 σ.

[3] Corresponds to 90% confidence range $-0.14 < A_{CP} < 0.73$.

[4] Corresponds to 90% confidence range $-0.26 < A_{CP} < 0.38$.

$A_{ADS}(B^+ \to D K^+)$

$$A_{ADS}(B^+ \to D K^+) = \frac{(R^-_K - R^+_K)}{(R^-_K + R^+_K)} \text{ where}$$

$R^-_K = \Gamma(B^- \to [K^+ \pi^-]_D K^-) \,/\, \Gamma(B^- \to [K^- \pi^+]_D K^-)$ and

$R^+_K = \Gamma(B^+ \to [K^- \pi^+]_D K^+) \,/\, \Gamma(B^+ \to [K^+ \pi^-]_D K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.403±0.056±0.011	AAIJ	16L	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.52 ±0.15 ±0.02	AAIJ	12M	LHCB	Repl. by AAIJ 16L

$A_{ADS}(B^+ \to D \pi^+)$

$$A_{ADS}(B^+ \to D \pi^+) = \frac{(R^-_\pi - R^+_\pi)}{(R^-_\pi + R^+_\pi)} \text{ where}$$

$R^-_\pi = \Gamma(B^- \to [K^+ \pi^-]_D \pi^-) \,/\, \Gamma(B^- \to [K^- \pi^+]_D \pi^-)$ and

$R^+_\pi = \Gamma(B^+ \to [K^- \pi^+]_D \pi^+) \,/\, \Gamma(B^+ \to [K^+ \pi^-]_D \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.100±0.031±0.009	AAIJ	16L	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.143±0.062±0.011	AAIJ	12M	LHCB	Repl. by AAIJ 16L

$A_{ADS}(B^+ \to [K^-\pi^+]_D K^+\pi^-\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.33^{+0.36}_{-0.34}$	AAIJ	15BC	LHCB	pp at 7, 8 TeV

$A_{ADS}(B^+ \to [K^-\pi^+]_D \pi^+\pi^-\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
-0.013 ± 0.087	AAIJ	15BC	LHCB	pp at 7, 8 TeV

$A_{CP}(B^+ \to D_{CP(-1)} K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
-0.10 ± 0.07 OUR AVERAGE				
$-0.09\pm0.07\pm0.02$	DEL-AMO-SA...	10G	BABR	$e^+e^- \to \Upsilon(4S)$
$-0.12\pm0.14\pm0.05$	ABE	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.09\pm0.09\pm0.02$	AUBERT	08AA	BABR	Repl. by DEL-AMO-SANCHEZ 10G
$-0.06\pm0.13\pm0.04$	AUBERT	06J	BABR	Repl. by AUBERT 08AA
$-0.22\pm0.24\pm0.04$	[1] ABE	03D	BELL	Repl. by SWAIN 03
$-0.19\pm0.17\pm0.05$	[2] SWAIN	03	BELL	Repl. by ABE 06

[1] Corresponds to 90% confidence range $-0.62 < A_{CP} < 0.18$.

[2] Corresponds to 90% confidence range $-0.47 < A_{CP} < 0.11$.

$A_{CP}(B^+ \to [K^+K^-]_D K^+\pi^-\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.045\pm0.064\pm0.011$	AAIJ	15BC	LHCB	pp at 7, 8 TeV

$A_{CP}(B^+ \to [\pi^+\pi^-]_D K^+\pi^-\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.054\pm0.101\pm0.011$	AAIJ	15BC	LHCB	pp at 7, 8 TeV

$A_{CP}(B^+ \to [K^-\pi^+]_D K^+\pi^-\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.013\pm0.019\pm0.013$	AAIJ	15BC	LHCB	pp at 7, 8 TeV

$A_{CP}(B^+ \to [K^+K^-]_D \pi^+\pi^-\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.019\pm0.011\pm0.010$	AAIJ	15BC	LHCB	pp at 7, 8 TeV

$A_{CP}(B^+ \to [\pi^+\pi^-]_D \pi^+\pi^-\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.013\pm0.016\pm0.010$	AAIJ	15BC	LHCB	pp at 7, 8 TeV

$A_{CP}(B^+ \to [K^-\pi^+]_D \pi^+\pi^-\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.002\pm0.003\pm0.011$	AAIJ	15BC	LHCB	pp at 7, 8 TeV

$A_{CP}(B^+ \to \overline{D}^{*0}\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
-0.014 ± 0.015	ABE	06	BELL	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to (D^*_{CP(+1)})^0 \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
-0.021 ± 0.045	ABE	06	BELL	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to (D^*_{CP(-1)})^0 \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
-0.090 ± 0.051	ABE	06	BELL	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to D^{*0} K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
-0.07 ± 0.04 OUR AVERAGE				
$-0.06 \pm 0.04 \pm 0.01$	AUBERT	08BF	BABR	$e^+ e^- \to \Upsilon(4S)$
-0.089 ± 0.086	ABE	06	BELL	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to D^{*0}_{CP(+1)} K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
-0.12 ± 0.08 OUR AVERAGE				
$-0.11 \pm 0.09 \pm 0.01$	AUBERT	08BF	BABR	$e^+ e^- \to \Upsilon(4S)$
$-0.20 \pm 0.22 \pm 0.04$	ABE	06	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.10 \pm 0.23^{+0.03}_{-0.04}$	AUBERT	05N	BABR	Repl. by AUBERT 08BF

$A_{CP}(B^+ \to D^*_{CP(-1)} K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.07 ± 0.10 OUR AVERAGE				
$+0.06 \pm 0.10 \pm 0.02$	AUBERT	08BF	BABR	$e^+ e^- \to \Upsilon(4S)$
$+0.13 \pm 0.30 \pm 0.08$	ABE	06	BELL	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to D_{CP(+1)} K^*(892)^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$+0.09 \pm 0.13 \pm 0.06$	AUBERT	09AJ	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.08 \pm 0.19 \pm 0.08$	AUBERT,B	05U	BABR	Repl. by AUBERT 09AJ

$A_{CP}(B^+ \to D_{CP(-1)} K^*(892)^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.23 \pm 0.21 \pm 0.07$	AUBERT	09AJ	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.26 \pm 0.40 \pm 0.12$	AUBERT,B	05U	BABR	Repl. by AUBERT 09AJ

$A_{CP}(B^+ \to D_s^+ \phi)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.01 \pm 0.41 \pm 0.03$	AAIJ	13R	LHCB	pp at 7 TeV

$A_{CP}(B^+ \to D^{*+} \overline{D}^{*0})$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.15 \pm 0.11 \pm 0.02$	AUBERT,B	06A	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \rightarrow D^{*+} \overline{D}^0)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.06±0.13±0.02	AUBERT,B	06A	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

$A_{CP}(B^+ \rightarrow D^+ \overline{D}^{*0})$

VALUE	DOCUMENT ID		TECN	COMMENT
0.13±0.18±0.04	AUBERT,B	06A	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

$A_{CP}(B^+ \rightarrow D^+ \overline{D}^0)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.03±0.07 OUR AVERAGE				
0.00±0.08±0.02	ADACHI	08	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
−0.13±0.14±0.02	AUBERT,B	06A	BABR	$e^+e^- \rightarrow \Upsilon(4S)$

$A_{CP}(B^+ \rightarrow K^0_S \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.017±0.016 OUR AVERAGE				
−0.022±0.025±0.010	AAIJ	13BS	LHCB	pp at 7 TeV
−0.011±0.021±0.006	DUH	13	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
−0.029±0.039±0.010	[1] AUBERT,BE	06C	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
0.18 ±0.24	[2] CHEN	00	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.03 ±0.03 ±0.01	LIN	07	BELL	Repl. by DUH 13
−0.09 ±0.05 ±0.01	[3] AUBERT,BE	05E	BABR	Repl. by AUBERT,BE 06C
0.05 ±0.05 ±0.01	[4] CHAO	05A	BELL	Repl. by LIN 07
−0.05 ±0.08 ±0.01	[5] AUBERT	04M	BABR	Repl. by AUBERT,BE 05E
$0.07\ ^{+0.09}_{-0.08}\ ^{+0.01}_{-0.03}$	[6] UNNO	03	BELL	Repl. by CHAO 05A
0.46 ±0.15 ±0.02	[7] CASEY	02	BELL	Repl. by UNNO 03
$0.098\ ^{+0.430}_{-0.343}\ ^{+0.020}_{-0.063}$	[8] ABE	01K	BELL	Repl. by CASEY 02
−0.21 ±0.18 ±0.03	[9] AUBERT	01E	BABR	Repl. by AUBERT 04M

[1] Corresponds to 90% confidence range $-0.092 < A_{CP} < 0.036$.
[2] Corresponds to 90% confidence range $-0.22 < A_{CP} < 0.56$.
[3] Corresponds to 90% confidence range $-0.16 < A_{CP} < -0.02$.
[4] Corresponds to 90% confidence range $-0.04 < A_{CP} < 0.13$.
[5] Corresponds to 90% confidence range $-0.18 < A_{CP} < 0.08$.
[6] Corresponds to 90% confidence range $-0.10 < A_{CP} < +0.22$.
[7] Corresponds to 90% confidence range $+0.19 < A_{CP} < +0.72$.
[8] Corresponds to 90% confidence range $-0.53 < A_{CP} < 0.82$.
[9] Corresponds to 90% confidence range $-0.51 < A_{CP} < 0.09$.

$A_{CP}(B^+ \rightarrow K^+ \pi^0)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.037±0.021 OUR AVERAGE				
0.043±0.024±0.002	DUH	13	BELL	$e^+e^- \rightarrow \Upsilon(4S)$
0.030±0.039±0.010	AUBERT	07BC	BABR	$e^+e^- \rightarrow \Upsilon(4S)$
−0.29 ±0.23	[1] CHEN	00	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

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

0.07 ±0.03 ±0.01	LIN	08	BELL	Repl. by DUH 13
0.06 ±0.06 ±0.01	[2] AUBERT	05L	BABR	Repl. by AUBERT 07BC
0.06 ±0.06 ±0.02	[2] CHAO	05A	BELL	Repl. by CHAO 04B
0.04 ±0.05 ±0.02	[3] CHAO	04B	BELL	Repl. by LIN 08
−0.09 ±0.09 ±0.01	[4] AUBERT	03L	BABR	Repl. by AUBERT 05L
−0.02 ±0.19 ±0.02	[5] CASEY	02	BELL	Repl. by CHAO 04B
$-0.059^{+0.222}_{-0.196}{}^{+0.055}_{-0.017}$	[6] ABE	01K	BELL	Repl. by CASEY 02
0.00 ±0.18 ±0.04	[7] AUBERT	01E	BABR	Repl. by AUBERT 03L

[1] Corresponds to 90% confidence range $-0.67 < A_{CP} < 0.09$.

[2] Corresponds to a 90% CL interval of $-0.06 < A_{CP} < 0.18$.

[3] Corresponds to 90% CL interval of $-0.05 < A_{CP} < 0.13$.

[4] Corresponds to 90% confidence range $-0.24 < A_{CP} < 0.06$.

[5] Corresponds to 90% confidence range $-0.35 < A_{CP} < +0.30$.

[6] Corresponds to 90% confidence range $-0.40 < A_{CP} < 0.36$.

[7] Corresponds to 90% confidence range $-0.30 < A_{CP} < +0.30$.

$A_{CP}(B^+ \to \eta' K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.004±0.011 OUR AVERAGE				
−0.002±0.012±0.006	[1] AAIJ	15O	LHCB	pp at 7, 8 TeV
$0.008^{+0.017}_{-0.018}\pm0.009$	AUBERT	09AV	BABR	$e^+e^- \to \Upsilon(4S)$
0.028±0.028±0.021	SCHUEMANN	06	BELL	$e^+e^- \to \Upsilon(4S)$
0.03 ±0.12	[2] CHEN	00	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.010±0.022±0.006	AUBERT	07AE	BABR	Repl. by AUBERT 09AV
0.033±0.028±0.005	[3] AUBERT	05M	BABR	Repl. by AUBERT 07AE
0.037±0.045±0.011	[4] AUBERT	03W	BABR	Repl. by AUBERT 05M
−0.11 ±0.11 ±0.02	[5] AUBERT	02E	BABR	Repl. by AUBERT 05M
−0.015±0.070±0.009	[6] CHEN	02B	BELL	Repl. by SCHUEMANN 06
0.06 ±0.15 ±0.01	[7] ABE	01M	BELL	Repl. by CHEN 02B

[1] Obtained using $A_{CP}(B^\pm \to J/\psi K^\pm) = (0.3 \pm 0.6) \times 10^{-2}$.

[2] Corresponds to 90% confidence range $-0.17 < A_{CP} < 0.23$.

[3] Corresponds to 90% confidence range $-0.012 < A_{CP} < 0.078$.

[4] Corresponds to 90% confidence range $-0.04 < A_{CP} < 0.11$.

[5] Corresponds to 90% confidence range $-0.28 < A_{CP} < 0.07$.

[6] Corresponds to 90% confidence range $-0.13 < A_{CP} < 0.10$.

[7] Corresponds to 90% confidence range $-0.20 < A_{CP} < 0.32$.

$A_{CP}(B^+ \to \eta' K^*(892)^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.26±0.27±0.02	DEL-AMO-SA..10A		BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.30^{+0.33}_{-0.37}\pm0.02$	[1] AUBERT	07E	BABR	Repl. by DEL-AMO-SANCHEZ 10A

[1] Reports A_{CP} with the opposite sign convention.

$A_{CP}(B^+ \to \eta' K_0^*(1430)^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.06±0.20±0.02	DEL-AMO-SA..10A	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to \eta' K_2^*(1430)^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.15±0.13±0.02	DEL-AMO-SA..10A	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to \eta K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.37±0.08 OUR AVERAGE				
−0.38±0.11±0.01	HOI	12	BELL	$e^+ e^- \to \Upsilon(4S)$
−0.36±0.11±0.03	AUBERT	09AV	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.22±0.11±0.01	AUBERT	07AE	BABR	Repl. by AUBERT 09AV
−0.39±0.16±0.03	CHANG	07B	BELL	Repl. by HOI 12
−0.20±0.15±0.01	AUBERT,B	05K	BABR	Repl. by AUBERT 07AE
−0.49±0.31±0.07	CHANG	05A	BELL	Repl. by CHANG 07B
−0.52±0.24±0.01	AUBERT	04H	BABR	Repl. by AUBERT,B 05K

$A_{CP}(B^+ \to \eta K^*(892)^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.02±0.06 OUR AVERAGE				
0.03±0.10±0.01	WANG	07B	BELL	$e^+ e^- \to \Upsilon(4S)$
0.01±0.08±0.02	AUBERT,B	06H	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.13±0.14±0.02	AUBERT,B	04D	BABR	Repl. by AUBERT,B 06H

$A_{CP}(B^+ \to \eta K_0^*(1430)^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.05±0.13±0.02	AUBERT,B	06H	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to \eta K_2^*(1430)^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.45±0.30±0.02	AUBERT,B	06H	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to \omega K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.02±0.04 OUR AVERAGE				
−0.03±0.04±0.01	CHOBANOVA	14	BELL	$e^+ e^- \to \Upsilon(4S)$
−0.01±0.07±0.01	AUBERT	07AE	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.05±0.09±0.01	AUBERT,B	06E	BABR	Repl. by AUBERT 07AE
$0.05^{+0.08}_{-0.07}\pm0.01$	JEN	06	BELL	Repl. by CHOBANOVA 14
−0.09±0.17±0.01	AUBERT	04H	BABR	Repl. by AUBERT,B 06E
$0.06^{+0.21}_{-0.18}\pm0.01$	[1] WANG	04A	BELL	Repl. by JEN 06
−0.21±0.28±0.03	[2] LU	02	BELL	Repl. by WANG 04A

[1] Corresponds to 90% CL interval 0.15< A_{CP} <0.90

[2] Corresponds to 90% confidence range −0.70 < A_{CP} < +0.38.

$A_{CP}(B^+ \to \omega K^{*+})$

VALUE	DOCUMENT ID		TECN	COMMENT
+0.29±0.35±0.02	AUBERT	09H	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to \omega (K\pi)^{*+}_0)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.10±0.09±0.02	AUBERT	09H	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to \omega K^*_2(1430)^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
+0.14±0.15±0.02	AUBERT	09H	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to K^{*0}\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.04 ±0.09 OUR AVERAGE	Error includes scale factor of 2.1.			
$0.032 \pm 0.052 ^{+0.016}_{-0.013}$	AUBERT	08AI	BABR	$e^+e^- \to \Upsilon(4S)$
−0.149±0.064±0.022	GARMASH	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.068 \pm 0.078 ^{+0.070}_{-0.067}$	AUBERT,B	05N	BABR	Repl. by AUBERT 08AI

$A_{CP}(B^+ \to K^*(892)^+\pi^0)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.06±0.24±0.04	LEES	11I	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.04±0.29±0.05	AUBERT	05X	BABR	Repl. by LEES 11I

$A_{CP}(B^+ \to K^+\pi^-\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.027±0.008 OUR AVERAGE				
0.025±0.004±0.008	[1] AAIJ	14BO	LHCB	pp at 7, 8 TeV
0.028±0.020±0.023	AUBERT	08AI	BABR	$e^+e^- \to \Upsilon(4S)$
0.049±0.026±0.020	GARMASH	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.032±0.008±0.008	AAIJ	13AZ	LHCB	Repl. by AAIJ 14BO
−0.013±0.037±0.011	AUBERT,B	05N	BABR	Repl. by AUBERT 08AI
0.01 ±0.07 ±0.03	AUBERT	03M	BABR	Repl. by AUBERT,B 05N

[1] AAIJ 14BO reports also CP asymmetries in restricted regions of phase space.

$A_{CP}(B^+ \to K^+K^-K^+ \text{ nonresonant})$

VALUE	DOCUMENT ID		TECN	COMMENT
0.060±0.044±0.019	LEES	12O	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to f(980)^0 K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.08±0.08±0.04	[1] LEES	12O	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Measured in the $B^+ \to K^+K^-K^+$ decay.

$A_{CP}(B^+ \to f_2(1270) K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.68^{+0.19}_{-0.17}$ **OUR AVERAGE**				
$-0.85 \pm 0.22^{+0.26}_{-0.13}$	AUBERT	08AI	BABR	$e^+ e^- \to \Upsilon(4S)$
$-0.59 \pm 0.22 \pm 0.036$	GARMASH	06	BELL	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to f_0(1500) K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.28 \pm 0.26^{+0.15}_{-0.14}}$	AUBERT	08AI	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to f'_2(1525)^0 K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.08\ ^{+0.05}_{-0.04}$ **OUR AVERAGE**				
$0.18\ \pm 0.18\ \pm 0.04$	[1] LEES	11I	BABR	$e^+ e^- \to \Upsilon(4S)$
$-0.106 \pm 0.050^{+0.036}_{-0.015}$	AUBERT	08AI	BABR	$e^+ e^- \to \Upsilon(4S)$
$-0.077 \pm 0.065^{+0.046}_{-0.026}$	GARMASH	06	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.14\ \pm 0.10\ \pm 0.04$	[2] LEES	12O	BABR	$e^+ e^- \to \Upsilon(4S)$
$-0.31\ \pm 0.25\ \pm 0.08$	[3] AUBERT	06O	BABR	Repl. by LEES 12O
$0.088 \pm 0.095^{+0.097}_{-0.056}$	AUBERT,B	05N	BABR	Repl. by AUBERT 08AI

[1] Measured in $B^+ \to f_0 K^+$ with $f_0 \to \pi^0 \pi^0$ decay.

[2] Measured in the $B^+ \to K^+ K^- K^+$ decay assuming $A_{CP}(B^+ \to f'_2(1525)^0 K^+) = A_{CP}(B^+ \to f_0(1500)^0 K^+) = A_{CP}(B^+ \to f_0(1710)^0 K^+)$

[3] Measured in the $B^+ \to K^+ K^- K^+$ decay.

$A_{CP}(B^+ \to \rho^0 K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.37 \pm 0.10}$ **OUR AVERAGE**				
$0.44 \pm 0.10^{+0.06}_{-0.14}$	AUBERT	08AI	BABR	$e^+ e^- \to \Upsilon(4S)$
$0.30 \pm 0.11^{+0.11}_{-0.04}$	GARMASH	06	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.32 \pm 0.13^{+0.10}_{-0.08}$	AUBERT,B	05N	BABR	Repl. by AUBERT 08AI

$A_{CP}(B^+ \to K^*_0(1430)^0 \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.055 \pm 0.033}$ **OUR AVERAGE**				
$0.032 \pm 0.035^{+0.034}_{-0.028}$	AUBERT	08AI	BABR	$e^+ e^- \to \Upsilon(4S)$
$0.076 \pm 0.038^{+0.028}_{-0.022}$	GARMASH	06	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.064 \pm 0.032^{+0.023}_{-0.026}$	AUBERT,B	05N	BABR	Repl. by AUBERT 08AI

$A_{CP}(B^+ \to K_2^*(1430)^0 \pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.05 \pm 0.23^{+0.18}_{-0.08}$	AUBERT	08AI	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to K^+ \pi^0 \pi^0)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.06 \pm 0.06 \pm 0.04$	LEES	11I	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to K^0 \rho^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.12 \pm 0.17 \pm 0.02$	AUBERT	07Z	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to K^{*+} \pi^+ \pi^-)$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.07 \pm 0.07 \pm 0.04$	AUBERT,B	06U	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to \rho^0 K^*(892)^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.31 \pm 0.13 \pm 0.03$	DEL-AMO-SA...	11D	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.20^{+0.32}_{-0.29} \pm 0.04$	AUBERT	03V	BABR	Repl. by DEL-AMO-SANCHEZ 11D

$A_{CP}(B^+ \to K^*(892)^+ f_0(980))$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.15 \pm 0.12 \pm 0.03$	DEL-AMO-SA...	11D	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.34 \pm 0.21 \pm 0.03$	AUBERT,B	06G	BABR	Repl. by DEL-AMO-SANCHEZ 11D

$A_{CP}(B^+ \to a_1^+ K^0)$

VALUE	DOCUMENT ID		TECN	COMMENT
$+0.12 \pm 0.11 \pm 0.02$	AUBERT	08F	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to b_1^+ K^0)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.03 \pm 0.15 \pm 0.02$	AUBERT	08AG	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to K^*(892)^0 \rho^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.01 \pm 0.16 \pm 0.02$	AUBERT,B	06G	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to b_1^0 K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.46 \pm 0.20 \pm 0.02$	AUBERT	07BI	BABR	$e^+ e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to K^0 K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.04 ±0.14 OUR AVERAGE			
0.014±0.168±0.002	DUH 13	BELL	$e^+ e^- \to \Upsilon(4S)$
0.10 ±0.26 ±0.03	[1] AUBERT,BE 06C	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.13 $^{+0.23}_{-0.24}$ ±0.02	LIN 07	BELL	Repl. by DUH 13
0.15 ±0.33 ±0.03	[2] AUBERT,BE 05E	BABR	Repl. by AUBERT,BE 06C

[1] Corresponds to 90% confidence range $-0.31 < A_{CP} < 0.54$.
[2] Corresponds to 90% confidence range $-0.43 < A_{CP} < 0.68$.

$A_{CP}(B^+ \to K^0_S K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
−0.21±0.14±0.01	AAIJ 13BS	LHCB	pp at 7 TeV

$A_{CP}(B^+ \to K^+ K^0_S K^0_S)$

VALUE	DOCUMENT ID	TECN	COMMENT
0.04$^{+0.04}_{-0.05}$±0.02	LEES 12O	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
−0.04±0.11±0.02	[1] AUBERT,B 04V	BABR	Repl. by LEES 12O

[1] Corresponds to 90% confidence range $-0.23 < A_{CP} < 0.15$.

$A_{CP}(B^+ \to K^+ K^- \pi^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
−0.118±0.022 OUR AVERAGE			
−0.123±0.017±0.014	[1] AAIJ 14BO	LHCB	pp at 7, 8 TeV
0.00 ±0.10 ±0.03	AUBERT 07BB	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
−0.141±0.040±0.019	[2] AAIJ 14	LHCB	Repl. by AAIJ 14BO

[1] AAIJ 14BO reports also CP asymmetries in restricted regions of phase space.
[2] AAIJ 14 reports $A_{CP}(B^+ \to K^+ K^- \pi^+) = -0.648 \pm 0.070 \pm 0.013 \pm 0.007$ in the Dalitz plot region of $m^2_{K^+ K^-} < 1.5$ GeV^2/c^4. The third uncertainty is due to the CP asymmetry of the $B^\pm \to J/\psi K^\pm$ reference mode uncertainty.

$A_{CP}(B^+ \to K^+ K^- K^+)$

VALUE	DOCUMENT ID	TECN	COMMENT
−0.033±0.008 OUR AVERAGE			
−0.036±0.004±0.007	[1] AAIJ 14BO	LHCB	pp at 7, 8 TeV
−0.017$^{+0.019}_{-0.014}$±0.014	[2] LEES 12O	BABR	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
−0.043±0.009±0.008	AAIJ 13AZ	LHCB	Repl. by AAIJ 14BO
−0.017±0.026±0.015	AUBERT 06O	BABR	Repl. by LEES 12O
0.02 ±0.07 ±0.03	AUBERT 03M	BABR	Repl. by AUBERT 06O

[1] AAIJ 14BO reports also CP asymmetries in restricted regions of phase space.
[2] All intermediate charmonium and charm resonances are removed, except of χ_{c0}.

$A_{CP}(B^+ \to \phi K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.024±0.028 OUR AVERAGE	Error includes scale factor of 2.3.			
0.017±0.011±0.006	[1] AAIJ	15O	LHCB	pp at 7, 8 TeV
0.128±0.044±0.013	LEES	12O	BABR	$e^+e^- \to \Upsilon(4S)$
$-0.07 \pm0.17 ^{+0.03}_{-0.02}$	ACOSTA	05J	CDF	$p\overline{p}$ at 1.96 TeV
0.01 ±0.12 ±0.05	[2] CHEN	03B	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.022±0.021±0.009	AAIJ	14A	LHCB	Repl. by AAIJ 15O
0.00 ±0.08 ±0.02	AUBERT	06O	BABR	Repl. by LEES 12O
0.04 ±0.09 ±0.01	[3] AUBERT	04A	BABR	Repl. by AUBERT 06O
−0.05 ±0.20 ±0.03	[4] AUBERT	02E	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Obtained using $A_{CP}(B^\pm \to J/\psi K^\pm) = (0.3 \pm 0.6) \times 10^{-2}$.
[2] Corresponds to 90% confidence range $-0.20 < A_{CP} < 0.22$.
[3] Corresponds to 90% confidence range $-0.10 < A_{CP} < 0.18$.
[4] Corresponds to 90% confidence range $-0.37 < A_{CP} < 0.28$.

$A_{CP}(B^+ \to X_0(1550)K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.04±0.07±0.02	[1] AUBERT	06O	BABR	$e^+e^- \to \Upsilon(4S)$

[1] Measured in the $B^+ \to K^+K^-K^+$ decay.

$A_{CP}(B^+ \to K^{*+}K^+K^-)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.11±0.08±0.03	AUBERT,B	06U	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to \phi K^*(892)^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.01±0.08 OUR AVERAGE				
0.00±0.09±0.04	AUBERT	07BA	BABR	$e^+e^- \to \Upsilon(4S)$
−0.02±0.14±0.03	[1] CHEN	05A	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.16±0.17±0.03	AUBERT	03V	BABR	Repl. by AUBERT 07BA
$-0.13\pm0.29^{+0.08}_{-0.11}$	[2] CHEN	03B	BELL	Repl. by CHEN 05A
$-0.43^{+0.36}_{-0.30}\pm0.06$	[3] AUBERT	02E	BABR	Repl. by AUBERT 03V

[1] Corresponds to 90% confidence range $-0.25 < A_{CP} < 0.22$.
[2] Corresponds to 90% confidence range $-0.64 < A_{CP} < 0.36$.
[3] Corresponds to 90% confidence range $-0.88 < A_{CP} < 0.18$.

$A_{CP}(B^+ \to \phi(K\pi)^{*+}_0)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.04±0.15±0.04	AUBERT	08BI	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to \phi K_1(1270)^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.15±0.19±0.05	AUBERT	08BI	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to \phi K_2^*(1430)^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.23\pm0.19\pm0.06$	AUBERT	08BI	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to K^+\phi\phi)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.10\pm0.08\pm0.02$	[1] LEES	11A	BABR	$e^+e^- \to \Upsilon(4S)$

[1] $m_{\phi\phi} < 2.85$ GeV/c^2.

$A_{CP}(B^+ \to K^+[\phi\phi]_{\eta_c})$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.09\pm0.10\pm0.02$	[1] LEES	11A	BABR	$e^+e^- \to \Upsilon(4S)$

[1] $m_{\phi\phi}$ is consistent with η_c mass [2.94, 3.02] GeV/c^2.

$A_{CP}(B^+ \to K^*(892)^+\gamma)$

VALUE	DOCUMENT ID		TECN	COMMENT
$+0.018\pm0.028\pm0.007$	AUBERT	09AO	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to \eta K^+\gamma)$

VALUE	DOCUMENT ID		TECN	COMMENT
-0.12 ± 0.07 OUR AVERAGE				
$-0.09\pm0.10\pm0.01$	[1] AUBERT	09	BABR	$e^+e^- \to \Upsilon(4S)$
$-0.16\pm0.09\pm0.06$	[2] NISHIDA	05	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.09\pm0.12\pm0.01$	[1] AUBERT,B	06M	BABR	Repl. by AUBERT 09

[1] $m_{\eta K} < 3.25$ GeV/c^2.

[2] $m_{\eta K} < 2.4$ GeV/c^2

$A_{CP}(B^+ \to \phi K^+\gamma)$

VALUE	DOCUMENT ID		TECN	COMMENT
-0.13 ± 0.11 OUR AVERAGE	Error includes scale factor of 1.1.			
$-0.03\pm0.11\pm0.08$	SAHOO	11A	BELL	$e^+e^- \to \Upsilon(4S)$
$-0.26\pm0.14\pm0.05$	AUBERT	07Q	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to \rho^+\gamma)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.11\pm0.32\pm0.09$	TANIGUCHI	08	BELL	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to \pi^+\pi^0)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.03 ± 0.04 OUR AVERAGE				
$0.025\pm0.043\pm0.007$	DUH	13	BELL	$e^+e^- \to \Upsilon(4S)$
$0.03\pm0.08\pm0.01$	AUBERT	07BC	BABR	$e^+e^- \to \Upsilon(4S)$

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

$0.07 \pm 0.06 \pm 0.01$	LIN	08	BELL	Repl. by DUH 13
$-0.01 \pm 0.10 \pm 0.02$	[1] AUBERT	05L	BABR	Repl. by AUBERT 07BC
$0.00 \pm 0.10 \pm 0.02$	[2] CHAO	05A	BELL	Repl. by CHAO 04B
$-0.02 \pm 0.10 \pm 0.01$	[3] CHAO	04B	BELL	Repl. by LIN 08
$-0.03\ ^{+0.18}_{-0.17} \pm 0.02$	[4] AUBERT	03L	BABR	Repl. by AUBERT 05L
$0.30 \pm 0.30\ ^{+0.06}_{-0.04}$	[5] CASEY	02	BELL	Repl. by CHAO 04B

[1] Corresponds to a 90% CL interval of $-0.19 < A_{CP} < 0.21$.
[2] Corresponds to a 90% CL interval of $-0.17 < A_{CP} < 0.16$.
[3] This corresponds to 90% CL interval of $-0.18 < A_{CP} < 0.14$.
[4] Corresponds to 90% confidence range $-0.32 < A_{CP} < 0.27$.
[5] Corresponds to 90% confidence range $-0.23 < A_{CP} < +0.86$.

$A_{CP}(B^+ \to \pi^+\pi^-\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.057 ± 0.013 OUR AVERAGE				
$0.058 \pm 0.008 \pm 0.011$	[1] AAIJ	14BO	LHCB	pp at 7, 8 TeV
$0.032 \pm 0.044\ ^{+0.040}_{-0.037}$	AUBERT	09L	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.117 \pm 0.021 \pm 0.011$	[2] AAIJ	14	LHCB	Repl. by AAIJ 14BO
$-0.007 \pm 0.077 \pm 0.025$	AUBERT,B	05G	BABR	Repl. by AUBERT 09L
$-0.39 \pm 0.33 \pm 0.12$	AUBERT	03M	BABR	Repl. by AUBERT 05G

[1] AAIJ 14BO reports also CP asymmetries in restricted regions of phase space.
[2] AAIJ 14 reports $A_{CP}(B^+ \to \pi^+\pi^-\pi^+) = 0.584 \pm 0.082 \pm 0.027 \pm 0.007$ in the Dalitz plot region of $m^2_{\pi^+\pi^-} > 15$ GeV^2/c^4 or $m^2_{\pi^+\pi^-} < 0.4$ GeV^2/c^4. The third uncertainty is due to the CP asymmetry of the $B^\pm \to J/\psi K^\pm$ reference mode uncertainty.

$A_{CP}(B^+ \to \rho^0\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.18 \pm 0.07\ ^{+0.05}_{-0.15}$	AUBERT	09L	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.074 \pm 0.120\ ^{+0.035}_{-0.055}$	AUBERT,B	05G	BABR	Repl. by AUBERT 09L
$-0.19 \pm 0.11 \pm 0.02$	AUBERT	04Z	BABR	Repl. by AUBERT,B 05G

$A_{CP}(B^+ \to f_2(1270)\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$0.41 \pm 0.25\ ^{+0.18}_{-0.15}$	AUBERT	09L	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.004 \pm 0.247\ ^{+0.028}_{-0.032}$	AUBERT,B	05G	BABR	Repl. by AUBERT 09L

$A_{CP}(B^+ \to \rho^0(1450)\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.06 \pm 0.28\ ^{+0.23}_{-0.40}$	AUBERT	09L	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to f_0(1370)\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.72±0.15±0.16	AUBERT	09L	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to \pi^+\pi^-\pi^+$ nonresonant)

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{-0.14\pm0.14^{+0.18}_{-0.08}}$	AUBERT	09L	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to \rho^+\pi^0)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.02±0.11 OUR AVERAGE				
−0.01±0.13±0.02	AUBERT	07X	BABR	$e^+e^- \to \Upsilon(4S)$
$0.06\pm0.17^{+0.04}_{-0.05}$	ZHANG	05A	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.24±0.16±0.06	AUBERT	04Z	BABR	Repl. by AUBERT 07X

$A_{CP}(B^+ \to \rho^+\rho^0)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.05 ±0.05 OUR AVERAGE				
−0.054±0.055±0.010	AUBERT	09G	BABR	$e^+e^- \to \Upsilon(4S)$
0.00 ±0.22 ±0.03	ZHANG	03B	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.12 ±0.13 ±0.10	AUBERT,BE	06G	BABR	Repl. by AUBERT 09G
−0.19 ±0.23 ±0.03	AUBERT	03V	BABR	Repl. by AUBERT,BE 06G

$A_{CP}(B^+ \to \omega\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.04±0.06 OUR AVERAGE				
−0.02±0.08±0.01	AUBERT	07AE	BABR	$e^+e^- \to \Upsilon(4S)$
−0.02±0.09±0.01	JEN	06	BELL	$e^+e^- \to \Upsilon(4S)$
−0.34±0.25	[1] CHEN	00	CLE2	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.01±0.10±0.01	AUBERT,B	06E	BABR	Repl. by AUBERT 07AE
0.03±0.16±0.01	AUBERT	04H	BABR	Repl. by AUBERT,B 06E
$0.50^{+0.23}_{-0.20}\pm0.02$	[2] WANG	04A	BELL	Repl. by JEN 06
$-0.01^{+0.29}_{-0.31}\pm0.03$	[3] AUBERT	02E	BABR	Repl. by AUBERT 04H

[1] Corresponds to 90% confidence range $-0.75 < A_{CP} < 0.07$.
[2] Corresponds to 90% CL interval -0.25< A_{CP} <0.41
[3] Corresponds to 90% confidence range $-0.50 < A_{CP} < 0.46$.

$A_{CP}(B^+ \to \omega\rho^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.20±0.09±0.02	AUBERT	09H	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.04±0.18±0.02	AUBERT,B	06T	BABR	Repl. by AUBERT 09H
0.05±0.26±0.02	AUBERT	05O	BABR	Repl. by AUBERT,B 06T

$A_{CP}(B^+ \to \eta\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.14±0.07 OUR AVERAGE	Error includes scale factor of 1.4.			
−0.19±0.06±0.01	HOI	12	BELL	$e^+e^- \to \Upsilon(4S)$
−0.03±0.09±0.03	AUBERT	09AV	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.08±0.10±0.01	AUBERT	07AE	BABR	Repl. by AUBERT 09AV
−0.23±0.09±0.02	CHANG	07B	BELL	Repl. by HOI 12
−0.13±0.12±0.01	AUBERT,B	05K	BABR	Repl. by AUBERT 07AE
0.07±0.15±0.03	CHANG	05A	BELL	Repl. by CHANG 07B
−0.44±0.18±0.01	AUBERT	04H	BABR	Repl. by AUBERT,B 05K

$A_{CP}(B^+ \to \eta\rho^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.11±0.11 OUR AVERAGE				
0.13±0.11±0.02	AUBERT	08AH	BABR	$e^+e^- \to \Upsilon(4S)$
$-0.04^{+0.34}_{-0.32}\pm0.01$	WANG	07B	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.02±0.18±0.02	AUBERT,B	05K	BABR	Repl. by AUBERT 08AH

$A_{CP}(B^+ \to \eta'\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.06±0.16 OUR AVERAGE				
0.03±0.17±0.02	AUBERT	09AV	BABR	$e^+e^- \to \Upsilon(4S)$
$0.20^{+0.37}_{-0.36}\pm0.04$	SCHUEMANN	06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.21±0.17±0.01	AUBERT	07AE	BABR	Repl. by AUBERT 09AV
0.14±0.16±0.01	AUBERT,B	05K	BABR	Repl. by AUBERT 07AE

$A_{CP}(B^+ \to \eta'\rho^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.26±0.17±0.02	DEL-AMO-SA..	10A	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.04±0.28±0.02	[1] AUBERT	07E	BABR	Repl. by DEL-AMO-SANCHEZ 10A

[1] Reports A_{CP} with the opposite sign convention.

$A_{CP}(B^+ \to b_1^0\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
+0.05±0.16±0.02	AUBERT	07BI	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to p\overline{p}\pi^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.00±0.04 OUR AVERAGE				
−0.02±0.05±0.02	[1] WEI	08	BELL	$e^+e^- \to \Upsilon(4S)$
+0.04±0.07±0.04	AUBERT	07AV	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.16±0.22±0.01	WANG	04	BELL	Repl. by WEI 08

[1] Requires $m_{p\overline{p}} < 2.85$ GeV/c^2.

$A_{CP}(B^+ \to p\overline{p}K^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.00 ±0.04 OUR AVERAGE	Error includes scale factor of 2.2.			
$0.021 \pm 0.020 \pm 0.004$	[1] AAIJ	14AF	LHCB	pp at 7, 8 TeV
$-0.17 \pm 0.10 \pm 0.02$	[1] WEI	08	BELL	$e^+e^- \to \Upsilon(4S)$
$-0.16 {}^{+0.07}_{-0.08} \pm 0.04$	[1] AUBERT,B	05L	BABR	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.047 \pm 0.036 \pm 0.007$	[1] AAIJ	13AU	LHCB	Repl. by AAIJ 14AF
$-0.05 \pm 0.11 \pm 0.01$	WANG	04	BELL	Repl. by WEI 08

[1] Requires $m_{p\overline{p}} < 2.85$ GeV/c^2.

$A_{CP}(B^+ \to p\overline{p}K^*(892)^+)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.21±0.16 OUR AVERAGE	Error includes scale factor of 1.4.			
$-0.01 \pm 0.19 \pm 0.02$	CHEN	08C	BELL	$e^+e^- \to \Upsilon(4S)$
$+0.32 \pm 0.13 \pm 0.05$	AUBERT	07AV	BABR	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to p\overline{\Lambda}\gamma)$

VALUE	DOCUMENT ID		TECN	COMMENT
+0.17±0.16±0.05	WANG	07C	BELL	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to p\overline{\Lambda}\pi^0)$

VALUE	DOCUMENT ID		TECN	COMMENT
+0.01±0.17±0.04	WANG	07C	BELL	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to K^+\ell^+\ell^-)$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.02±0.08 OUR AVERAGE				
$-0.03 \pm 0.14 \pm 0.01$	[1] LEES	12S	BABR	$e^+e^- \to \Upsilon(4S)$
$-0.18 \pm 0.18 \pm 0.01$	AUBERT	09T	BABR	$e^+e^- \to \Upsilon(4S)$
$+0.04 \pm 0.10 \pm 0.02$	WEI	09A	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$-0.07 \pm 0.22 \pm 0.02$	AUBERT,B	06J	BABR	Repl. by AUBERT 09T

[1] Measured in the union of $0.10 < q^2 < 8.12$ GeV^2/c^4 and $q^2 > 10.11$ GeV^2/c^4. LEES 12S reports also individual measurements $A_{CP}(B^+ \to K^+\ell^+\ell^-) = 0.02 \pm 0.18 \pm 0.01$ for $0.10 < q^2 < 8.12$ GeV^2/c^4 and $A_{CP}(B^+ \to K^+\ell^+\ell^-) = -0.06^{+0.22}_{-0.21} \pm 0.01$ for $q^2 > 10.11$ GeV^2/c^4.

$A_{CP}(B^+ \to K^+e^+e^-)$

VALUE	DOCUMENT ID		TECN	COMMENT
+0.14±0.14±0.03	WEI	09A	BELL	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to K^+\mu^+\mu^-)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.011±0.017 OUR AVERAGE				
$0.012 \pm 0.017 \pm 0.001$	AAIJ	14AN	LHCB	pp at 7, 8 TeV
$-0.05 \pm 0.13 \pm 0.03$	WEI	09A	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.000 \pm 0.033 \pm 0.009$	AAIJ	13BN	LHCB	Repl. by AAIJ 14AN

$A_{CP}(B^+ \to \pi^+ \mu^+ \mu^-)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.11 \pm 0.12 \pm 0.01$	AAIJ	15AR	LHCB	pp at 7, 8 TeV

$A_{CP}(B^+ \to K^{*+} \ell^+ \ell^-)$

VALUE	DOCUMENT ID		TECN	COMMENT
-0.09 ± 0.14 OUR AVERAGE				
$0.01^{+0.26}_{-0.24} \pm 0.02$	AUBERT	09T	BABR	$e^+e^- \to \Upsilon(4S)$
$-0.13^{+0.17}_{-0.16} \pm 0.01$	WEI	09A	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.03 \pm 0.23 \pm 0.03$	AUBERT,B	06J	BABR	Repl. by AUBERT 09T

$A_{CP}(B^+ \to K^* e^+ e^-)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.14^{+0.23}_{-0.22} \pm 0.02$	WEI	09A	BELL	$e^+e^- \to \Upsilon(4S)$

$A_{CP}(B^+ \to K^* \mu^+ \mu^-)$

VALUE	DOCUMENT ID		TECN	COMMENT
$-0.12 \pm 0.24 \pm 0.02$	WEI	09A	BELL	$e^+e^- \to \Upsilon(4S)$

$\gamma(B^+ \to D K^+ \pi^- \pi^+,\ D \pi^+ \pi^- \pi^+)$

VALUE (°)	DOCUMENT ID		TECN	COMMENT
74^{+20}_{-19}	AAIJ	15BC	LHCB	pp at 7, 8 TeV

CP VIOLATION PARAMETERS IN $B^+ \to D^{(*)0} K^{(*)+}$ DECAYS

The parameters r_{B^+} and δ_{B^+} are the magnitude ratio and strong phase difference between the amplitudes of A($B^+ \to \overline{D}^{(*)0} K^{(*)+}$) and A($B^- \to D^{(*)0} K^{(*)-}$). The measured observables are defined as $x_\pm = r_{B^+} \cos(\delta_{B^+} \pm \gamma)$ and $y_\pm = r_{B^+} \sin(\delta_{B^+} \pm \gamma)$, and can be used to measure the CKM angle γ.

"OUR EVALUATION" is an average, with correlations taken into accout, obtained by the Heavy Flavor Averaging Group (HFLAV) and described at http://www.slac.stanford.edu/xorg/hflav/. It include the measurements listed below as well as the measurements listed in the "*CP* VIOLATION PARAMETERS IN $B^0 \to D^0 K^{*0}$ DECAYS" section in the B^0 listings.

γ

For angle $\gamma(\phi_3)$ of the CKM unitarity triangle, see the review on "*CP* Violation" in the Reviews section.

VALUE (°)	DOCUMENT ID		TECN	COMMENT
$72.8^{+5.3}_{-6.3}$ OUR EVALUATION				
$72.2^{+6.8}_{-7.3}$	[1] AAIJ	16AQ	LHCB	pp at 7, 8 TeV

[1] A combination of measurements from analyses of time-integrated $B^+ \to D K^+$, $B^0 \to D K^{(*)0}$, $B^0 \to D K^+ \pi^-$, and $B^+ \to D K^+ \pi^+ \pi^-$ tree-level decays. In addition, results from a time-dependent analysis of $B^0_s \to D_s K$ decays are included.

$\gamma(B^+ \to D^{(*)0} K^{(*)+})$

For angle $\gamma(\phi_3)$ of the CKM unitarity triangle, see the review on "*CP* Violation" in the Reviews section.

VALUE (°)	CL%	DOCUMENT ID		TECN	COMMENT
70 ± 9 OUR AVERAGE					
$62\ ^{+15}_{-14}$		[1] AAIJ	14BA	LHCB	pp at 7, 8 TeV
$69\ ^{+17}_{-16}$		[2] LEES	13B	BABR	$e^+e^- \to \Upsilon(4S)$
$78.4^{+10.8}_{-11.6} \pm 9.6$		[3] POLUEKTOV	10	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$84\ ^{+49}_{-42}$		[4] AAIJ	14BE	LHCB	Repl. by AAIJ 14BA
$72.6^{+\ 9.7}_{-17.2}$		[5] AAIJ	13AK	LHCB	pp at 7 TeV
$44\ ^{+43}_{-38}$		[6,7] AAIJ	12AQ	LHCB	Repl. by AAIJ 13AK
$77.3^{+15.1}_{-14.9} \pm 5.9$		[7,8] AIHARA	12	BELL	$e^+e^- \to \Upsilon(4S)$
$68 \pm 14 \pm 5$		[9] DEL-AMO-SA...	10F	BABR	Repl. by LEES 13B
7 to 173	95	[10] DEL-AMO-SA...	10G	BABR	$e^+e^- \to \Upsilon(4S)$
$76\ ^{+22}_{-23} \pm 7.1$		[11] AUBERT	08AL	BABR	Repl. by DEL-AMO-SANCHEZ 10F
$53\ ^{+15}_{-18} \pm 10$		[12] POLUEKTOV	06	BELL	Repl. by POLUEKTOV 10
$70 \pm 31\ ^{+18}_{-15}$		[13] AUBERT,B	05Y	BABR	Repl. by AUBERT 08AL
$77\ ^{+17}_{-19} \pm 17$		[14] POLUEKTOV	04	BELL	Repl. by POLUEKTOV 06

[1] Uses binned Dalitz plot analysis of $B^+ \to DK^+$ decays, with $D \to K^0_S \pi^+\pi^-$ and $D \to K^0_S K^+K^-$. Strong phase measurements from CLEO-c (LIBBY 10) of the D decay over the Dalitz plot are used as input. Solution that satisfies $0 < \gamma < 180$ is chosen.

[2] Reports combination of published measurements using GGSZ, GLW, and ADS methods. Reports also 2σ range of 41–102° and a 5.9σ significance for $\gamma(B^+ \to D^{(*)0} K^{(*)+}) \neq 0$ hypothesis.

[3] Uses Dalitz plot analysis of $\overline{D}^0 \to K^0_S \pi^+\pi^-$ decays from $B^+ \to D^{(*)} K^+$ modes. The corresponding two standard deviation interval for γ is $54.2° < \gamma < 100.5°$. CP conservation in the combined result is ruled out with a significance of 3.5 standard deviations.

[4] AAIJ 14BE uses model-dependent analysis of $D \to K^0_S \pi^+\pi^-$ amplitudes. The model is the same as in DEL-AMO-SANCHEZ 10F.

[5] Presents a confidence region $55.4° < \gamma < 82.3°$ at 68% CL with best fit value 72.6° and includes both statistical and systematic uncertainties. The corresponding 95% CL is $40.2\ ° < \gamma < 92.7°$. The value is determined from combination of measuremets using D meson decaying to K^+K^-, $\pi^+\pi^-$, $K^\pm\pi^\mp$, $K^0_S\pi^+\pi^-$, $K^0_S K^+K^-$, and $K^\pm\pi^\mp\pi^\pm\pi^\mp$. Combines $B^\pm \to DK^\pm$ and $B^\pm \to D\pi^\pm$.

[6] Reports combined statistical and systematic uncertainties.

[7] Uses binned Dalitz plot of $\overline{D}^0 \to K^0_S \pi^+\pi^-$ decays from $B^+ \to \overline{D}^0 K^+$. Measurement of strong phases in $\overline{D}^0 \to K^0_S \pi^+\pi^-$ Dalitz plot from LIBBY 10 is used as input.

[8] We combined the systematics in quadrature. The authors report separately the contribution to the systematic uncertainty due to the uncertainty on the bin-averaged strong phase difference between D^0 and $\overline{D}^0$ amplitudes.

[9] Uses Dalitz plot analysis of $\overline{D}^0 \rightarrow K^0_S \pi^+ \pi^-$, $K^0_S K^+ K^-$ decays from $B^+ \rightarrow D^{(*)} K^+$, $D K^{*+}$ modes. The corresponding two standard deviation interval for γ is $39^\circ < \gamma < 98^\circ$. CP conservation in the combined result is ruled out with a significance of 3.5 standard deviations.

[10] Reports confidence intervals for the CKM angle γ from the measured values of the GLW parameters using $B^\pm \rightarrow D K^\pm$ decays with D mesons decaying to non-CP($K\pi$), CP-even ($K^+ K^-$, $\pi^+ \pi^-$), and CP-odd ($K^0_S \pi^0$, $K^0_S \omega$) states.

[11] Uses Dalitz plot analysis of $\overline{D}^0 \rightarrow K^0_S \pi^+ \pi^-$ and $\overline{D}^0 \rightarrow K^0_S K^+ K^-$ decays coming from $B^\pm \rightarrow D^{(*)} K^{(*)\pm}$ modes. The corresponding two standard deviation interval is $29^\circ < \gamma < 122^\circ$.

[12] Uses a Dalitz plot analysis of the $\overline{D}^0 \rightarrow K^0_S \pi^+ \pi^-$ decays; Combines the $D K^+$, $D^* K^+$ and $D K^{*+}$ modes. The corresponding two standard deviations interval for gamma is $8^\circ < \gamma < 111^\circ$.

[13] Uses a Dalitz plot analysis of neutral $D \rightarrow K^0_S \pi^+ \pi^-$ decays coming from $B^\pm \rightarrow D K^\pm$ and $B^\pm \rightarrow D^{*0} K^\pm$ followed by $D^{*0} \rightarrow D \pi^0$, $D\gamma$. The corresponding two standard deviations interval for gamma is $12^\circ < \gamma < 137^\circ$. AUBERT,B 05Y also reports the amplitude ratios and the strong phases.

[14] Uses a Dalitz plot analysis of the 3-body $D \rightarrow K^0_S \pi^+ \pi^-$ decays coming from $B^\pm \rightarrow D K^\pm$ and $B^\pm \rightarrow D^* K^\pm$ followed by $D^* \rightarrow D \pi^0$; here we use D to denote that the neutral D meson produced in the decay is an admixture of D^0 and $\overline{D}^0$. The corresponding two standard deviations interval for γ is $26^\circ < \gamma < 126^\circ$. POLUEKTOV 04 also reports the amplitude ratios and the strong phases.

$r_B(B^+ \rightarrow D^0 K^+)$

r_B and δ_B are the amplitude ratio and relative strong phase between the amplitudes of $A(B^+ \rightarrow D^0 K^+)$ and $A(B^+ \rightarrow \overline{D}^0 K^+)$,

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
0.1033±0.0049 OUR EVALUATION					
0.095 ±0.008 OUR AVERAGE					
$0.080^{+0.019}_{-0.021}$		[1] AAIJ	14BA	LHCB	pp at 7, 8 TeV
0.097 ±0.011		[2] AAIJ	13AE	LHCB	pp at 7 TeV
$0.092^{+0.013}_{-0.012}$		[3] LEES	13B	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
$0.160^{+0.040}_{-0.038}{}^{+0.051}_{-0.015}$		[4] POLUEKTOV	10	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.06 ±0.04		[5] AAIJ	14BE	LHCB	Repl. by AAIJ 14BA
0.07 ±0.04		[6,7] AAIJ	12AQ	LHCB	pp at 7 TeV
0.145 ±0.030 ±0.015		[7,8] AIHARA	12	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
<0.13	90	[9] LEES	11D	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
0.096 ±0.029 ±0.006		[10] DEL-AMO-SA...	10F	BABR	Repl. by LEES 13B
$0.095^{+0.051}_{-0.041}$		[11] DEL-AMO-SA...	10H	BABR	Repl. by LEES 13B
0.086 ±0.032 ±0.015		[12] AUBERT	08AL	BABR	Repl. by DEL-AMO-SANCHEZ 10F
<0.19	90	HORII	08	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
$0.159^{+0.054}_{-0.050}$ ±0.050		[13] POLUEKTOV	06	BELL	Repl. by POLUEKTOV 10
0.12 ±0.08 ±0.05		[14] AUBERT,B	05Y	BABR	Repl. by AUBERT 08AL

[1] Uses binned Dalitz plot analysis of $B^+ \to D K^+$ decays, with $D \to K^0_S \pi^+\pi^-$ and $D \to K^0_S K^+ K^-$. Strong phase measurements from CLEO-c (LIBBY 10) of the D decay over the Dalitz plot are used as input.
[2] Uses $B^\pm \to [K^\pm \pi^\mp \pi^+ \pi^-]_D h^\pm$ mode.
[3] Reports combination of published measurements using GGSZ, GLW, and ADS methods.
[4] Uses Dalitz plot analysis of $\overline{D}^0 \to K^0_S \pi^+\pi^-$ decays from $B^+ \to D^0 K^+$ modes. The corresponding two standard deviation interval is $0.084 < r_B < 0.239$.
[5] AAIJ 14BE uses model-dependent analysis of $D \to K^0_S \pi^+\pi^-$ amplitudes. The model is the same as in DEL-AMO-SANCHEZ 10F.
[6] Reports combined statistical and systematic uncertainties.
[7] Uses binned Dalitz plot of $\overline{D}^0 \to K^0_S \pi^+\pi^-$ decays from $B^+ \to \overline{D}^0 K^+$. Measurement of strong phases in $\overline{D}^0 \to K^0_S \pi^+\pi^-$ Dalitz plot from LIBBY 10 is used as input.
[8] We combined the systematics in quadrature. The authors report separately the contribution to the systematic uncertainty due to the uncertainty on the bin-averaged strong phase difference between D^0 and $\overline{D}^0$ amplitudes.
[9] Uses decays of neutral D to $K^-\pi^+\pi^0$.
[10] Uses Dalitz plot analysis of $\overline{D}^0 \to K^0_S \pi^+\pi^-$, $K^0_S K^+ K^-$ decays from $B^+ \to D^{(*)} K^{(*)+}$ modes. The corresponding two standard deviation interval is $0.037 < r_B < 0.155$.
[11] Uses the Cabibbo suppressed decay of $B^+ \to \overline{D} K^+$ followed by $\overline{D} \to K^-\pi^+$.
[12] Uses Dalitz plot analysis of $\overline{D}^0 \to K^0_S \pi^+\pi^-$ and $\overline{D}^0 \to K^0_S K^+ K^-$ decays coming from $B^\pm \to D^{(*)} K^{(*)\pm}$ modes.
[13] Uses a Dalitz plot analysis of the $\overline{D}^0 \to K^0_S \pi^+\pi^-$ decays; Combines the $D K^+$, $D^* K^+$ and $D K^{*+}$ modes.
[14] Uses a Dalitz analysis of neutral D decays to $K^0_S \pi^+\pi^-$ in the processes $B^\pm \to D^{(*)} K^\pm$, $D^* \to D\pi^0$, $D\gamma$.

$\delta_B(B^+ \to D^0 K^+)$

VALUE (°)	DOCUMENT ID	TECN	COMMENT
$137.4^{+5.3}_{-5.9}$ OUR EVALUATION			
123 ±10 OUR AVERAGE			
134^{+14}_{-15}	[1] AAIJ 14BA	LHCB	pp at 7, 8 TeV
105^{+16}_{-17}	[2] LEES 13B	BABR	$e^+e^- \to \Upsilon(4S)$
$136.7^{+13.0}_{-15.8} \pm 23.2$	[3] POLUEKTOV 10	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
115^{+41}_{-51}	[4] AAIJ 14BE	LHCB	Repl. by AAIJ 14BA
137^{+35}_{-46}	[5,6] AAIJ 12AQ	LHCB	pp at 7 TeV
$129.9 \pm 15.0 \pm 6.0$	[6,7] AIHARA 12	BELL	$e^+e^- \to \Upsilon(4S)$
$119^{+19}_{-20} \pm 4$	[8] DEL-AMO-SA... 10F	BABR	Repl. by LEES 13B
$109^{+27}_{-30} \pm 8$	[9] AUBERT 08AL	BABR	Repl. by DEL-AMO-SANCHEZ 10F
$145.7^{+19.0}_{-19.7} \pm 23.1$	[10] POLUEKTOV 06	BELL	Repl. by POLUEKTOV 10
$104 \pm 45 ^{+23}_{-32}$	[11] AUBERT,B 05Y	BABR	Repl. by AUBERT 08AL

[1] Uses binned Dalitz plot analysis of $B^+ \to D K^+$ decays, with $D \to K^0_S \pi^+ \pi^-$ and $D \to K^0_S K^+ K^-$. Strong phase measurements from CLEO-c (LIBBY 10) of the D decay over the Dalitz plot are used as input.
[2] Reports combination of published measurements using GGSZ, GLW, and ADS methods.
[3] Uses Dalitz plot analysis of $\overline{D}^0 \to K^0_S \pi^+ \pi^-$ decays from $B^+ \to \overline{D}^0 K^+$ modes. The corresponding two standard deviation interval is $102.2^\circ < \delta_B < 162.3^\circ$.
[4] AAIJ 14BE uses model-dependent analysis of $D \to K^0_S \pi^+ \pi^-$ amplitudes. The model is the same as in DEL-AMO-SANCHEZ 10F.
[5] Reports combined statistical and systematic uncertainties.
[6] Uses binned Dalitz plot of $\overline{D}^0 \to K^0_S \pi^+ \pi^-$ decays from $B^+ \to \overline{D}^0 K^+$. Measurement of strong phases in $\overline{D}^0 \to K^0_S \pi^+ \pi^-$ Dalitz plot from LIBBY 10 is used as input.
[7] We combined the systematics in quadrature. The authors report separately the contribution to the systematic uncertainty due to the uncertainty on the bin-averaged strong phase difference between D^0 and $\overline{D}^0$ amplitudes.
[8] Uses Dalitz plot analysis of $\overline{D}^0 \to K^0_S \pi^+ \pi^-$, $K^0_S K^+ K^-$ decays from $B^+ \to D^{(*)} K^{(*)+}$ modes. The corresponding two standard deviation interval is $75^\circ < \delta_B < 157^\circ$.
[9] Uses Dalitz plot analysis of $\overline{D}^0 \to K^0_S \pi^+ \pi^-$ and $\overline{D}^0 \to K^0_S K^+ K^-$ decays coming from $B^\pm \to D^{(*)} K^{(*)\pm}$ modes.
[10] Uses a Dalitz plot analysis of the $\overline{D}^0 \to K^0_S \pi^+ \pi^-$ decays; Combines the $D K^+$, $D^* K^+$ and $D K^{*+}$ modes.
[11] Uses a Dalitz analysis of neutral D decays to $K^0_S \pi^+ \pi^-$ in the processes $B^\pm \to D^{(*)} K^\pm$, $D^* \to D \pi^0$, $D \gamma$.

$r_B(B^+ \to \overline{D}^0 K^{*+})$

r_B and δ_B are the amplitude ratio and relative strong phase between the amplitudes of $A_{CP}(B^+ \to D^0 K^{*+})$ and $A_{CP}(B^+ \to \overline{D}^0 K^{*+})$,

VALUE	DOCUMENT ID	TECN	COMMENT
$0.125^{+0.050}_{-0.049}$ OUR EVALUATION			
0.17 ±0.11 OUR AVERAGE Error includes scale factor of 2.3.			
$0.143^{+0.048}_{-0.049}$	[1] LEES 13B	BABR	$e^+ e^- \to \Upsilon(4S)$
$0.564^{+0.216}_{-0.155} \pm 0.093$	[2] POLUEKTOV 06	BELL	$e^+ e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.166^{+0.073}_{-0.069}$	[3] DEL-AMO-SA..10F	BABR	Repl. by LEES 13B
0.31 ± 0.07	[4] AUBERT 09AJ	BABR	Repl. by LEES 13B
$0.181^{+0.088}_{-0.108} \pm 0.042$	[5] AUBERT 08AL	BABR	Repl. by AUBERT 09AJ

[1] Reports combination of published measurements using GGSZ, GLW, and ADS methods.
[2] Uses a Dalitz plot analysis of the $\overline{D}^0 \to K^0_S \pi^+ \pi^-$ decays; Combines the $D K^+$, $D^* K^+$ and $D K^{*+}$ modes.
[3] DEL-AMO-SANCHEZ 10F reports $r_B \cdot k = 0.149^{+0.066}_{-0.062}$ for k = 0.9.
[4] Obtained by combining the GLW and ADS methods. The 2-sigma range corresponds to [0.17, 0.43].
[5] Uses Dalitz plot analysis of $\overline{D}^0 \to K^0_S \pi^+ \pi^-$ and $\overline{D}^0 \to K^0_S K^+ K^-$ decays coming from $B^\pm \to D^{(*)} K^{(*)\pm}$ modes.

$\delta_B(B^+ \to D^0 K^{*+})$

VALUE (°)	DOCUMENT ID	TECN	COMMENT
129 $^{+25}_{-33}$ OUR EVALUATION			
155 ±70 OUR AVERAGE Error includes scale factor of 2.0.			
101 ±43	[1] LEES 13B	BABR	$e^+e^- \to \Upsilon(4S)$
242.6 $^{+20.2}_{-23.2}$ ±49.4	[2] POLUEKTOV 06	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
111 ±32	DEL-AMO-SA..10F	BABR	Repl. by LEES 13B
104 $^{+39}_{-37}$ ±18	[3] AUBERT 08AL	BABR	Repl. by LEES 13B

[1] Reports combination of published measurements using GGSZ, GLW, and ADS methods.
[2] Uses a Dalitz plot analysis of the $\overline{D}^0 \to K^0_S \pi^+\pi^-$ decays; Combines the $D K^+$, $D^* K^+$ and $D K^{*+}$ modes.
[3] Uses Dalitz plot analysis of $\overline{D}^0 \to K^0_S \pi^+\pi^-$ and $\overline{D}^0 \to K^0_S K^+ K^-$ decays coming from $B^\pm \to D^{(*)} K^{(*)\pm}$ modes.

$r^*_B(B^+ \to D^{*0} K^+)$

r^*_B and δ^*_B are the amplitude ratio and relative strong phase between the amplitudes of $A(B^+ \to D^{*0} K^+)$ and $A(B^+ \to \overline{D}^{*0} K^+)$,

VALUE	DOCUMENT ID	TECN	COMMENT
0.117±0.024 OUR EVALUATION			
0.114 $^{+0.023}_{-0.040}$ OUR AVERAGE Error includes scale factor of 1.2.			
0.106 $^{+0.019}_{-0.036}$	[1] LEES 13B	BABR	$e^+e^- \to \Upsilon(4S)$
0.196 $^{+0.072}_{-0.069}$ $^{+0.064}_{-0.017}$	[2] POLUEKTOV 10	BELL	$e^+e^- \to \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.133 $^{+0.042}_{-0.039}$ ±0.013	[3] DEL-AMO-SA..10F	BABR	Repl. by LEES 13B
0.096 $^{+0.035}_{-0.051}$	[4] DEL-AMO-SA..10H	BABR	Repl. by LEES 13B
0.135±0.050±0.012	[5] AUBERT 08AL	BABR	Repl. by DEL-AMO-SANCHEZ 10F
0.175 $^{+0.108}_{-0.099}$ ±0.050	[6] POLUEKTOV 06	BELL	Repl. by POLUEKTOV 10
0.17 ±0.10 ±0.04	[7] AUBERT,B 05Y	BABR	Repl. by AUBERT 08AL

[1] Reports combination of published measurements using GGSZ, GLW, and ADS methods.
[2] Uses Dalitz plot analysis of $\overline{D}^0 \to K^0_S \pi^+\pi^-$ decays from $B^+ \to D^{*0} K^+$ modes. The corresponding two standard deviation interval is $0.061 < r^*_B < 0.271$.
[3] Uses Dalitz plot analysis of $\overline{D}^0 \to K^0_S \pi^+\pi^-$, $K^0_S K^+ K^-$ decays from $B^+ \to D^{(*)} K^{(*)+}$ modes. The corresponding two standard deviation interval is $0.049 < r^*_B < 0.215$.
[4] Uses the Cabibbo suppressed decay of $B^+ \to \overline{D}^* K^+$ followed by $\overline{D}^* \to \overline{D}\pi^0$ or $\overline{D}\gamma$, and $\overline{D} \to K^-\pi^+$.
[5] Uses Dalitz plot analysis of $\overline{D}^0 \to K^0_S \pi^+\pi^-$ and $\overline{D}^0 \to K^0_S K^+ K^-$ decays coming from $B^\pm \to D^{(*)} K^{(*)\pm}$ modes.

[6] Uses a Dalitz plot analysis of the $\overline{D}^0 \rightarrow K^0_S \pi^+ \pi^-$ decays; Combines the $D K^+$, $D^* K^+$ and $D K^{*+}$ modes.

[7] Uses a Dalitz analysis of neutral D decays to $K^0_S \pi^+ \pi^-$ in the processes $B^\pm \rightarrow D^{(*)} K^\pm$, $D^* \rightarrow D \pi^0$, $D\gamma$.

$\delta^*_B(B^+ \rightarrow D^{*0} K^+)$

VALUE (°)	DOCUMENT ID		TECN	COMMENT
311 $^{+13}_{-17}$ OUR EVALUATION				
310 $^{+22}_{-28}$ OUR AVERAGE Error includes scale factor of 1.3.				
294 $^{+21}_{-31}$	[1] LEES	13B	BABR	$e^+ e^- \rightarrow \Upsilon(4S)$
341.9$^{+18.0}_{-19.6}$±23.1	[2] POLUEKTOV	10	BELL	$e^+ e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
278 ±21 ± 6	[3] DEL-AMO-SA...	10F	BABR	Repl. by LEES 13B
297 $^{+27}_{-29}$ ± 6.4	[4] AUBERT	08AL	BABR	Repl. by DEL-AMO-SANCHEZ 10F
302.0$^{+33.8}_{-35.1}$±23.7	[5] POLUEKTOV	06	BELL	Repl. by POLUEKTOV 10
296 ±41 $^{+20}_{-19}$	[6] AUBERT,B	05Y	BABR	Repl. by AUBERT 08AL

[1] Reports combination of published measurements using GGSZ, GLW, and ADS methods. We added 360° to the value of $(-66^{+21}_{-31})°$ quoted by LEES 13B.

[2] Uses Dalitz plot analysis of $\overline{D}^0 \rightarrow K^0_S \pi^+ \pi^-$ decays from $B^+ \rightarrow D^* K^+$ modes. The corresponding two standard deviation interval is $296.5° < \delta^*_B < 382.7°$.

[3] Uses Dalitz plot analysis of $\overline{D}^0 \rightarrow K^0_S \pi^+ \pi^-$, $K^0_S K^+ K^-$ decays from $B^+ \rightarrow D^{(*)} K^{(*)+}$ modes. The corresponding two standard deviation interval is $236° < \delta^*_B < 322°$.

[4] Uses Dalitz plot analysis of $\overline{D}^0 \rightarrow K^0_S \pi^+ \pi^-$ and $\overline{D}^0 \rightarrow K^0_S K^+ K^-$ decays coming from $B^\pm \rightarrow D^{(*)} K^{(*)\pm}$ modes.

[5] Uses a Dalitz plot analysis of the $\overline{D}^0 \rightarrow K^0_S \pi^+ \pi^-$ decays; Combines the $D K^+$, $D^* K^+$ and $D K^{*+}$ modes.

[6] Uses a Dalitz analysis of neutral D decays to $K^0_S \pi^+ \pi^-$ in the processes $B^\pm \rightarrow D^{(*)} K^\pm$, $D^* \rightarrow D \pi^0$, $D\gamma$.

PARTIAL BRANCHING FRACTIONS

$B(B^+ \rightarrow K^{*+} \ell^+ \ell^-)$ ($q^2 < 2.0$ GeV$^2/c^4$)

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
1.4 ±0.5 OUR AVERAGE				
1.37$^{+0.60}_{-0.58}$	AAIJ	12AH	LHCB	pp at 7 TeV
1.30±0.98±0.14	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

$B(B^+ \to K^{*+} \ell^+ \ell^-)$ $(2.0 < q^2 < 4.3$ GeV^2/c$^4)$

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
1.1 ±0.5 OUR AVERAGE				
$1.24^{+0.60}_{-0.55}$	AAIJ	12AH	LHCB	pp at 7 TeV
$0.71 \pm 1.00 \pm 0.15$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

$B(B^+ \to K^{*+} \ell^+ \ell^-)$ $(4.3 < q^2 < 8.68$ GeV^2/c$^4)$

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$2.4^{+0.8}_{-0.7}$ OUR AVERAGE				
$2.50^{+0.88}_{-0.74}$	AAIJ	12AH	LHCB	pp at 7 TeV
$1.71 \pm 1.58 \pm 0.49$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

$B(B^+ \to K^{*+} \ell^+ \ell^-)$ $(10.09 < q^2 < 12.86$ GeV^2/c$^4)$

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
2.1 ±0.6 OUR AVERAGE				
$2.13^{+0.72}_{-0.66}$	AAIJ	12AH	LHCB	pp at 7 TeV
$1.97 \pm 0.99 \pm 0.22$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

$B(B^+ \to K^{*+} \ell^+ \ell^-)$ $(14.18 < q^2 < 16.0$ GeV^2/c$^4)$

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$0.86^{+0.40}_{-0.32}$ OUR AVERAGE				
$1.00^{+0.47}_{-0.38}$	AAIJ	12AH	LHCB	pp at 7 TeV
$0.52 \pm 0.61 \pm 0.09$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

$B(B^+ \to K^{*+} \ell^+ \ell^-)$ $(15.0 < q^2 < 19.0$ GeV^2/c$^4)$

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$1.58^{+0.32}_{-0.29} \pm 0.11$	[1] AAIJ	14M	LHCB	pp at 7, 8 TeV

[1] Uses $B(B^+ \to J/\psi(1S) K^*(892)^+) = (1.431 \pm 0.027 \pm 0.090) \times 10^{-3}$ for normalization and $\mu^+ \mu^-$ as a lepton pair.

$B(B^+ \to K^{*+} \ell^+ \ell^-)$ $(q^2 > 16.0$ GeV^2/c$^4)$

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
1.3 ±0.4 OUR AVERAGE				
1.25 ± 0.46	AAIJ	12AH	LHCB	pp at 7 TeV
$1.57 \pm 0.96 \pm 0.17$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

$B(B^+ \to K^{*+} \ell^+ \ell^-)$ $(1.0 < q^2 < 6.0$ GeV^2/c$^4)$

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
1.8 ±0.4 OUR AVERAGE				
$1.79^{+0.41}_{-0.37} \pm 0.13$	[1] AAIJ	14M	LHCB	pp at 7, 8 TeV
$2.57 \pm 1.61 \pm 0.40$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$2.90^{+0.90}_{-0.85}$	AAIJ	12AH	LHCB	Repl. by AAIJ 14M

[1] Uses B($B^+ \rightarrow J/\psi(1S) K^*(892)^+$) = $(1.431 \pm 0.027 \pm 0.090) \times 10^{-3}$ for normalization and $\mu^+ \mu^-$ as a lepton pair. Measured in $1.1 < q^2 < 6.0$ GeV^2/c^4.

B($B^+ \rightarrow K^{*+} \ell^+ \ell^-$) ($0.0 < q^2 < 4.3$ GeV^2/c^4)

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
2.01±1.39±0.27	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

B($B^+ \rightarrow K^+ \ell^+ \ell^-$) ($q^2 < 2.0$ GeV^2/c^4)

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
0.51 ±0.08 OUR AVERAGE	Error includes scale factor of 1.5.			
0.556±0.053±0.027	[1] AAIJ	13H	LHCB	pp at 7 TeV
0.36 ±0.11 ±0.03	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

[1] Measured in $0.05 < q^2 < 2.0$ GeV^2/c^4 range.

B($B^+ \rightarrow K^+ \ell^+ \ell^-$) ($2.0 < q^2 < 4.3$ GeV^2/c^4)

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
0.60 ±0.07 OUR AVERAGE	Error includes scale factor of 1.3.			
0.573±0.053±0.023	AAIJ	13H	LHCB	pp at 7 TeV
0.80 ±0.15 ±0.05	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

B($B^+ \rightarrow K^+ \ell^+ \ell^-$) ($4.3 < q^2 < 8.68$ GeV^2/c^4)

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
1.03 ±0.07 OUR AVERAGE				
1.003±0.070±0.039	AAIJ	13H	LHCB	pp at 7 TeV
1.18 ±0.19 ±0.09	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

B($B^+ \rightarrow K^+ \ell^+ \ell^-$) ($10.09 < q^2 < 12.86$ GeV^2/c^4)

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
0.58 ±0.05 OUR AVERAGE				
0.565±0.050±0.022	AAIJ	13H	LHCB	pp at 7 TeV
0.68 ±0.12 ±0.05	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

B($B^+ \rightarrow K^+ \ell^+ \ell^-$) ($14.18 < q^2 < 16.0$ GeV^2/c^4)

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
0.40 ±0.05 OUR AVERAGE	Error includes scale factor of 1.4.			
0.377±0.036±0.015	AAIJ	13H	LHCB	pp at 7 TeV
0.53 ±0.10 ±0.03	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

B($B^+ \rightarrow K^+ \ell^+ \ell^-$) ($16.0 < q^2 < 18.0$ GeV^2/c^4)

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
0.354±0.036±0.018	AAIJ	13H	LHCB	pp at 7 TeV

B($B^+ \rightarrow K^+ \ell^+ \ell^-$) ($18.0 < q^2 < 22.0$ GeV^2/c^4)

F_H is a fractional contribution of (pseudo) scalar and tensor amplitudes to the decay width in the massless muon approximation.

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
0.312±0.040±0.016	AAIJ	13H	LHCB	pp at 7 TeV

B($B^+ \to K^+ \ell^+ \ell^-$) (15.0 < q^2 < 22.0 GeV^2/c^4)

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
0.85±0.03±0.04	[1] AAIJ	14M	LHCB	pp at 7, 8 TeV

[1] Uses B($B^+ \to J/\psi(1S) K^+$) = $(0.998 \pm 0.014 \pm 0.040) \times 10^{-3}$ for normalization and $\mu^+ \mu^-$ as a lepton pair.

B($B^+ \to K^+ \ell^+ \ell^-$) (16.0 < q^2 GeV^2/c^4)

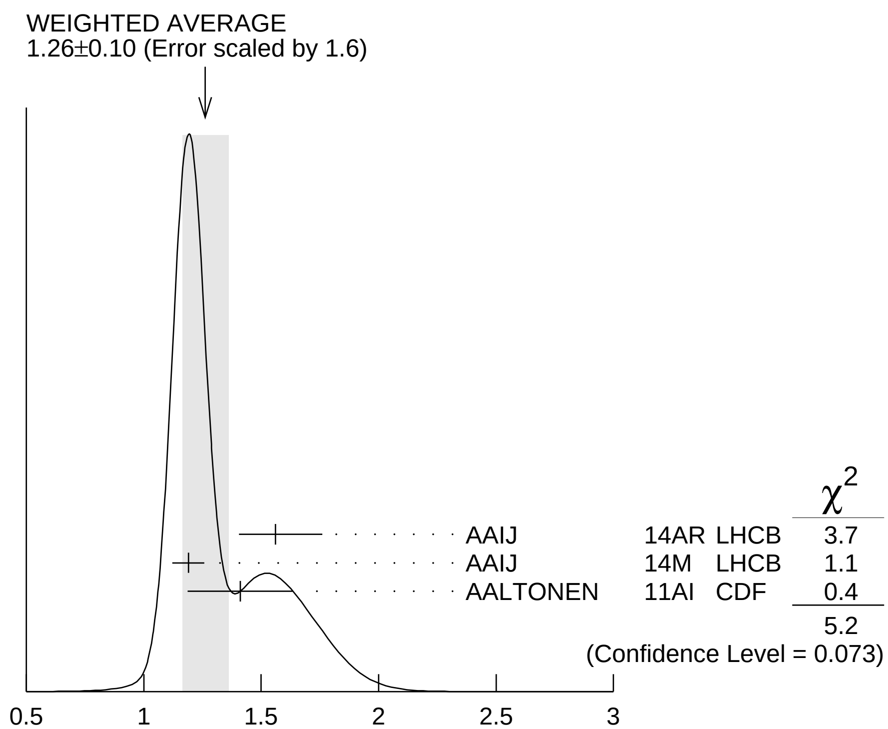
VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
0.48±0.11±0.03	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

B($B^+ \to K^+ \ell^+ \ell^-$) (1.0 < q^2 < 6.0 GeV^2/c^4)

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
1.26 ±0.10 OUR AVERAGE	Error includes scale factor of 1.6. See the ideogram below.			
1.56 $^{+0.19}_{-0.15}$ $^{+0.06}_{-0.04}$	[1] AAIJ	14AR	LHCB	pp at 7, 8 TeV
1.19 ±0.034±0.059	[2] AAIJ	14M	LHCB	pp at 7, 8 TeV
1.41 ±0.20 ±0.10	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.205±0.085±0.070	AAIJ	13H	LHCB	Repl. by AAIJ 14M

[1] Measured by taking the ratio of the branching fraction from $B^+ \to K^+ e^+ e^-$ and $B^+ \to J/\psi(e^+ e^-) K^+$ decays and multiplying it by the measured value of $B^+ \to J/\psi K^+$ and $J/\psi \to e^+ e^-$ as in PDG 12 update. The branching fraction of $B^+ \to K^+ e^+ e^-$ is determined in the region 1< q^2 < 6 GeV^2/c^4.

[2] Uses B($B^+ \to J/\psi(1S) K^+$) = $(0.998 \pm 0.014 \pm 0.040) \times 10^{-3}$ for normalization and $\mu^+ \mu^-$ for leptons. Measured for 1.1 < q^2 < 6.0 GeV^2/c^4.



B($B^+ \to K^+ \ell^+ \ell^-$) (1.0 < q^2 < 6.0 GeV^2/c^4) (units 10^{-7})

B($B^+ \to K^+ \mu^+ \mu^-$) / B($B^+ \to K^+ e^+ e^-$) ($1.0 < q^2 < 6.0$ GeV^2/c^4)

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.745^{+0.090}_{-0.074} \pm 0.036}$	[1] AAIJ	14AR	LHCB	pp at 7, 8 TeV

[1] The ratio is determined using the ratio of the relative branching fractions of the decays $B^+ \to K^+ \ell^+ \ell^-$ and $B^+ \to J/\psi(\to \ell^+ \ell^-) K^+$, with $\ell = e, \mu$.

B($B^+ \to K^+ \ell^+ \ell^-$) ($0.0 < q^2 < 4.3$ GeV^2/c^4)

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$\mathbf{1.13 \pm 0.19 \pm 0.08}$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

B($B^+ \to K^+ \pi^+ \pi^- \mu^+ \mu^-$) ($1.00 < q^2 < 6.00$ GeV^2/c^4)

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$\mathbf{1.38^{+0.15}_{-0.14} \pm 0.08}$	AAIJ	14AZ	LHCB	pp at 7, 8 TeV

B($B^+ \to K^+ \pi^+ \pi^- \mu^+ \mu^-$) ($0.10 < q^2 < 2.00$ GeV^2/c^4)

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$\mathbf{1.33^{+0.13}_{-0.12} \pm 0.09}$	AAIJ	14AZ	LHCB	pp at 7, 8 TeV

B($B^+ \to K^+ \pi^+ \pi^- \mu^+ \mu^-$) ($2.00 < q^2 < 4.30$ GeV^2/c^4)

VALUE (units 10^{-8})	DOCUMENT ID		TECN	COMMENT
$\mathbf{5.38^{+0.94}_{-0.87} \pm 0.35}$	AAIJ	14AZ	LHCB	pp at 7, 8 TeV

B($B^+ \to K^+ \pi^+ \pi^- \mu^+ \mu^-$) ($4.30 < q^2 < 8.68$ GeV^2/c^4)

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$\mathbf{1.01^{+0.12}_{-0.13} \pm 0.09}$	AAIJ	14AZ	LHCB	pp at 7, 8 TeV

B($B^+ \to K^+ \pi^+ \pi^- \mu^+ \mu^-$) ($10.09 < q^2 < 12.86$ GeV^2/c^4)

VALUE (units 10^{-8})	DOCUMENT ID		TECN	COMMENT
$\mathbf{5.07^{+0.94}_{-0.89} \pm 0.47}$	AAIJ	14AZ	LHCB	pp at 7, 8 TeV

B($B^+ \to K^+ \pi^+ \pi^- \mu^+ \mu^-$) ($14.18 < q^2 < 19.00$ GeV^2/c^4)

VALUE (units 10^{-8})	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.48^{+0.39}_{-0.29} \pm 0.05}$	AAIJ	14AZ	LHCB	pp at 7, 8 TeV

B($B^+ \to \pi^+ \mu^+ \mu^-$)/B($B^+ \to K^+ \mu^+ \mu^-$) ($1.00 < q^2 < 6.00$ GeV^2/c^4)

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
$\mathbf{3.8 \pm 0.9 \pm 0.1}$	AAIJ	15AR	LHCB	pp at 7, 8 TeV

B($B^+ \to \pi^+ \mu^+ \mu^-$) ($1.00 < q^2 < 6.00$ GeV^2/c^4)

VALUE (units 10^{-9})	DOCUMENT ID		TECN	COMMENT
$\mathbf{4.55^{+1.05}_{-1.00} \pm 0.15}$	AAIJ	15AR	LHCB	pp at 7, 8 TeV

B($B^+ \to \pi^+ \mu^+ \mu^-$) (15.00 < q^2 < 22.00 GeV^2/c^4)

VALUE (units 10^{-9})	DOCUMENT ID		TECN	COMMENT
$3.29^{+0.84}_{-0.70}\pm0.07$	AAIJ	15AR	LHCB	pp at 7, 8 TeV

B($B^+ \to \pi^+ \mu^+ \mu^-$)/B($B^+ \to K^+ \mu^+ \mu^-$) (15.0 < q^2 < 22.0 GeV^2/c^4)

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
3.7±0.8±0.1	AAIJ	15AR	LHCB	pp at 7, 8 TeV

A_{FB}($B^+ \to K^+ \mu^+ \mu^-$) (1.1 < q^2 < 6.0 GeV^2/c^4)

A_{FB} is the forward-backward angular asymmetry of the lepton pair in $B \to K^{(*)} \ell^+ \ell^-$ decay as defined in B^+, B^0 admixture particle listings.

VALUE	DOCUMENT ID		TECN	COMMENT
0.005±0.015±0.010	[1] AAIJ	14O	LHCB	pp at 7,8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.02\ ^{+0.05}_{-0.03}\ ^{+0.02}_{-0.01}$	AAIJ	13H	LHCB	Repl. by AAIJ 14O

[1] AAIJ 14O reports 68% C.L. interval, which we encode as midpoint with uncertainty as half of the width of interval.

A_{FB}($B^+ \to K^+ \mu^+ \mu^-$) (15.0 < q^2 < 22.0 GeV^2/c^4)

VALUE	DOCUMENT ID		TECN	COMMENT
−0.015±0.015±0.01	[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.

F_H($B^+ \to K^+ \mu^+ \mu^-$) (1.1 < q^2 < 6.0 GeV^2/c^4)

F_H is a fractional contribution of (pseudo) scalar and tensor amplitudes to the decay width in the massless muon approximation.

VALUE	DOCUMENT ID		TECN	COMMENT
0.03±0.03±0.02	[1] AAIJ	14O	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.05^{+0.08}_{-0.05}{}^{+0.04}_{-0.02}$	AAIJ	13H	LHCB	Repl. by AAIJ 14O

[1] AAIJ 14O reports 68% C.L. interval, which we encode as midpoint with uncertainty as half of the width of interval.

F_H($B^+ \to K^+ \mu^+ \mu^-$) (15.0 < q^2 < 22.0 GeV^2/c^4)

F_H is a fractional contribution of (pseudo) scalar and tensor amplitudes to the decay width in the massless muon approximation.

VALUE	DOCUMENT ID		TECN	COMMENT
0.035±0.035±0.02	[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.

FORWARD-BACKWARD ASYMMETRIES

The forward-backward assymmetry is defined as A_{FB} = [N(q_{FB} > 0) − N(q_{FB} < 0)] / [N(q_{FB} > 0) + N(q_{FB} < 0)], where q_{FB} = − $q_B \cdot$ sgn(η_B) with q_B as the *B* hadron electric charge, η_B as its pseudorapidity, and sgn(η_B) as a sign function of η_B.

$A_{FB}(B^{\pm} \to J/\psi K^{\pm})$

VALUE (units 10^{-2})	*DOCUMENT ID*		*TECN*	*COMMENT*
−0.24±0.41±0.19	ABAZOV	15	D0	$p\overline{p}$ at 1.96 TeV

$B^{\pm}$ REFERENCES

AAIJ	17	PR D95 012002	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	17E	PL B765 307	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	17K	EPJ C77 72	R. Aaij *et al.*	(LHCb Collab.)
ABAZOV	17A	PR D95 031101	V.M. Abazov *et al.*	(D0 Collab.)
KHACHATRY...	17C	PL B764 66	V. Khachatryan *et al.*	(CMS Collab.)
LEES	17	PRL 118 031802	J.P. Lees *et al.*	(BABAR Collab)
AABOUD	16L	EPJ C76 513	M. Aaboud *et al.*	(ATLAS Collab.)
AAIJ	16AH	PR D94 072001	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	16AQ	JHEP 1612 087	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	16L	PL B760 117	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	16M	PR D93 051101	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	16R	PR D93 119902	R. Aaij *et al.*	(LHCb Collab.)
BHARDWAJ	16	PR D93 052016	V. Bhardwaj *et al.*	(BELLE Collab.)
DEL-AMO-SA...	16	PR D93 052013	P. del Amo Sanchez *et al.*	(BABAR Collab.)
LEES	16	PRL 116 041801	J.P. Lees *et al.*	(BABAR Collab.)
PDG	16	Chin. Phys. C	C. Patrignani *et al.*	(PDG Collab.)
AAIJ	15AR	JHEP 1510 034	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	15BC	PR D92 112005	R. Aaij *et al.*	(LHCb Collab.)
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AAIJ	15W	PR D91 112014	R. Aaij *et al.*	(LHCb Collab.)
ABAZOV	15	PRL 114 051803	V.M. Abazov *et al.*	(D0 Collab.)
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CHOI	15A	PR D91 092011	S.-K. Choi *et al.*	(BELLE Collab.)
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VINOKUROVA	15	JHEP 1506 132	A. Vinokurova *et al.*	(BELLE Collab.)
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YOOK	15	PR D91 052016	Y. Yook *et al.*	(BELLE Collab.)
AAIJ	14	PRL 112 011801	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	14A	PL B728 85	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	14AC	PRL 112 131802	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	14AF	PRL 113 141801	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	14AN	JHEP 1409 177	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	14AR	PRL 113 151601	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	14AZ	JHEP 1410 064	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	14BA	JHEP 1410 097	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	14BE	NP B888 169	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	14BO	PR D90 112004	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	14E	JHEP 1404 114	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	14M	JHEP 1406 133	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	14O	JHEP 1405 082	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	14V	PL B733 36	R. Aaij *et al.*	(LHCb Collab.)
ABAZOV	14A	PR D89 012004	V.M. Abazov *et al.*	(D0 Collab.)
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LEES	14A	PR D89 011102	J.P. Lees *et al.*	(BABAR Collab.)
TIEN	14	PR D89 011101	K.-J. Tien *et al.*	(BELLE Collab.)
AAIJ	13AE	PL B723 44	R. Aaij *et al.*	(LHCb Collab.)

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AAIJ	13H	JHEP 1302 105	R. Aaij *et al.*	(LHCb Collab.)
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AAIJ	13S	EPJ C73 2462	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	13Z	JHEP 1309 006	R. Aaij *et al.*	(LHCb Collab.)
ABAZOV	13M	PRL 110 241801	V.M. Abazov *et al.*	(D0 Collab.)
DUH	13	PR D87 031103	Y. T. Duh *et al.*	(BELLE Collab.)
HARA	13	PRL 110 131801	K. Hara *et al.*	(BELLE Collab.)
LEES	13A	PR D87 032004	J.P. Lees *et al.*	(BABAR Collab.)
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LEES	13I	PR D87 112005	J.P. Lees *et al.*	(BABAR Collab.)
LEES	13K	PR D88 031102	J.P. Lees *et al.*	(BABAR Collab.)
LEES	13M	PR D88 032012	J.P. Lees *et al.*	(BABAR Collab.)
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NAYAK	13	PR D88 091104	M. Nayak *et al.*	(BELLE Collab.)
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AAIJ	12AA	PR D85 091103	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	12AC	PR D85 091105	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	12AD	PR D85 112004	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	12AH	JHEP 1207 133	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	12AQ	PL B718 43	R. Aaij *et al.*	(LHCb Collab.)
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AAIJ	12C	PRL 108 101601	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	12E	PL B708 241	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	12L	EPJ C72 2118	R. Aaij *et al.*	(LHCb Collab.)
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AIHARA	12	PR D85 112014	H. Aihara *et al.*	(BELLE Collab.)
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HOI	12	PRL 108 031801	C.-T. Hoi *et al.*	(BELLE Collab.)
KIM	12A	PR D86 031101	J.H. Kim *et al.*	(BELLE Collab.)
LEES	12AA	PR D86 092004	J.P. Lees *et al.*	(BABAR Collab.)
LEES	12B	PR D85 052003	J.P. Lees *et al.*	(BABAR Collab.)
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LEES	12O	PR D85 112010	J.P. Lees *et al.*	(BABAR Collab.)
LEES	12P	PR D86 012004	J.P. Lees *et al.*	(BABAR Collab.)
LEES	12S	PR D86 032012	J.P. Lees *et al.*	(BABAR Collab.)
LEES	12Z	PR D86 091102	J.P. Lees *et al.*	(BABAR Collab.)
PDG	12	PR D86 010001	J. Beringer *et al.*	(PDG Collab.)
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AAIJ	11E	PR D84 092001	R. Aaij *et al.*	(LHCb Collab.)
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AALTONEN	11B	PR D83 032008	T. Aaltonen *et al.*	(CDF Collab.)
AALTONEN	11L	PRL 106 161801	T. Aaltonen *et al.*	(CDF Collab.)
AUSHEV	11	PR D83 051102	T. Aushev *et al.*	(BELLE Collab.)
BHARDWAJ	11	PRL 107 091803	V. Bhardwaj *et al.*	(BELLE Collab.)
CHEN	11F	PR D84 071501	P. Chen *et al.*	(BELLE Collab.)
CHOI	11	PR D84 052004	S.-K. Choi *et al.*	(BELLE Collab.)
DEL-AMO-SA...	11B	PR D83 032004	P. del Amo Sanchez *et al.*	(BABAR Collab.)
DEL-AMO-SA...	11C	PR D83 032007	P. del Amo Sanchez *et al.*	(BABAR Collab.)
DEL-AMO-SA...	11D	PR D83 051101	P. del Amo Sanchez *et al.*	(BABAR Collab.)
DEL-AMO-SA...	11F	PR D83 052011	P. del Amo Sanchez *et al.*	(BABAR Collab.)
DEL-AMO-SA...	11K	PR D83 091101	P. del Amo Sanchez *et al.*	(BABAR Collab.)
DEL-AMO-SA...	11L	PRL 107 041804	P. del Amo Sanchez *et al.*	(BABAR Collab.)
GULER	11	PR D83 032005	H. Guler *et al.*	(BELLE Collab.)
HORII	11	PRL 106 231803	Y. Horii *et al.*	(BELLE Collab.)
LEES	11A	PR D84 012001	J.P. Lees *et al.*	(BABAR Collab.)
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LEES	11I	PR D84 092007	J.P. Lees *et al.*	(BABAR Collab.)
SAHOO	11A	PR D84 071101	H. Sahoo *et al.*	(BELLE Collab.)
SEON	11	PR D84 071106	O. Seon *et al.*	(BELLE Collab.)
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AALTONEN	10A	PR D81 031105	T. Aaltonen *et al.*	(CDF Collab.)
AUBERT	10	PRL 104 011802	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	10D	PR D81 052009	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	10E	PR D81 051101	B. Aubert *et al.*	(BABAR Collab.)
AUSHEV	10	PR D81 031103	T. Aushev *et al.*	(BELLE Collab.)
BOZEK	10	PR D82 072005	A. BOZEK *et al.*	(BELLE Collab.)
DEL-AMO-SA...	10A	PR D82 011502	P. del Amo Sanchez *et al.*	(BABAR Collab.)
DEL-AMO-SA...	10B	PR D82 011101	P. del Amo Sanchez *et al.*	(BABAR Collab.)
DEL-AMO-SA...	10F	PRL 105 121801	P. del Amo Sanchez *et al.*	(BABAR Collab.)
DEL-AMO-SA...	10G	PR D82 072004	P. del Amo Sanchez *et al.*	(BABAR Collab.)
DEL-AMO-SA...	10H	PR D82 072006	P. del Amo Sanchez *et al.*	(BABAR Collab.)
DEL-AMO-SA...	10I	PR D82 091101	P. del Amo Sanchez *et al.*	(BABAR Collab.)
DEL-AMO-SA...	10K	PR D82 092006	P. del Amo Sanchez *et al.*	(BABAR Collab.)
DEL-AMO-SA...	10Q	PR D82 112002	P. del Amo Sanchez *et al.*	(BABAR Collab.)
HARA	10	PR D82 071101	K. Hara *et al.*	(BELLE Collab.)
LIBBY	10	PR D82 112006	J. Libby *et al.*	(CLEO Collab.)
POLUEKTOV	10	PR D81 112002	A. Poluektov *et al.*	(BELLE Collab.)
SAKAI	10	PR D82 091104	K. Sakai *et al.*	(BELLE Collab.)
WEDD	10	PR D81 111104	R. Wedd *et al.*	(BELLE Collab.)
AALTONEN	09B	PR D79 011104	T. Aaltonen *et al.*	(CDF Collab.)
ABAZOV	09Y	PR D79 111102	V.M. Abazov *et al.*	(D0 Collab.)
ABULENCIA	09	PR D79 112003	A. Abulencia *et al.*	(CDF Collab.)
AUBERT	09	PR D79 011102	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	09A	PR D79 012002	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	09AA	PR D79 112001	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	09AB	PR D79 112004	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	09AF	PR D80 051101	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	09AJ	PR D80 092001	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	09AO	PRL 103 211802	B. Aubert *et al.*	(BABAR Collab.)
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AUBERT	09F	PR D79 051102	B. Aubert *et al.*	(BABAR Collab.)
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AUBERT	09H	PR D79 052005	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	09J	PR D79 051101	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	09L	PR D79 072006	B. Aubert *et al.*	(BABAR Collab.)
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AUBERT	08AL	PR D78 034023	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	08AT	PRL 100 231803	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	08AV	PRL 101 081801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	08B	PR D77 011102	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	08BC	PR D78 072007	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	08BD	PR D78 091101	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	08BE	PR D78 091102	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	08BF	PR D78 092002	B. Aubert *et al.*	(BABAR Collab.)
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AUBERT	08BI	PRL 101 161801	B. Aubert *et al.*	(BABAR Collab.)
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AUBERT	08BN	PR D78 112003	B. Aubert *et al.*	(BABAR Collab.)
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AUBERT	08N	PRL 100 021801	B. Aubert *et al.*	(BABAR Collab.)
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PDG	08	PL B667 1	C. Amsler *et al.*	(PDG Collab.)
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AUBERT	07AE	PR D76 031103	B. Aubert *et al.*	(BABAR Collab.)
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AUBERT	07AL	PR D76 052002	B. Aubert *et al.*	(BABAR Collab.)
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AUBERT	07AR	PR D76 071103	B. Aubert *et al.*	(BABAR Collab.)
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AUBERT	07BC	PR D76 091102	B. Aubert *et al.*	(BABAR Collab.)
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AUBERT	07BJ	PRL 99 251801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	07BL	PRL 99 261801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	07BN	PR D76 111101	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	07E	PRL 98 051802	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	07H	PR D75 031101	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	07L	PRL 98 151802	B. Aubert *et al.*	(BABAR Collab.)
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AUBERT	07N	PR D75 072002	B. Aubert *et al.*	(BABAR Collab.)
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SATOYAMA	07	PL B647 67	N. Satoyama *et al.*	(BELLE Collab.)
SCHUEMANN	07	PR D75 092002	J. Schuemann *et al.*	(BELLE Collab.)
TSAI	07	PR D75 111101	Y.-T. Tsai *et al.*	(BELLE Collab.)
URQUIJO	07	PR D75 032001	P. Urquijo *et al.*	(BELLE Collab.)
WANG	07B	PR D75 092005	C.H. Wang *et al.*	(BELLE Collab.)
WANG	07C	PR D76 052004	M.-Z. Wang *et al.*	(BELLE Collab.)
XIE	07	PR D75 017101	Q.L. Xie *et al.*	(BELLE Collab.)
ABE	06	PR D73 051106	K. Abe *et al.*	(BELLE Collab.)
ABULENCIA	06J	PRL 96 191801	A. Abulencia *et al.*	(CDF Collab.)
ACOSTA	06	PRL 96 202001	D. Acosta *et al.*	(CDF Collab.)
AUBERT	06	PR D73 011101	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	06E	PRL 96 052002	B. Aubert *et al.*	(BABAR Collab.)

AUBERT	06F	PR D73 011103	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	06J	PR D73 051105	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	06K	PR D73 057101	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	06N	PR D74 031103	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	06O	PR D74 032003	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	06Z	PR D73 111104	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	06A	PR D73 112004	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	06C	PR D74 011102	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	06E	PR D74 011106	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	06G	PRL 97 201801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	06H	PRL 97 201802	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	06J	PR D73 092001	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	06M	PR D74 031102	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	06P	PR D74 031105	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	06T	PR D74 051102	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	06U	PR D74 051104	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	06Y	PR D74 091105	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,BE	06A	PR D74 099903 (errat.)	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,BE	06C	PRL 97 171805	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,BE	06G	PRL 97 261801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,BE	06H	PRL 97 261803	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,BE	06J	PR D74 111102	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,BE	06M	PR D74 071101	B. Aubert *et al.*	(BABAR Collab.)
CHISTOV	06A	PR D74 111105	R. Chistov *et al.*	(BELLE Collab.)
FANG	06	PR D74 012007	F. Fang *et al.*	(BELLE Collab.)
GABYSHEV	06	PRL 97 202003	N. Gabyshev *et al.*	(BELLE Collab.)
GABYSHEV	06A	PRL 97 242001	N. Gabyshev *et al.*	(BELLE Collab.)
GARMASH	06	PRL 96 251803	A. Garmash *et al.*	(BELLE Collab.)
GOKHROO	06	PRL 97 162002	G. Gokhroo *et al.*	(BELLE Collab.)
IKADO	06	PRL 97 251802	K. Ikado *et al.*	(BELLE Collab.)
JEN	06	PR D74 111101	C.-M. Jen *et al.*	(BELLE Collab.)
KUMAR	06	PR D74 051103	R. Kumar *et al.*	(BELLE Collab.)
MOHAPATRA	06	PRL 96 221601	D. Mohapatra *et al.*	(BELLE Collab.)
POLUEKTOV	06	PR D73 112009	A. Poluektov *et al.*	(BELLE Collab.)
SCHUEMANN	06	PRL 97 061802	J. Schuemann *et al.*	(BELLE Collab.)
SONI	06	PL B634 155	N. Soni *et al.*	(BELLE Collab.)
ABE	05A	PRL 94 221805	K. Abe *et al.*	(BELLE Collab.)
ABE	05B	PR D71 072003	K. Abe *et al.*	(BELLE Collab.)
Also		PR D71 079903 (errat.)	K. Abe *et al.*	(BELLE Collab.)
ABE	05G	PRL 95 231802	K. Abe *et al.*	(BELLE Collab.)
ACOSTA	05J	PRL 95 031801	D. Acosta *et al.*	(CDF Collab.)
AUBERT	05	PRL 94 011801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	05B	PR D71 031501	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	05G	PR D72 032004	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	05H	PRL 94 101801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	05J	PRL 94 141801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	05K	PRL 94 171801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	05L	PRL 94 181802	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	05M	PRL 94 191802	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	05N	PR D71 031102	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	05O	PR D71 031103	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	05R	PR D71 071103	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	05U	PR D71 091103	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	05X	PR D71 111101	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	05B	PRL 95 041804	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	05E	PR D72 011102	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	05G	PR D72 052002	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	05K	PRL 95 131803	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	05L	PR D72 051101	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	05N	PR D72 072003	B. Aubert *et al.*	(BABAR Collab.)
Also		PR D74 099903 (errat.)	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	05O	PR D72 051102	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	05T	PR D72 071102	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	05U	PR D72 071103	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	05V	PR D72 071104	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	05Y	PRL 95 121802	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,BE	05E	PRL 95 221801	B. Aubert *et al.*	(BABAR Collab.)
CHANG	05	PR D71 072007	M.-C. Chang *et al.*	(BELLE Collab.)
CHANG	05A	PR D71 091106	P. Chang *et al.*	(BELLE Collab.)
CHAO	05A	PR D71 031502	Y. Chao *et al.*	(BELLE Collab.)
CHEN	05A	PRL 94 221804	K.-F. Chen *et al.*	(BELLE Collab.)

GARMASH	05	PR D71 092003	A. Garmash *et al.*	(BELLE Collab.)
ITOH	05	PRL 95 091601	R. Itoh *et al.*	(BELLE Collab.)
LEE	05	PRL 95 061802	Y.-J. Lee *et al.*	(BELLE Collab.)
LIVENTSEV	05	PR D72 051109	D. Liventsev *et al.*	(BELLE Collab.)
MAJUMDER	05	PRL 95 041803	G. Majumder *et al.*	(BELLE Collab.)
MOHAPATRA	05	PR D72 011101	D. Mohapatra *et al.*	(BELLE Collab.)
NISHIDA	05	PL B610 23	S. Nishida *et al.*	(BELLE Collab.)
OKABE	05	PL B614 27	T. Okabe *et al.*	(BELLE Collab.)
SAIGO	05	PRL 94 091601	M. Saigo *et al.*	(BELLE Collab.)
WANG	05A	PL B617 141	M.-Z. Wang *et al.*	(BELLE Collab.)
XIE	05	PR D72 051105	Q.L. Xie *et al.*	(BELLE Collab.)
YANG	05	PRL 94 111802	H. Yang *et al.*	(BELLE Collab.)
ZHANG	05A	PRL 94 031801	J. Zhang *et al.*	(BELLE Collab.)
ZHANG	05B	PR D71 091107	L.M. Zhang *et al.*	(BELLE Collab.)
ZHANG	05D	PRL 95 141801	J. Zhang *et al.*	(BELLE Collab.)
ABDALLAH	04E	EPJ C33 307	J. Abdallah *et al.*	(DELPHI Collab.)
ABE	04D	PR D69 112002	K. Abe *et al.*	(BELLE Collab.)
AUBERT	04A	PR D69 011102	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	04C	PRL 92 111801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	04H	PRL 92 061801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	04K	PRL 92 141801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	04M	PRL 92 201802	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	04N	PRL 92 202002	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	04O	PRL 92 221803	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	04P	PRL 92 241802	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	04Q	PR D69 051101	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	04T	PR D69 071103	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	04Y	PRL 93 041801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	04Z	PRL 93 051802	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	04B	PR D70 011101	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	04D	PR D70 032006	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	04L	PRL 93 131804	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	04P	PR D70 092001	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	04S	PRL 93 181801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	04U	PR D70 091105	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,B	04V	PRL 93 181805	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,BE	04	PR D70 111102	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,BE	04A	PR D70 112006	B. Aubert *et al.*	(BABAR Collab.)
AUBERT,BE	04B	PR D70 091106	B. Aubert *et al.*	(BABAR Collab.)
CHAO	04	PR D69 111102	Y. Chao *et al.*	(BELLE Collab.)
CHAO	04B	PRL 93 191802	Y. Chao *et al.*	(BELLE Collab.)
CHISTOV	04	PRL 93 051803	R. Chistov *et al.*	(BELLE Collab.)
DRUTSKOY	04	PRL 92 051801	A. Drutskoy *et al.*	(BELLE Collab.)
GARMASH	04	PR D69 012001	A. Garmash *et al.*	(BELLE Collab.)
LEE	04	PRL 93 211801	Y.-J. Lee *et al.*	(BELLE Collab.)
MAJUMDER	04	PR D70 111103	G. Majumder *et al.*	(BELLE Collab.)
NAKAO	04	PR D69 112001	M. Nakao *et al.*	(BELLE Collab.)
POLUEKTOV	04	PR D70 072003	A. Poluektov *et al.*	(BELLE Collab.)
SCHWANDA	04	PRL 93 131803	C. Schwanda *et al.*	(BELLE Collab.)
WANG	04	PRL 92 131801	M.Z. Wang *et al.*	(BELLE Collab.)
WANG	04A	PR D70 012001	C.H. Wang *et al.*	(BELLE Collab.)
ZANG	04	PR D69 017101	S.L. Zang *et al.*	(BELLE Collab.)
ABE	03B	PR D67 032003	K. Abe *et al.*	(BELLE Collab.)
ABE	03D	PRL 90 131803	K. Abe *et al.*	(BELLE Collab.)
ADAM	03	PR D67 032001	N.E. Adam *et al.*	(CLEO Collab.)
ADAM	03B	PR D68 012004	N.E. Adam *et al.*	(CLEO Collab.)
ATHAR	03	PR D68 072003	S.B. Athar *et al.*	(CLEO Collab.)
AUBERT	03K	PRL 90 231801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	03L	PRL 91 021801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	03M	PRL 91 051801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	03O	PRL 91 071801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	03U	PRL 91 221802	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	03V	PRL 91 171802	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	03W	PRL 91 161801	B. Aubert *et al.*	(BABAR Collab.)
AUBERT	03X	PR D68 092001	B. Aubert *et al.*	(BABAR Collab.)
BORNHEIM	03	PR D68 052002	A. Bornheim *et al.*	(CLEO Collab.)
CHEN	03B	PRL 91 201801	K.-F. Chen *et al.*	(BELLE Collab.)
CHOI	03	PRL 91 262001	S.-K. Choi *et al.*	(BELLE Collab.)
CSORNA	03	PR D67 112002	S.E. Csorna *et al.*	(CLEO Collab.)
EDWARDS	03	PR D68 011102	K.W. Edwards *et al.*	(CLEO Collab.)
FANG	03	PRL 90 071801	F. Fang *et al.*	(BELLE Collab.)

HUANG 03 PRL 91 241802 H.-C. Huang *et al.* (BELLE Collab.)
ISHIKAWA 03 PRL 91 261601 A. Ishikawa *et al.* (BELLE Collab.)
KROKOVNY 03B PRL 91 262002 P. Krokovny *et al.* (BELLE Collab.)
SWAIN 03 PR D68 051101 S.K. Swain *et al.* (BELLE Collab.)
UNNO 03 PR D68 011103 Y. Unno *et al.* (BELLE Collab.)
ZHANG 03B PRL 91 221801 J. Zhang *et al.* (BELLE Collab.)
ABE 02 PRL 88 021801 K. Abe *et al.* (BELLE Collab.)
ABE 02B PRL 88 031802 K. Abe *et al.* (BELLE Collab.)
ABE 02H PRL 88 171801 K. Abe *et al.* (BELLE Collab.)
ABE 02K PRL 88 181803 K. Abe *et al.* (BELLE Collab.)
ABE 02N PL B538 11 K. Abe *et al.* (BELLE Collab.)
ABE 02O PR D65 091103 K. Abe *et al.* (BELLE Collab.)
ABE 02W PRL 89 151802 K. Abe *et al.* (BELLE Collab.)
ACOSTA 02C PR D65 092009 D. Acosta *et al.* (CDF Collab.)
ACOSTA 02F PR D66 052005 D. Acosta *et al.* (CDF Collab.)
AHMED 02B PR D66 031101 S. Ahmed *et al.* (CLEO Collab.)
AUBERT 02 PR D65 032001 B. Aubert *et al.* (BABAR Collab.)
AUBERT 02C PRL 88 101805 B. Aubert *et al.* (BABAR Collab.)
AUBERT 02E PR D65 051101 B. Aubert *et al.* (BABAR Collab.)
AUBERT 02F PR D65 091101 B. Aubert *et al.* (BABAR Collab.)
AUBERT 02L PRL 88 241801 B. Aubert *et al.* (BABAR Collab.)
BRIERE 02 PRL 89 081803 R. Briere *et al.* (CLEO Collab.)
CASEY 02 PR D66 092002 B.C.K. Casey *et al.* (BELLE Collab.)
CHEN 02B PL B546 196 K.-F. Chen *et al.* (BELLE Collab.)
DRUTSKOY 02 PL B542 171 A. Drutskoy *et al.* (BELLE Collab.)
DYTMAN 02 PR D66 091101 S.A. Dytman *et al.* (CLEO Collab.)
ECKHART 02 PRL 89 251801 E. Eckhart *et al.* (CLEO Collab.)
EDWARDS 02B PR D65 111102 K.W. Edwards *et al.* (CLEO Collab.)
GABYSHEV 02 PR D66 091102 N. Gabyshev *et al.* (BELLE Collab.)
GARMASH 02 PR D65 092005 A. Garmash *et al.* (BELLE Collab.)
GODANG 02 PRL 88 021802 R. Godang *et al.* (CLEO Collab.)
GORDON 02 PL B542 183 A. Gordon *et al.* (BELLE Collab.)
LU 02 PRL 89 191801 R.-S. Lu *et al.* (BELLE Collab.)
MAHAPATRA 02 PRL 88 101803 R. Mahapatra *et al.* (CLEO Collab.)
NISHIDA 02 PRL 89 231801 S. Nishida *et al.* (BELLE Collab.)
ABE 01H PRL 87 101801 K. Abe *et al.* (BELLE Collab.)
ABE 01I PRL 87 111801 K. Abe *et al.* (BELLE Collab.)
ABE 01K PR D64 071101 K. Abe *et al.* (BELLE Collab.)
ABE 01L PRL 87 161601 K. Abe *et al.* (BELLE Collab.)
ABE 01M PL B517 309 K. Abe *et al.* (BELLE Collab.)
ALEXANDER 01B PR D64 092001 J.P. Alexander *et al.* (CLEO Collab.)
AMMAR 01B PRL 87 271801 R. Ammar *et al.* (CLEO Collab.)
ANDERSON 01B PRL 87 181803 S. Anderson *et al.* (CLEO Collab.)
AUBERT 01D PRL 87 151801 B. Aubert *et al.* (BABAR Collab.)
AUBERT 01E PRL 87 151802 B. Aubert *et al.* (BABAR Collab.)
AUBERT 01F PRL 87 201803 B. Aubert *et al.* (BABAR Collab.)
AUBERT 01G PRL 87 221802 B. Aubert *et al.* (BABAR Collab.)
BARATE 01E EPJ C19 213 R. Barate *et al.* (ALEPH Collab.)
BRIERE 01 PRL 86 3718 R.A. Biere *et al.* (CLEO Collab.)
BROWDER 01 PRL 86 2950 T.E. Browder *et al.* (CLEO Collab.)
EDWARDS 01 PRL 86 30 K.W. Edwards *et al.* (CLEO Collab.)
GRITSAN 01 PR D64 077501 A. Gritsan *et al.* (CLEO Collab.)
RICHICHI 01 PR D63 031103 S.J. Richichi *et al.* (CLEO Collab.)
ABBIENDI 00B PL B476 233 G. Abbiendi *et al.* (OPAL Collab.)
ABE 00C PR D62 071101 K. Abe *et al.* (SLD Collab.)
AHMED 00B PR D62 112003 S. Ahmed *et al.* (CLEO Collab.)
ANASTASSOV 00 PRL 84 1393 A. Anastassov *et al.* (CLEO Collab.)
BARATE 00R PL B492 275 R. Barate *et al.* (ALEPH Collab.)
BEHRENS 00 PR D61 052001 B.H. Behrens *et al.* (CLEO Collab.)
BONVICINI 00 PRL 84 5940 G. Bonvicini *et al.* (CLEO Collab.)
CHEN 00 PRL 85 525 S. Chen *et al.* (CLEO Collab.)
COAN 00 PRL 84 5283 T.E. Coan *et al.* (CLEO Collab.)
CRONIN-HEN... 00 PRL 85 515 D. Cronin-Hennessy *et al.* (CLEO Collab.)
CSORNA 00 PR D61 111101 S.E. Csorna *et al.* (CLEO Collab.)
JESSOP 00 PRL 85 2881 C.P. Jessop *et al.* (CLEO Collab.)
RICHICHI 00 PRL 85 520 S.J. Richichi *et al.* (CLEO Collab.)
ABBIENDI 99J EPJ C12 609 G. Abbiendi *et al.* (OPAL Collab.)
AFFOLDER 99B PRL 83 3378 T. Affolder *et al.* (CDF Collab.)
BARTELT 99 PRL 82 3746 J. Bartelt *et al.* (CLEO Collab.)
COAN 99 PR D59 111101 T.E. Coan *et al.* (CLEO Collab.)
ABE 98B PR D57 5382 F. Abe *et al.* (CDF Collab.)

ABE	98O	PR D58 072001	F. Abe *et al.*	(CDF Collab.)
ABE	98Q	PR D58 092002	F. Abe *et al.*	(CDF Collab.)
ACCIARRI	98S	PL B438 417	M. Acciarri *et al.*	(L3 Collab.)
ANASTASSOV	98	PRL 80 4127	A. Anastassov *et al.*	(CLEO Collab.)
ATHANAS	98	PRL 80 5493	M. Athanas *et al.*	(CLEO Collab.)
BARATE	98Q	EPJ C4 387	R. Barate *et al.*	(ALEPH Collab.)
BEHRENS	98	PRL 80 3710	B.H. Behrens *et al.*	(CLEO Collab.)
BERGFELD	98	PRL 81 272	T. Bergfeld *et al.*	(CLEO Collab.)
BRANDENB...	98	PRL 80 2762	G. Brandenbrug *et al.*	(CLEO Collab.)
CAPRINI	98	NP B530 153	I. Caprini, L. Lellouch, M. Neubert	(BCIP, CERN)
GODANG	98	PRL 80 3456	R. Godang *et al.*	(CLEO Collab.)
ABE	97J	PRL 79 590	K. Abe *et al.*	(SLD Collab.)
ACCIARRI	97F	PL B396 327	M. Acciarri *et al.*	(L3 Collab.)
ARTUSO	97	PL B399 321	M. Artuso *et al.*	(CLEO Collab.)
ATHANAS	97	PRL 79 2208	M. Athanas *et al.*	(CLEO Collab.)
BROWDER	97	PR D56 11	T. Browder *et al.*	(CLEO Collab.)
FU	97	PRL 79 3125	X. Fu *et al.*	(CLEO Collab.)
JESSOP	97	PRL 79 4533	C.P. Jessop *et al.*	(CLEO Collab.)
ABE	96B	PR D53 3496	F. Abe *et al.*	(CDF Collab.)
ABE	96C	PRL 76 4462	F. Abe *et al.*	(CDF Collab.)
ABE	96H	PRL 76 2015	F. Abe *et al.*	(CDF Collab.)
ABE	96L	PRL 76 4675	F. Abe *et al.*	(CDF Collab.)
ABE	96Q	PR D54 6596	F. Abe *et al.*	(CDF Collab.)
ABE	96R	PRL 77 5176	F. Abe *et al.*	(CDF Collab.)
ADAM	96D	ZPHY C72 207	W. Adam *et al.*	(DELPHI Collab.)
ALEXANDER	96T	PRL 77 5000	J.P. Alexander *et al.*	(CLEO Collab.)
ASNER	96	PR D53 1039	D.M. Asner *et al.*	(CLEO Collab.)
BARISH	96B	PRL 76 1570	B.C. Barish *et al.*	(CLEO Collab.)
BERGFELD	96B	PRL 77 4503	T. Bergfeld *et al.*	(CLEO Collab.)
BISHAI	96	PL B369 186	M. Bishai *et al.*	(CLEO Collab.)
BUSKULIC	96J	ZPHY C71 31	D. Buskulic *et al.*	(ALEPH Collab.)
GIBAUT	96	PR D53 4734	D. Gibaut *et al.*	(CLEO Collab.)
PDG	96	PR D54 1	R. M. Barnett *et al.*	(PDG Collab.)
ABREU	95N	PL B357 255	P. Abreu *et al.*	(DELPHI Collab.)
ABREU	95Q	ZPHY C68 13	P. Abreu *et al.*	(DELPHI Collab.)
ADAM	95	ZPHY C68 363	W. Adam *et al.*	(DELPHI Collab.)
AKERS	95T	ZPHY C67 379	R. Akers *et al.*	(OPAL Collab.)
ALBRECHT	95D	PL B353 554	H. Albrecht *et al.*	(ARGUS Collab.)
ALEXANDER	95	PL B341 435	J. Alexander *et al.*	(CLEO Collab.)
Also		PL B347 469 (erratum)	J. Alexander *et al.*	(CLEO Collab.)
ARTUSO	95	PRL 75 785	M. Artuso *et al.*	(CLEO Collab.)
BARISH	95	PR D51 1014	B.C. Barish *et al.*	(CLEO Collab.)
BUSKULIC	95	PL B343 444	D. Buskulic *et al.*	(ALEPH Collab.)
ABE	94D	PRL 72 3456	F. Abe *et al.*	(CDF Collab.)
ALAM	94	PR D50 43	M.S. Alam *et al.*	(CLEO Collab.)
ALBRECHT	94D	PL B335 526	H. Albrecht *et al.*	(ARGUS Collab.)
ATHANAS	94	PRL 73 3503	M. Athanas *et al.*	(CLEO Collab.)
Also		PRL 74 3090 (erratum)	M. Athanas *et al.*	(CLEO Collab.)
PDG	94	PR D50 1173	L. Montanet *et al.*	(CERN, LBL, BOST+)
STONE	94	HEPSY 93-11	S. Stone	
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ABREU	93D	ZPHY C57 181	P. Abreu *et al.*	(DELPHI Collab.)
ABREU	93G	PL B312 253	P. Abreu *et al.*	(DELPHI Collab.)
ACTON	93C	PL B307 247	P.D. Acton *et al.*	(OPAL Collab.)
ALBRECHT	93E	ZPHY C60 11	H. Albrecht *et al.*	(ARGUS Collab.)
ALEXANDER	93B	PL B319 365	J. Alexander *et al.*	(CLEO Collab.)
AMMAR	93	PRL 71 674	R. Ammar *et al.*	(CLEO Collab.)
BEAN	93B	PRL 70 2681	A. Bean *et al.*	(CLEO Collab.)
BUSKULIC	93D	PL B307 194	D. Buskulic *et al.*	(ALEPH Collab.)
Also		PL B325 537 (erratum)	D. Buskulic *et al.*	(ALEPH Collab.)
SANGHERA	93	PR D47 791	S. Sanghera *et al.*	(CLEO Collab.)
ALBRECHT	92C	PL B275 195	H. Albrecht *et al.*	(ARGUS Collab.)
ALBRECHT	92E	PL B277 209	H. Albrecht *et al.*	(ARGUS Collab.)
ALBRECHT	92G	ZPHY C54 1	H. Albrecht *et al.*	(ARGUS Collab.)
BORTOLETTO	92	PR D45 21	D. Bortoletto *et al.*	(CLEO Collab.)
BUSKULIC	92G	PL B295 396	D. Buskulic *et al.*	(ALEPH Collab.)
ALBRECHT	91B	PL B254 288	H. Albrecht *et al.*	(ARGUS Collab.)
ALBRECHT	91C	PL B255 297	H. Albrecht *et al.*	(ARGUS Collab.)
ALBRECHT	91E	PL B262 148	H. Albrecht *et al.*	(ARGUS Collab.)
BERKELMAN	91	ARNPS 41 1	K. Berkelman, S. Stone	(CORN, SYRA)
"Decays of *B* Mesons"				

FULTON	91	PR D43 651	R. Fulton *et al.*	(CLEO Collab.)
ALBRECHT	90B	PL B241 278	H. Albrecht *et al.*	(ARGUS Collab.)
ALBRECHT	90J	ZPHY C48 543	H. Albrecht *et al.*	(ARGUS Collab.)
ANTREASYAN	90B	ZPHY C48 553	D. Antreasyan *et al.*	(Crystal Ball Collab.)
BORTOLETTO	90	PRL 64 2117	D. Bortoletto *et al.*	(CLEO Collab.)
Also		PR D45 21	D. Bortoletto *et al.*	(CLEO Collab.)
WEIR	90B	PR D41 1384	A.J. Weir *et al.*	(Mark II Collab.)
ALBRECHT	89G	PL B229 304	H. Albrecht *et al.*	(ARGUS Collab.)
AVERY	89B	PL B223 470	P. Avery *et al.*	(CLEO Collab.)
BEBEK	89	PRL 62 8	C. Bebek *et al.*	(CLEO Collab.)
BORTOLETTO	89	PRL 62 2436	D. Bortoletto *et al.*	(CLEO Collab.)
ALBRECHT	88F	PL B209 119	H. Albrecht *et al.*	(ARGUS Collab.)
ALBRECHT	88K	PL B215 424	H. Albrecht *et al.*	(ARGUS Collab.)
ALBRECHT	87C	PL B185 218	H. Albrecht *et al.*	(ARGUS Collab.)
ALBRECHT	87D	PL B199 451	H. Albrecht *et al.*	(ARGUS Collab.)
AVERY	87	PL B183 429	P. Avery *et al.*	(CLEO Collab.)
BEBEK	87	PR D36 1289	C. Bebek *et al.*	(CLEO Collab.)
ALAM	86	PR D34 3279	M.S. Alam *et al.*	(CLEO Collab.)
PDG	86	PL 170B 1	M. Aguilar-Benitez *et al.*	(CERN, CIT+)
GILES	84	PR D30 2279	R. Giles *et al.*	(CLEO Collab.)