

$\psi(3770)$

$$J^{PC} = 0^{-}(1^{-}-)$$

$\psi(3770)$ MASS (MeV)

OUR FIT includes measurements of $m_{\psi(2S)}$, $m_{\psi(3770)}$, and $m_{\psi(3770)} - m_{\psi(2S)}$.

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
3773.13±0.35 OUR FIT Error includes scale factor of 1.1.				
3778.1 ±1.2 OUR AVERAGE				
3779.2	+1.8 -1.7	+0.6 -0.8	1 ANASHIN	12A KEDR $e^+e^- \rightarrow D\bar{D}$
3775.5	±2.4	±0.5	57 AUBERT	08B BABR $B \rightarrow D\bar{D}K$
3776	±5	±4	68 BRODZICKA	08 BELL $B^+ \rightarrow D^0\bar{D}^0K^+$
3778.8	±1.9	±0.9	AUBERT	07BE BABR $e^+e^- \rightarrow D\bar{D}\gamma$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
3772.0	±1.9		2,3 ABLIKIM	08D BES2 $e^+e^- \rightarrow$ hadrons
3778.4	±3.0	±1.3	34 CHISTOV	04 BELL Sup. by BRODZICKA 08

¹ Taking into account interference between the resonant and non-resonant $D\bar{D}$ production.

² Reanalysis of data presented in BAI 02C. From a global fit over the center-of-mass energy region 3.7–5.0 GeV covering the $\psi(3770)$, $\psi(4040)$, $\psi(4160)$, and $\psi(4415)$ resonances. Phase angle fixed in the fit to $\delta = 0^\circ$.

³ Interference between the resonant and non-resonant $D\bar{D}$ production not taken into account.

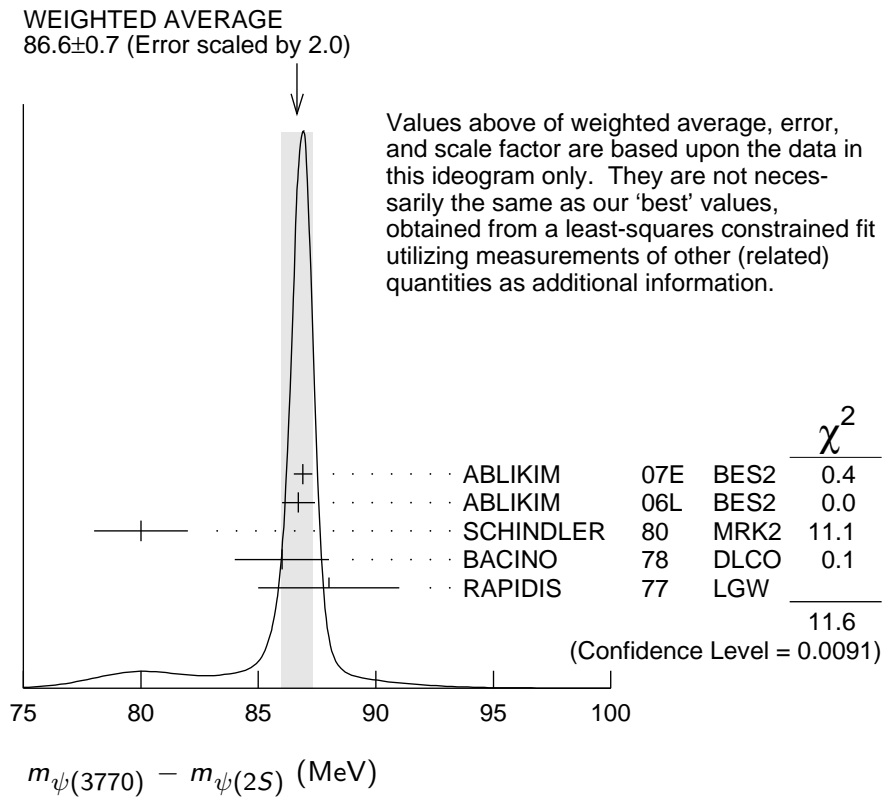
$m_{\psi(3770)} - m_{\psi(2S)}$

OUR FIT includes measurements of $m_{\psi(2S)}$, $m_{\psi(3770)}$, and $m_{\psi(3770)} - m_{\psi(2S)}$.

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
87.04±0.35 OUR FIT Error includes scale factor of 1.1.			
86.6 ±0.7 OUR AVERAGE Error includes scale factor of 2.0. See the ideogram below.			
86.9 ±0.4	⁴ ABLIKIM	07E BES2	$e^+e^- \rightarrow$ hadrons
86.7 ±0.7	ABLIKIM	06L BES2	$e^+e^- \rightarrow$ hadrons
80 ±2	SCHINDLER	80 MRK2	e^+e^-
86 ±2	⁵ BACINO	78 DLCO	e^+e^-
88 ±3	RAPIDIS	77 LGW	e^+e^-

⁴ BES-II $\psi(2S)$ mass subtracted (see ABLIKIM 06L).

⁵ SPEAR $\psi(2S)$ mass subtracted (see SCHINDLER 80).



$\psi(3770)$ WIDTH

VALUE (MeV)	EVTs	DOCUMENT ID	TECN	COMMENT
27.2± 1.0 OUR FIT				
27.5± 0.9 OUR AVERAGE				
24.9 ⁺ ₋ 4.6 ⁺ ₋ 4.0 ⁻ ₋ 0.5 1.1		⁶ ANASHIN	12A KEDR	$e^+e^- \rightarrow D\bar{D}$
30.4± 8.5		^{7,8} ABLIKIM	08D BES2	$e^+e^- \rightarrow$ hadrons
27 ±10 ±5	68	BRODZICKA	08 BELL	$B^+ \rightarrow D^0\bar{D}^0 K^+$
28.5± 1.2±0.2		⁸ ABLIKIM	07E BES2	$e^+e^- \rightarrow$ hadrons
23.5± 3.7±0.9		AUBERT	07BE BABR	$e^+e^- \rightarrow D\bar{D}\gamma$
26.9± 2.4±0.3		⁸ ABLIKIM	06L BES2	$e^+e^- \rightarrow$ hadrons
24 ± 5		⁸ SCHINDLER	80 MRK2	e^+e^-
24 ± 5		⁸ BACINO	78 DLCO	e^+e^-
28 ± 5		⁸ RAPIDIS	77 LGW	e^+e^-

⁶ Taking into account interference between the resonant and non-resonant $D\bar{D}$ production.

⁷ Reanalysis of data presented in BAI 02C. From a global fit over the center-of-mass energy region 3.7–5.0 GeV covering the $\psi(3770)$, $\psi(4040)$, $\psi(4160)$, and $\psi(4415)$ resonances. Phase angle fixed in the fit to $\delta = 0^\circ$.

⁸ Interference between the resonant and non-resonant $D\bar{D}$ production not taken into account.

$\psi(3770)$ DECAY MODES

In addition to the dominant decay mode to $D\bar{D}$, $\psi(3770)$ was found to decay into the final states containing the J/ψ (BAI 05, ADAM 06). ADAMS 06 and HUANG 06A searched for various decay modes with light hadrons and found a statistically significant signal for the decay to $\phi\eta$ only (ADAMS 06).

Mode	Fraction (Γ_i/Γ)	Scale factor/ Confidence level
Γ_1 $D\bar{D}$	(93 $^{+8}_{-9}$) %	S=2.0
Γ_2 $D^0\bar{D}^0$	(52 $^{+4}_{-5}$) %	S=2.0
Γ_3 D^+D^-	(41 ± 4) %	S=2.0
Γ_4 $J/\psi\pi^+\pi^-$	(1.93 ± 0.28) $\times 10^{-3}$	
Γ_5 $J/\psi\pi^0\pi^0$	(8.0 ± 3.0) $\times 10^{-4}$	
Γ_6 $J/\psi\eta$	(9 ± 4) $\times 10^{-4}$	
Γ_7 $J/\psi\pi^0$	< 2.8 $\times 10^{-4}$	CL=90%
Γ_8 e^+e^-	(9.6 ± 0.7) $\times 10^{-6}$	S=1.3

Decays to light hadrons

Γ_9 $b_1(1235)\pi$	< 1.4 $\times 10^{-5}$	CL=90%
Γ_{10} $\phi\eta'$	< 7 $\times 10^{-4}$	CL=90%
Γ_{11} $\omega\eta'$	< 4 $\times 10^{-4}$	CL=90%
Γ_{12} $\rho^0\eta'$	< 6 $\times 10^{-4}$	CL=90%
Γ_{13} $\phi\eta$	(3.1 ± 0.7) $\times 10^{-4}$	
Γ_{14} $\omega\eta$	< 1.4 $\times 10^{-5}$	CL=90%
Γ_{15} $\rho^0\eta$	< 5 $\times 10^{-4}$	CL=90%
Γ_{16} $\phi\pi^0$	< 3 $\times 10^{-5}$	CL=90%
Γ_{17} $\omega\pi^0$	< 6 $\times 10^{-4}$	CL=90%
Γ_{18} $\pi^+\pi^-\pi^0$	< 5 $\times 10^{-6}$	CL=90%
Γ_{19} $\rho\pi$	< 5 $\times 10^{-6}$	CL=90%
Γ_{20} K^+K^-		
Γ_{21} $K^*(892)^+K^- + \text{c.c.}$	< 1.4 $\times 10^{-5}$	CL=90%
Γ_{22} $K^*(892)^0\bar{K}^0 + \text{c.c.}$	< 1.2 $\times 10^{-3}$	CL=90%
Γ_{23} $K_S^0K_L^0$	< 1.2 $\times 10^{-5}$	CL=90%
Γ_{24} $2(\pi^+\pi^-)$	< 1.12 $\times 10^{-3}$	CL=90%
Γ_{25} $2(\pi^+\pi^-)\pi^0$	< 1.06 $\times 10^{-3}$	CL=90%
Γ_{26} $2(\pi^+\pi^-\pi^0)$	< 5.85 %	CL=90%
Γ_{27} $\omega\pi^+\pi^-$	< 6.0 $\times 10^{-4}$	CL=90%
Γ_{28} $3(\pi^+\pi^-)$	< 9.1 $\times 10^{-3}$	CL=90%
Γ_{29} $3(\pi^+\pi^-)\pi^0$	< 1.37 %	CL=90%
Γ_{30} $3(\pi^+\pi^-)2\pi^0$	< 11.74 %	CL=90%
Γ_{31} $\eta\pi^+\pi^-$	< 1.24 $\times 10^{-3}$	CL=90%
Γ_{32} $\pi^+\pi^-2\pi^0$	< 8.9 $\times 10^{-3}$	CL=90%
Γ_{33} $\rho^0\pi^+\pi^-$	< 6.9 $\times 10^{-3}$	CL=90%

Γ_{34}	$\eta 3\pi$	< 1.34	$\times 10^{-3}$	CL=90%
Γ_{35}	$\eta 2(\pi^+ \pi^-)$	< 2.43	%	CL=90%
Γ_{36}	$\eta \rho^0 \pi^+ \pi^-$	< 1.45	%	CL=90%
Γ_{37}	$\eta' 3\pi$	< 2.44	$\times 10^{-3}$	CL=90%
Γ_{38}	$K^+ K^- \pi^+ \pi^-$	< 9.0	$\times 10^{-4}$	CL=90%
Γ_{39}	$\phi \pi^+ \pi^-$	< 4.1	$\times 10^{-4}$	CL=90%
Γ_{40}	$K^+ K^- 2\pi^0$	< 4.2	$\times 10^{-3}$	CL=90%
Γ_{41}	$4(\pi^+ \pi^-)$	< 1.67	%	CL=90%
Γ_{42}	$4(\pi^+ \pi^-) \pi^0$	< 3.06	%	CL=90%
Γ_{43}	$\phi f_0(980)$	< 4.5	$\times 10^{-4}$	CL=90%
Γ_{44}	$K^+ K^- \pi^+ \pi^- \pi^0$	< 2.36	$\times 10^{-3}$	CL=90%
Γ_{45}	$K^+ K^- \rho^0 \pi^0$	< 8	$\times 10^{-4}$	CL=90%
Γ_{46}	$K^+ K^- \rho^+ \pi^-$	< 1.46	%	CL=90%
Γ_{47}	$\omega K^+ K^-$	< 3.4	$\times 10^{-4}$	CL=90%
Γ_{48}	$\phi \pi^+ \pi^- \pi^0$	< 3.8	$\times 10^{-3}$	CL=90%
Γ_{49}	$K^{*0} K^- \pi^+ \pi^0 + \text{c.c.}$	< 1.62	%	CL=90%
Γ_{50}	$K^{*+} K^- \pi^+ \pi^- + \text{c.c.}$	< 3.23	%	CL=90%
Γ_{51}	$K^+ K^- \pi^+ \pi^- 2\pi^0$	< 2.67	%	CL=90%
Γ_{52}	$K^+ K^- 2(\pi^+ \pi^-)$	< 1.03	%	CL=90%
Γ_{53}	$K^+ K^- 2(\pi^+ \pi^-) \pi^0$	< 3.60	%	CL=90%
Γ_{54}	$\eta K^+ K^-$	< 4.1	$\times 10^{-4}$	CL=90%
Γ_{55}	$\eta K^+ K^- \pi^+ \pi^-$	< 1.24	%	CL=90%
Γ_{56}	$\rho^0 K^+ K^-$	< 5.0	$\times 10^{-3}$	CL=90%
Γ_{57}	$2(K^+ K^-)$	< 6.0	$\times 10^{-4}$	CL=90%
Γ_{58}	$\phi K^+ K^-$	< 7.5	$\times 10^{-4}$	CL=90%
Γ_{59}	$2(K^+ K^-) \pi^0$	< 2.9	$\times 10^{-4}$	CL=90%
Γ_{60}	$2(K^+ K^-) \pi^+ \pi^-$	< 3.2	$\times 10^{-3}$	CL=90%
Γ_{61}	$K_S^0 K^- \pi^+$	< 3.2	$\times 10^{-3}$	CL=90%
Γ_{62}	$K_S^0 K^- \pi^+ \pi^0$	< 1.33	%	CL=90%
Γ_{63}	$K_S^0 K^- \rho^+$	< 6.6	$\times 10^{-3}$	CL=90%
Γ_{64}	$K_S^0 K^- 2\pi^+ \pi^-$	< 8.7	$\times 10^{-3}$	CL=90%
Γ_{65}	$K_S^0 K^- \pi^+ \rho^0$	< 1.6	%	CL=90%
Γ_{66}	$K_S^0 K^- \pi^+ \eta$	< 1.3	%	CL=90%
Γ_{67}	$K_S^0 K^- 2\pi^+ \pi^- \pi^0$	< 4.18	%	CL=90%
Γ_{68}	$K_S^0 K^- 2\pi^+ \pi^- \eta$	< 4.8	%	CL=90%
Γ_{69}	$K_S^0 K^- \pi^+ 2(\pi^+ \pi^-)$	< 1.22	%	CL=90%
Γ_{70}	$K_S^0 K^- \pi^+ 2\pi^0$	< 2.65	%	CL=90%
Γ_{71}	$K_S^0 K^- K^+ K^- \pi^+$	< 4.9	$\times 10^{-3}$	CL=90%
Γ_{72}	$K_S^0 K^- K^+ K^- \pi^+ \pi^0$	< 3.0	%	CL=90%
Γ_{73}	$K_S^0 K^- K^+ K^- \pi^+ \eta$	< 2.2	%	CL=90%
Γ_{74}	$K^{*0} K^- \pi^+ + \text{c.c.}$	< 9.7	$\times 10^{-3}$	CL=90%
Γ_{75}	$\rho \bar{p}$			
Γ_{76}	$\rho \bar{p} \pi^0$	< 4	$\times 10^{-5}$	CL=90%

Γ_{77}	$\rho\bar{p}\pi^+\pi^-$	< 5.8	$\times 10^{-4}$	CL=90%
Γ_{78}	$\Lambda\bar{\Lambda}$	< 1.2	$\times 10^{-4}$	CL=90%
Γ_{79}	$\rho\bar{p}\pi^+\pi^-\pi^0$	< 1.85	$\times 10^{-3}$	CL=90%
Γ_{80}	$\omega\rho\bar{p}$	< 2.9	$\times 10^{-4}$	CL=90%
Γ_{81}	$\Lambda\bar{\Lambda}\pi^0$	< 7	$\times 10^{-5}$	CL=90%
Γ_{82}	$\rho\bar{p}2(\pi^+\pi^-)$	< 2.6	$\times 10^{-3}$	CL=90%
Γ_{83}	$\eta\rho\bar{p}$	< 5.4	$\times 10^{-4}$	CL=90%
Γ_{84}	$\eta\rho\bar{p}\pi^+\pi^-$	< 3.3	$\times 10^{-3}$	CL=90%
Γ_{85}	$\rho^0\rho\bar{p}$	< 1.7	$\times 10^{-3}$	CL=90%
Γ_{86}	$\rho\bar{p}K^+K^-$	< 3.2	$\times 10^{-4}$	CL=90%
Γ_{87}	$\eta\rho\bar{p}K^+K^-$	< 6.9	$\times 10^{-3}$	CL=90%
Γ_{88}	$\pi^0\rho\bar{p}K^+K^-$	< 1.2	$\times 10^{-3}$	CL=90%
Γ_{89}	$\phi\rho\bar{p}$	< 1.3	$\times 10^{-4}$	CL=90%
Γ_{90}	$\Lambda\bar{\Lambda}\pi^+\pi^-$	< 2.5	$\times 10^{-4}$	CL=90%
Γ_{91}	$\Lambda\bar{p}K^+$	< 2.8	$\times 10^{-4}$	CL=90%
Γ_{92}	$\Lambda\bar{p}K^+\pi^+\pi^-$	< 6.3	$\times 10^{-4}$	CL=90%
Γ_{93}	$\Lambda\bar{\Lambda}\eta$	< 1.9	$\times 10^{-4}$	CL=90%
Γ_{94}	$\Sigma^+\bar{\Sigma}^-$	< 1.0	$\times 10^{-4}$	CL=90%
Γ_{95}	$\Sigma^0\bar{\Sigma}^0$	< 4	$\times 10^{-5}$	CL=90%
Γ_{96}	$\Xi^+\bar{\Xi}^-$	< 1.5	$\times 10^{-4}$	CL=90%
Γ_{97}	$\Xi^0\bar{\Xi}^0$	< 1.4	$\times 10^{-4}$	CL=90%

Radiative decays

Γ_{98}	$\gamma\chi_{c2}$	< 6.4	$\times 10^{-4}$	CL=90%
Γ_{99}	$\gamma\chi_{c1}$	(2.48 ± 0.23)	$\times 10^{-3}$	
Γ_{100}	$\gamma\chi_{c0}$	(7.0 ± 0.6)	$\times 10^{-3}$	
Γ_{101}	$\gamma\eta_c$	< 7	$\times 10^{-4}$	CL=90%
Γ_{102}	$\gamma\eta_c(2S)$	< 9	$\times 10^{-4}$	CL=90%
Γ_{103}	$\gamma\eta'$	< 1.8	$\times 10^{-4}$	CL=90%
Γ_{104}	$\gamma\eta$	< 1.5	$\times 10^{-4}$	CL=90%
Γ_{105}	$\gamma\pi^0$	< 2	$\times 10^{-4}$	CL=90%

CONSTRAINED FIT INFORMATION

An overall fit to the total width, a partial width, and 3 branching ratios uses 23 measurements and one constraint to determine 5 parameters. The overall fit has a $\chi^2 = 20.1$ for 19 degrees of freedom.

The following *off-diagonal* array elements are the correlation coefficients $\langle \delta p_i \delta p_j \rangle / (\delta p_i \cdot \delta p_j)$, in percent, from the fit to parameters p_i , including 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_3	99		
x_8	0	0	
Γ	0	0	-44
	x_2	x_3	x_8

	Mode	Rate (MeV)	Scale factor
Γ_2	$D^0 \bar{D}^0$	14.0 ± 1.4	1.8
Γ_3	$D^+ D^-$	11.2 ± 1.1	1.7
Γ_8	$e^+ e^-$	$(2.62 \pm 0.18) \times 10^{-4}$	1.4

$\psi(3770)$ PARTIAL WIDTHS

$\Gamma(e^+ e^-)$ Γ_8

VALUE (keV)	EVTS	DOCUMENT ID	TECN	COMMENT
0.262 ± 0.018 OUR FIT	Error includes scale factor of 1.4.			
0.256 ± 0.016 OUR AVERAGE	Error includes scale factor of 1.2.			
$0.154^{+0.079+0.021}_{-0.058-0.027}$	9,10	ANASHIN	12A KEDR	$e^+ e^- \rightarrow D \bar{D}$
0.22 ± 0.05	11,12	ABLIKIM	08D BES2	$e^+ e^- \rightarrow$ hadrons
$0.277 \pm 0.011 \pm 0.013$	12	ABLIKIM	07E BES2	$e^+ e^- \rightarrow$ hadrons
$0.203 \pm 0.003^{+0.041}_{-0.027}$	1.4M 12,13	BESSION	06 CLEO	$e^+ e^- \rightarrow$ hadrons
0.276 ± 0.050	12	SCHINDLER	80 MRK2	$e^+ e^-$
0.18 ± 0.06	12	BACINO	78 DLCO	$e^+ e^-$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.414^{+0.072+0.093}_{-0.080-0.028}$	10,14	ANASHIN	12A KEDR	$e^+ e^- \rightarrow D \bar{D}$
0.37 ± 0.09	15	RAPIDIS	77 LGW	$e^+ e^-$

⁹ Solution I of the two solutions.
¹⁰ Taking into account interference between the resonant and non-resonant $D \bar{D}$ production.
¹¹ Reanalysis of data presented in BAI 02C. From a global fit over the center-of-mass energy region 3.7–5.0 GeV covering the $\psi(3770)$, $\psi(4040)$, $\psi(4160)$, and $\psi(4415)$ resonances. Phase angle fixed in the fit to $\delta = 0^\circ$.
¹² Interference between the resonant and non-resonant $D \bar{D}$ production not taken into account.
¹³ BESSION 06 (as corrected in BESSION 10) measure $\sigma(e^+ e^- \rightarrow \psi(3770) \rightarrow$ hadrons) = $6.36 \pm 0.08^{+0.41}_{-0.30}$ nb at $\sqrt{s} = 3773 \pm 1$ MeV, and obtain Γ_{ee} from the Born-level cross section calculated using $\psi(3770)$ mass and width from our 2004 edition, PDG 04.
¹⁴ Solution II of the two solutions.
¹⁵ See also $\Gamma(e^+ e^-)/\Gamma_{\text{total}}$ below.

$\psi(3770)$ BRANCHING RATIOS

$\Gamma(D \bar{D})/\Gamma_{\text{total}}$ $\Gamma_1/\Gamma = (\Gamma_2 + \Gamma_3)/\Gamma$

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
$0.93^{+0.08}_{-0.09}$ OUR FIT	Error includes scale factor of 2.0.			
$0.93^{+0.08}_{-0.09}$ OUR AVERAGE	Error includes scale factor of 2.1.			
$0.849 \pm 0.056 \pm 0.018$	16	ABLIKIM	08B BES2	$e^+ e^- \rightarrow$ non- $D \bar{D}$
$1.033 \pm 0.014^{+0.048}_{-0.066}$	1.427M 17	BESSION	06 CLEO	$e^+ e^- \rightarrow$ hadrons

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

$0.866 \pm 0.050 \pm 0.036$	18,19	ABLIKIM	07K	BES2	$e^+e^- \rightarrow \text{non-}D\bar{D}$
$0.836 \pm 0.073 \pm 0.042$	19	ABLIKIM	06L	BES2	$e^+e^- \rightarrow D\bar{D}$
$0.855 \pm 0.017 \pm 0.058$	19,20	ABLIKIM	06N	BES2	$e^+e^- \rightarrow D\bar{D}$

$\Gamma(D^0\bar{D}^0)/\Gamma_{\text{total}}$ Γ_2/Γ

<u>VALUE</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.52 ± 0.04 -0.05		OUR FIT		Error includes scale factor of 2.0.

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

$0.467 \pm 0.047 \pm 0.023$		ABLIKIM	06L	BES2	$e^+e^- \rightarrow D^0\bar{D}^0$
$0.499 \pm 0.013 \pm 0.038$	20	ABLIKIM	06N	BES2	$e^+e^- \rightarrow D^0\bar{D}^0$

$\Gamma(D^+D^-)/\Gamma_{\text{total}}$ Γ_3/Γ

<u>VALUE</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.41 ± 0.04		OUR FIT		Error includes scale factor of 2.0.

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

$0.369 \pm 0.037 \pm 0.028$		ABLIKIM	06L	BES2	$e^+e^- \rightarrow D^+D^-$
$0.357 \pm 0.011 \pm 0.034$	20	ABLIKIM	06N	BES2	$e^+e^- \rightarrow D^+D^-$

$\Gamma(D^0\bar{D}^0)/\Gamma(D^+D^-)$ Γ_2/Γ_3

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
1.253 ± 0.016		OUR FIT		
1.253 ± 0.016		OUR AVERAGE		

$1.252 \pm 0.009 \pm 0.013$	5.3M	BONVICINI	14	CLEO	$e^+e^- \rightarrow D\bar{D}$
$1.39 \pm 0.31 \pm 0.12$		PAKHLOVA	08	BELL	$10.6 e^+e^- \rightarrow D\bar{D}\gamma$
$1.78 \pm 0.33 \pm 0.24$		AUBERT	07BE	BABR	$e^+e^- \rightarrow D\bar{D}\gamma$
$1.27 \pm 0.12 \pm 0.08$		ABLIKIM	06L	BES2	$e^+e^- \rightarrow D\bar{D}$
$2.43 \pm 1.50 \pm 0.43$	34	21 CHISTOV	04	BELL	$B^+ \rightarrow \psi(3770)K^+$

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

$1.258 \pm 0.016 \pm 0.014$	22	DOBBS	07	CLEO	$e^+e^- \rightarrow D\bar{D}$
-----------------------------	----	-------	----	------	-------------------------------

$\Gamma(J/\psi\pi^+\pi^-)/\Gamma_{\text{total}}$ Γ_4/Γ

<u>VALUE (units 10^{-3})</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
1.93 ± 0.28		OUR AVERAGE		

$1.89 \pm 0.20 \pm 0.20$	231 \pm 33	ADAM	06	CLEO	$e^+e^- \rightarrow \psi(3770)$
$3.4 \pm 1.4 \pm 0.9$	17.8 \pm 4.8	BAI	05	BES2	$e^+e^- \rightarrow \psi(3770)$

$\Gamma(J/\psi\pi^0\pi^0)/\Gamma_{\text{total}}$ Γ_5/Γ

<u>VALUE (units 10^{-2})</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
0.080 $\pm 0.025 \pm 0.016$	39 \pm 14	ADAM	06	CLEO	$e^+e^- \rightarrow \psi(3770)$

$\Gamma(J/\psi\eta)/\Gamma_{\text{total}}$ Γ_6/Γ

<u>VALUE (units 10^{-5})</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
87 $\pm 33 \pm 22$	22 \pm 10	ADAM	06	CLEO	$e^+e^- \rightarrow \psi(3770)$

$\Gamma(J/\psi\pi^0)/\Gamma_{\text{total}}$					Γ_7/Γ
VALUE (units 10^{-5})	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
<28	90	<10	ADAM 06	CLEO	$e^+e^- \rightarrow \psi(3770)$

$\Gamma(e^+e^-)/\Gamma_{\text{total}}$					Γ_8/Γ
VALUE (units 10^{-5})	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
0.96±0.07 OUR FIT					Error includes scale factor of 1.3.
1.3 ±0.2			RAPIDIS 77	LGW	e^+e^-

¹⁶ Neglecting interference.

¹⁷ Obtained by comparing a measurement of the total cross section (corrected in BESSON 10) with that of $D\bar{D}$ reported by CLEO in DOBBS 07.

¹⁸ Using $\sigma^{obs} = 7.07 \pm 0.58$ nb and neglecting interference.

¹⁹ Not independent of ABLIKIM 08B.

²⁰ From a measurement of $\sigma(e^+e^- \rightarrow D\bar{D})$ at $\sqrt{s} = 3773$ MeV, using the $\psi(3770)$ resonance parameters measured by ABLIKIM 06L.

²¹ See ADLER 88C for older measurements of this quantity.

²² Superseded by BONVICINI 14.

———— DECAYS TO LIGHT HADRONS ————

$\Gamma(b_1(1235)\pi)/\Gamma_{\text{total}}$					Γ_9/Γ
VALUE (units 10^{-5})	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
<1.4	90		²³ ADAMS 06	CLEO	$e^+e^- \rightarrow \psi(3770)$

$\Gamma(\phi\eta')/\Gamma_{\text{total}}$					Γ_{10}/Γ
VALUE (units 10^{-4})	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
<7	90		²³ ADAMS 06	CLEO	$e^+e^- \rightarrow \psi(3770)$

$\Gamma(\omega\eta')/\Gamma_{\text{total}}$					Γ_{11}/Γ
VALUE (units 10^{-4})	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
<4	90		²³ ADAMS 06	CLEO	$e^+e^- \rightarrow \psi(3770)$

$\Gamma(\rho^0\eta')/\Gamma_{\text{total}}$					Γ_{12}/Γ
VALUE (units 10^{-4})	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
<6	90		²³ ADAMS 06	CLEO	$e^+e^- \rightarrow \psi(3770)$

$\Gamma(\phi\eta)/\Gamma_{\text{total}}$					Γ_{13}/Γ
VALUE (units 10^{-4})	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
3.1±0.6±0.3			²³ ADAMS 06	CLEO	$3.773 e^+e^- \rightarrow \phi\eta$

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

<19	90		²⁴ ABLIKIM 07B	BES2	$e^+e^- \rightarrow \psi(3770)$
-----	----	--	---------------------------	------	---------------------------------

$\Gamma(\omega\eta)/\Gamma_{\text{total}}$					Γ_{14}/Γ
VALUE (units 10^{-5})	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
<1.4	90		²³ ADAMS 06	CLEO	$e^+e^- \rightarrow \psi(3770)$

$\Gamma(\rho^0\eta)/\Gamma_{\text{total}}$ **Γ_{15}/Γ**

<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<5	90	23 ADAMS	06	CLEO $e^+e^- \rightarrow \psi(3770)$

$\Gamma(\phi\pi^0)/\Gamma_{\text{total}}$ **Γ_{16}/Γ**

<u>VALUE (units 10^{-5})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
< 3	90	23 ADAMS	06	CLEO $e^+e^- \rightarrow \psi(3770)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<50	90	24 ABLIKIM	07B	BES2 $e^+e^- \rightarrow \psi(3770)$

$\Gamma(\omega\pi^0)/\Gamma_{\text{total}}$ **Γ_{17}/Γ**

<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<6	90	23 ADAMS	06	CLEO $e^+e^- \rightarrow \psi(3770)$

$\Gamma(\pi^+\pi^-\pi^0)/\Gamma_{\text{total}}$ **Γ_{18}/Γ**

<u>VALUE (units 10^{-6})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<5	90	23,25 ADAMS	06	CLEO $e^+e^- \rightarrow \psi(3770)$

$\Gamma(\rho\pi)/\Gamma_{\text{total}}$ **Γ_{19}/Γ**

<u>VALUE (units 10^{-6})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<5	90	23,25 ADAMS	06	CLEO $e^+e^- \rightarrow \psi(3770)$

$\Gamma(K^+K^-)/\Gamma_{\text{total}}$ **Γ_{20}/Γ**

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$\sim 10^{-5}$	26 DRUZHININ	15	RVUE $e^+e^- \rightarrow \psi(3770)$

$\Gamma(K^*(892)^+K^- + \text{c.c.})/\Gamma_{\text{total}}$ **Γ_{21}/Γ**

<u>VALUE (units 10^{-5})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<1.4	90	23 ADAMS	06	CLEO $e^+e^- \rightarrow \psi(3770)$

$\Gamma(K^*(892)^0\bar{K}^0 + \text{c.c.})/\Gamma_{\text{total}}$ **Γ_{22}/Γ**

<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<1.2	90	23 ADAMS	06	CLEO $e^+e^- \rightarrow \psi(3770)$

$\Gamma(K_S^0 K_L^0)/\Gamma_{\text{total}}$ **Γ_{23}/Γ**

<u>VALUE (units 10^{-5})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
< 1.2	90	27 CRONIN-HEN..06	CLEO	$e^+e^- \rightarrow \psi(3770)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<21	90	28 ABLIKIM	04F	BES $e^+e^- \rightarrow \psi(3770)$

$\Gamma(2(\pi^+\pi^-))/\Gamma_{\text{total}}$ **Γ_{24}/Γ**

<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<11.2	90	29 HUANG	06A	CLEO $e^+e^- \rightarrow \psi(3770)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<48	90	24 ABLIKIM	07B	BES2 $e^+e^- \rightarrow \psi(3770)$

$\Gamma(2(\pi^+\pi^-\pi^0))/\Gamma_{\text{total}}$					Γ_{25}/Γ
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<10.6	90	²⁹ HUANG	06A	CLEO $e^+e^- \rightarrow \psi(3770)$	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<62	90	²⁴ ABLIKIM	07B	BES2 $e^+e^- \rightarrow \psi(3770)$	
$\Gamma(2(\pi^+\pi^-\pi^0))/\Gamma_{\text{total}}$					Γ_{26}/Γ
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<58.5	90	305	ABLIKIM	08N	BES2 $e^+e^- \rightarrow \psi(3770)$
$\Gamma(\omega\pi^+\pi^-)/\Gamma_{\text{total}}$					Γ_{27}/Γ
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
< 6.0	90	²⁹ HUANG	06A	CLEO $e^+e^- \rightarrow \psi(3770)$	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<55	90	²⁴ ABLIKIM	07I	BES2 $3.77 e^+e^-$	
$\Gamma(3(\pi^+\pi^-))/\Gamma_{\text{total}}$					Γ_{28}/Γ
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<91	90	²⁴ ABLIKIM	07B	BES2 $e^+e^- \rightarrow \psi(3770)$	
$\Gamma(3(\pi^+\pi^-\pi^0))/\Gamma_{\text{total}}$					Γ_{29}/Γ
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<137	90	²⁴ ABLIKIM	07B	BES2 $e^+e^- \rightarrow \psi(3770)$	
$\Gamma(3(\pi^+\pi^-)2\pi^0)/\Gamma_{\text{total}}$					Γ_{30}/Γ
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<117.4	90	59	ABLIKIM	08N	BES2 $e^+e^- \rightarrow \psi(3770)$
$\Gamma(\eta\pi^+\pi^-)/\Gamma_{\text{total}}$					Γ_{31}/Γ
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<1.24	90	²⁹ HUANG	06A	CLEO $e^+e^- \rightarrow \psi(3770)$	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2.3	90	²⁴ ABLIKIM	10D	BES2 $e^+e^- \rightarrow \psi(3770)$	
$\Gamma(\pi^+\pi^-2\pi^0)/\Gamma_{\text{total}}$					Γ_{32}/Γ
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<8.9	90	218	ABLIKIM	08N	BES2 $e^+e^- \rightarrow \psi(3770)$
$\Gamma(\rho^0\pi^+\pi^-)/\Gamma_{\text{total}}$					Γ_{33}/Γ
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<6.9	90	²⁴ ABLIKIM	07F	BES2 $e^+e^- \rightarrow \psi(3770)$	
$\Gamma(\eta3\pi)/\Gamma_{\text{total}}$					Γ_{34}/Γ
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<13.4	90	²⁹ HUANG	06A	CLEO $e^+e^- \rightarrow \psi(3770)$	

$\Gamma(\eta 2(\pi^+ \pi^-))/\Gamma_{\text{total}}$					Γ_{35}/Γ
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<243	90	24 ABLIKIM	07B	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(\eta \rho^0 \pi^+ \pi^-)/\Gamma_{\text{total}}$					Γ_{36}/Γ
<u>VALUE (units 10^{-2})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<1.45	90	24 ABLIKIM	10D	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(\eta' 3\pi)/\Gamma_{\text{total}}$					Γ_{37}/Γ
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<24.4	90	29 HUANG	06A	CLEO	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K^+ K^- \pi^+ \pi^-)/\Gamma_{\text{total}}$					Γ_{38}/Γ
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
< 9.0	90	29 HUANG	06A	CLEO	$e^+ e^- \rightarrow \psi(3770)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<48	90	24 ABLIKIM	07B	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(\phi \pi^+ \pi^-)/\Gamma_{\text{total}}$					Γ_{39}/Γ
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
< 4.1	90	29 HUANG	06A	CLEO	$e^+ e^- \rightarrow \psi(3770)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<16	90	24 ABLIKIM	07B	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K^+ K^- 2\pi^0)/\Gamma_{\text{total}}$					Γ_{40}/Γ
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<4.2	90	14	ABLIKIM	08N	BES2 $e^+ e^- \rightarrow \psi(3770)$
$\Gamma(4(\pi^+ \pi^-))/\Gamma_{\text{total}}$					Γ_{41}/Γ
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<16.7	90	24 ABLIKIM	07F	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(4(\pi^+ \pi^-) \pi^0)/\Gamma_{\text{total}}$					Γ_{42}/Γ
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<30.6	90	24 ABLIKIM	07F	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(\phi f_0(980))/\Gamma_{\text{total}}$					Γ_{43}/Γ
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<4.5	90	29 HUANG	06A	CLEO	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K^+ K^- \pi^+ \pi^- \pi^0)/\Gamma_{\text{total}}$					Γ_{44}/Γ
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
< 23.6	90	29 HUANG	06A	CLEO	$e^+ e^- \rightarrow \psi(3770)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<111	90	24 ABLIKIM	07B	BES2	$e^+ e^- \rightarrow \psi(3770)$

$\Gamma(K^+ K^- \rho^0 \pi^0)/\Gamma_{\text{total}}$ Γ_{45}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<8	90	24 ABLIKIM 07I	BES2	$3.77 e^+ e^-$

$\Gamma(K^+ K^- \rho^+ \pi^-)/\Gamma_{\text{total}}$ Γ_{46}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<146	90	24 ABLIKIM 07I	BES2	$3.77 e^+ e^-$

$\Gamma(\omega K^+ K^-)/\Gamma_{\text{total}}$ Γ_{47}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
< 3.4	90	29 HUANG 06A	CLEO	$e^+ e^- \rightarrow \psi(3770)$

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

<66	90	24 ABLIKIM 07I	BES2	$3.77 e^+ e^-$
-----	----	----------------	------	----------------

$\Gamma(\phi \pi^+ \pi^- \pi^0)/\Gamma_{\text{total}}$ Γ_{48}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<38	90	24 ABLIKIM 07I	BES2	$3.77 e^+ e^-$

$\Gamma(K^{*0} K^- \pi^+ \pi^0 + \text{c.c.})/\Gamma_{\text{total}}$ Γ_{49}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<162	90	24 ABLIKIM 07I	BES2	$3.77 e^+ e^-$

$\Gamma(K^{*+} K^- \pi^+ \pi^- + \text{c.c.})/\Gamma_{\text{total}}$ Γ_{50}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<323	90	24 ABLIKIM 07I	BES2	$3.77 e^+ e^-$

$\Gamma(K^+ K^- \pi^+ \pi^- 2\pi^0)/\Gamma_{\text{total}}$ Γ_{51}/Γ

VALUE (units 10^{-3})	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
<26.7	90	24	ABLIKIM 08N	BES2	$e^+ e^- \rightarrow \psi(3770)$

$\Gamma(K^+ K^- 2(\pi^+ \pi^-))/\Gamma_{\text{total}}$ Γ_{52}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
<10.3	90	24 ABLIKIM 07F	BES2	$e^+ e^- \rightarrow \psi(3770)$

$\Gamma(K^+ K^- 2(\pi^+ \pi^-) \pi^0)/\Gamma_{\text{total}}$ Γ_{53}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
<36.0	90	24 ABLIKIM 07F	BES2	$e^+ e^- \rightarrow \psi(3770)$

$\Gamma(\eta K^+ K^-)/\Gamma_{\text{total}}$ Γ_{54}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
< 4.1	90	29 HUANG 06A	CLEO	$e^+ e^- \rightarrow \psi(3770)$

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

<31	90	24 ABLIKIM 10D	BES2	$e^+ e^- \rightarrow \psi(3770)$
-----	----	----------------	------	----------------------------------

$\Gamma(\eta K^+ K^- \pi^+ \pi^-)/\Gamma_{\text{total}}$						Γ_{55}/Γ
<u>VALUE (units 10^{-2})</u>	<u>CL%</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<1.24	90	24	ABLIKIM	10D	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(\rho^0 K^+ K^-)/\Gamma_{\text{total}}$						Γ_{56}/Γ
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<5.0	90	24	ABLIKIM	07F	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(2(K^+ K^-))/\Gamma_{\text{total}}$						Γ_{57}/Γ
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
< 6.0	90	29	HUANG	06A	CLEO	$e^+ e^- \rightarrow \psi(3770)$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<17	90	24	ABLIKIM	07B	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(\phi K^+ K^-)/\Gamma_{\text{total}}$						Γ_{58}/Γ
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
< 7.5	90	29	HUANG	06A	CLEO	$e^+ e^- \rightarrow \psi(3770)$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<24	90	24	ABLIKIM	07B	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(2(K^+ K^-)\pi^0)/\Gamma_{\text{total}}$						Γ_{59}/Γ
<u>VALUE (units 10^{-4})</u>	<u>CL%</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
< 2.9	90	29	HUANG	06A	CLEO	$e^+ e^- \rightarrow \psi(3770)$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<46	90	24	ABLIKIM	07B	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(2(K^+ K^-)\pi^+ \pi^-)/\Gamma_{\text{total}}$						Γ_{60}/Γ
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<3.2	90	24	ABLIKIM	07F	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K_S^0 K^- \pi^+)/\Gamma_{\text{total}}$						Γ_{61}/Γ
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<3.2	90	18	ABLIKIM	08M	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K_S^0 K^- \pi^+ \pi^0)/\Gamma_{\text{total}}$						Γ_{62}/Γ
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<13.3	90	40	ABLIKIM	08M	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K_S^0 K^- \rho^+)/\Gamma_{\text{total}}$						Γ_{63}/Γ
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<6.6	90		ABLIKIM	09C	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K_S^0 K^- 2\pi^+ \pi^-)/\Gamma_{\text{total}}$						Γ_{64}/Γ
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<8.7	90	39	ABLIKIM	08M	BES2	$e^+ e^- \rightarrow \psi(3770)$

$\Gamma(K_S^0 K^- \pi^+ \rho^0)/\Gamma_{\text{total}}$			Γ_{65}/Γ		
<u>VALUE (units 10^{-2})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<1.6	90	ABLIKIM	09C	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K_S^0 K^- \pi^+ \eta)/\Gamma_{\text{total}}$			Γ_{66}/Γ		
<u>VALUE (units 10^{-2})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<1.3	90	ABLIKIM	09C	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K_S^0 K^- 2\pi^+ \pi^- \pi^0)/\Gamma_{\text{total}}$			Γ_{67}/Γ		
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<41.8	90	23	ABLIKIM	08M	BES2 $e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K_S^0 K^- 2\pi^+ \pi^- \eta)/\Gamma_{\text{total}}$			Γ_{68}/Γ		
<u>VALUE (units 10^{-2})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<4.8	90	ABLIKIM	09C	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K_S^0 K^- \pi^+ 2(\pi^+ \pi^-))/\Gamma_{\text{total}}$			Γ_{69}/Γ		
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<12.2	90	4	ABLIKIM	08M	BES2 $e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K_S^0 K^- \pi^+ 2\pi^0)/\Gamma_{\text{total}}$			Γ_{70}/Γ		
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<26.5	90	17	ABLIKIM	08M	BES2 $e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K_S^0 K^- K^+ K^- \pi^+)/\Gamma_{\text{total}}$			Γ_{71}/Γ		
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<4.9	90	ABLIKIM	09C	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K_S^0 K^- K^+ K^- \pi^+ \pi^0)/\Gamma_{\text{total}}$			Γ_{72}/Γ		
<u>VALUE (units 10^{-2})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<3.0	90	ABLIKIM	09C	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K_S^0 K^- K^+ K^- \pi^+ \eta)/\Gamma_{\text{total}}$			Γ_{73}/Γ		
<u>VALUE (units 10^{-2})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<2.2	90	ABLIKIM	09C	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(K^{*0} K^- \pi^+ + \text{c.c.})/\Gamma_{\text{total}}$			Γ_{74}/Γ		
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<9.7	90	²⁴ ABLIKIM	07F	BES2	$e^+ e^- \rightarrow \psi(3770)$
$\Gamma(p\bar{p})/\Gamma_{\text{total}}$			Γ_{75}/Γ		
<u>VALUE (units 10^{-6})</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$7.1^{+8.6}_{-2.9}$	684	³⁰ ABLIKIM	14L	BES3	$e^+ e^- \rightarrow \psi(3770)$
310 ± 30	684	³¹ ABLIKIM	14L	BES3	$e^+ e^- \rightarrow \psi(3770)$

$\Gamma(\rho\bar{\rho}\pi^0)/\Gamma_{\text{total}}$ Γ_{76}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
< 0.4	90	32,33 ABLIKIM	140 BES3	$e^+e^- \rightarrow \psi(3770)$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
59 $^{+3}_{-2} \pm 5$		32,34 ABLIKIM	140 BES3	$e^+e^- \rightarrow \psi(3770)$
<12	90	24 ABLIKIM	07B BES2	$e^+e^- \rightarrow \psi(3770)$

$\Gamma(\rho\bar{\rho}\pi^+\pi^-)/\Gamma_{\text{total}}$ Γ_{77}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
< 5.8	90	29 HUANG	06A CLEO	$e^+e^- \rightarrow \psi(3770)$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
<16	90	24 ABLIKIM	07B BES2	$e^+e^- \rightarrow \psi(3770)$

$\Gamma(\Lambda\bar{\Lambda})/\Gamma_{\text{total}}$ Γ_{78}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<1.2	90	29 HUANG	06A CLEO	$e^+e^- \rightarrow \psi(3770)$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
<4	90	24 ABLIKIM	07F BES2	$e^+e^- \rightarrow \psi(3770)$

$\Gamma(\rho\bar{\rho}\pi^+\pi^-\pi^0)/\Gamma_{\text{total}}$ Γ_{79}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<18.5	90	29 HUANG	06A CLEO	$e^+e^- \rightarrow \psi(3770)$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
<73	90	24 ABLIKIM	07B BES2	$e^+e^- \rightarrow \psi(3770)$

$\Gamma(\omega\rho\bar{\rho})/\Gamma_{\text{total}}$ Γ_{80}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
< 2.9	90	29 HUANG	06A CLEO	$e^+e^- \rightarrow \psi(3770)$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
<30	90	35 ABLIKIM	07I BES2	$3.77 e^+e^-$

$\Gamma(\Lambda\bar{\Lambda}\pi^0)/\Gamma_{\text{total}}$ Γ_{81}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
< 0.7	90	36 ABLIKIM	13Q BES3	$e^+e^- \rightarrow \psi(3770)$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
<12	90	24 ABLIKIM	07I BES2	$3.77 e^+e^-$

$\Gamma(\rho\bar{\rho}2(\pi^+\pi^-))/\Gamma_{\text{total}}$ Γ_{82}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
<2.6	90	24 ABLIKIM	07F BES2	$e^+e^- \rightarrow \psi(3770)$

$\Gamma(\eta\rho\bar{\rho})/\Gamma_{\text{total}}$ Γ_{83}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
< 5.4	90	29 HUANG	06A CLEO	$e^+e^- \rightarrow \psi(3770)$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
<11	90	24 ABLIKIM	10D BES2	$e^+e^- \rightarrow \psi(3770)$

$\Gamma(\eta\rho\bar{p}\pi^+\pi^-)/\Gamma_{\text{total}}$ Γ_{84}/Γ

<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<3.3	90	24 ABLIKIM	10D	BES2 $e^+e^- \rightarrow \psi(3770)$

 $\Gamma(\rho^0\rho\bar{p})/\Gamma_{\text{total}}$ Γ_{85}/Γ

<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<1.7	90	24 ABLIKIM	07F	BES2 $e^+e^- \rightarrow \psi(3770)$

 $\Gamma(\rho\bar{p}K^+K^-)/\Gamma_{\text{total}}$ Γ_{86}/Γ

<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
< 3.2	90	29 HUANG	06A	CLEO $e^+e^- \rightarrow \psi(3770)$

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

<11	90	24 ABLIKIM	07B	BES2 $e^+e^- \rightarrow \psi(3770)$
-----	----	------------	-----	--------------------------------------

 $\Gamma(\eta\rho\bar{p}K^+K^-)/\Gamma_{\text{total}}$ Γ_{87}/Γ

<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<6.9	90	24 ABLIKIM	10D	BES2 $e^+e^- \rightarrow \psi(3770)$

 $\Gamma(\pi^0\rho\bar{p}K^+K^-)/\Gamma_{\text{total}}$ Γ_{88}/Γ

<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<1.2	90	24 ABLIKIM	10D	BES2 $e^+e^- \rightarrow \psi(3770)$

 $\Gamma(\phi\rho\bar{p})/\Gamma_{\text{total}}$ Γ_{89}/Γ

<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<1.3	90	29 HUANG	06A	CLEO $e^+e^- \rightarrow \psi(3770)$

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

<9	90	24 ABLIKIM	07B	BES2 $e^+e^- \rightarrow \psi(3770)$
----	----	------------	-----	--------------------------------------

 $\Gamma(\Lambda\bar{\Lambda}\pi^+\pi^-)/\Gamma_{\text{total}}$ Γ_{90}/Γ

<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
< 2.5	90	29 HUANG	06A	CLEO $e^+e^- \rightarrow \psi(3770)$

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

< 4.7	90	36 ABLIKIM	13Q	BES3 $e^+e^- \rightarrow \psi(3770)$
-------	----	------------	-----	--------------------------------------

<39	90	24 ABLIKIM	07F	BES2 $e^+e^- \rightarrow \psi(3770)$
-----	----	------------	-----	--------------------------------------

 $\Gamma(\Lambda\bar{p}K^+)/\Gamma_{\text{total}}$ Γ_{91}/Γ

<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<2.8	90	29 HUANG	06A	CLEO $e^+e^- \rightarrow \psi(3770)$

 $\Gamma(\Lambda\bar{p}K^+\pi^+\pi^-)/\Gamma_{\text{total}}$ Γ_{92}/Γ

<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<6.3	90	29 HUANG	06A	CLEO $e^+e^- \rightarrow \psi(3770)$

 $\Gamma(\Lambda\bar{\Lambda}\eta)/\Gamma_{\text{total}}$ Γ_{93}/Γ

<u>VALUE (units 10^{-4})</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<1.9	90	36 ABLIKIM	13Q	BES3 $e^+e^- \rightarrow \psi(3770)$

$\Gamma(\Sigma^+\bar{\Sigma}^-)/\Gamma_{\text{total}}$ Γ_{94}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<1.0	90	³⁶ ABLIKIM	13Q	BES3 $e^+e^- \rightarrow \psi(3770)$

$\Gamma(\Sigma^0\bar{\Sigma}^0)/\Gamma_{\text{total}}$ Γ_{95}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<0.4	90	³⁶ ABLIKIM	13Q	BES3 $e^+e^- \rightarrow \psi(3770)$

$\Gamma(\Xi^+\bar{\Xi}^-)/\Gamma_{\text{total}}$ Γ_{96}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<1.5	90	³⁶ ABLIKIM	13Q	BES3 $e^+e^- \rightarrow \psi(3770)$

$\Gamma(\Xi^0\bar{\Xi}^0)/\Gamma_{\text{total}}$ Γ_{97}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT
<1.4	90	³⁶ ABLIKIM	13Q	BES3 $e^+e^- \rightarrow \psi(3770)$

²³ Comparing cross sections at $\sqrt{s} = 3.773$ GeV and $\sqrt{s} = 3.671$ GeV, neglecting interference, and using $\sigma(\psi(3770) \rightarrow D\bar{D}) = 6.39 \pm 0.20$ nb.

²⁴ Assuming that interference effects between resonance and continuum can be neglected and using $\sigma^{obs}(e^+e^- \rightarrow \psi(3770)) = 7.15 \pm 0.38$ nb.

²⁵ Data suggest possible destructive interference with continuum.

²⁶ DRUZHININ 15 uses BABAR and CLEO data taking into account interference of the processes $e^+e^- \rightarrow K^+K^-$ and $e^+e^- \rightarrow K_S^0 K_L^0$.

²⁷ Using $\sigma(e^+e^- \rightarrow \psi(3770) \rightarrow \text{hadrons}) = (6.38 \pm 0.08^{+0.41}_{-0.30})$ nb from BESSON 06 and $B(K_S^0 \rightarrow \pi^+\pi^-) = 0.6895 \pm 0.0014$.

²⁸ Using $B(K_S^0 \rightarrow \pi^+\pi^-) = 0.6860 \pm 0.0027$.

²⁹ Using $\sigma_{tot}(e^+e^- \rightarrow \psi(3770)) = 7.9 \pm 0.6$ nb at the resonance.

³⁰ Solution I of two equivalent solutions in a fit with a resonance interfering with continuum.

³¹ Solution II of two equivalent solutions in a fit with a resonance interfering with continuum.

³² Calculated by the authors using $\sigma(e^+e^- \rightarrow \psi(3770) \rightarrow \text{hadrons}) = 6.36 \pm 0.08^{+0.41}_{-0.30}$ nb from BESSON 10.

³³ Solution I of two equivalent solutions in a fit with a resonance interfering with continuum.

³⁴ Solution II of two equivalent solutions in a fit with a resonance interfering with continuum.

³⁵ Using $\sigma^{obs} = 7.15 \pm 0.27 \pm 0.27$ nb and neglecting interference.

³⁶ Assuming that interference effects between resonance and continuum can be neglected.

————— RADIATIVE DECAYS —————

$\Gamma(\gamma\chi_{c2})/\Gamma_{\text{total}}$ Γ_{98}/Γ

VALUE (units 10^{-3})	CL%	DOCUMENT ID	TECN	COMMENT
<0.64	90	³⁷ ABLIKIM	15J	BES3 $e^+e^- \rightarrow \psi(3770) \rightarrow \gamma\gamma J/\psi$

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

<2.0	90	³⁸ BRIERE	06	CLEO $e^+e^- \rightarrow \psi(3770) \rightarrow \gamma + \text{hadrons}$
------	----	----------------------	----	--

<0.9	90	³⁹ COAN	06A	CLEO $e^+e^- \rightarrow \psi(3770) \rightarrow \gamma\gamma J/\psi$
------	----	--------------------	-----	--

$\Gamma(\gamma\chi_{c1})/\Gamma_{\text{total}}$					Γ_{99}/Γ
<u>VALUE (units 10^{-3})</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
2.48±0.23 OUR AVERAGE					
1.9 ±0.4 ±0.6	202	40 ABLIKIM	16B BES3	$e^+e^- \rightarrow \psi(3770) \rightarrow \gamma + \text{hadrons}$	
2.48±0.15±0.23	0.6k	ABLIKIM	15J BES3	$e^+e^- \rightarrow \psi(3770) \rightarrow \gamma\gamma J/\psi$	
2.4 ±0.8 ±0.2		41 ABLIKIM	14H BES3	$e^+e^- \rightarrow \psi(3770) \rightarrow K_S^0 K^\pm \pi^\mp$	
2.9 ±0.5 ±0.4		42 BRIERE	06 CLEO	$e^+e^- \rightarrow \psi(3770) \rightarrow \gamma + \text{hadrons}, \gamma\gamma J/\psi$	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
3.9 ±1.4 ±0.6	54	43 BRIERE	06 CLEO	$e^+e^- \rightarrow \psi(3770) \rightarrow \gamma + \text{hadrons}$	
2.8 ±0.5 ±0.4	53	39 COAN	06A CLEO	$e^+e^- \rightarrow \psi(3770) \rightarrow \gamma\gamma J/\psi$	

$\Gamma(\gamma\chi_{c1})/\Gamma(J/\psi\pi^+\pi^-)$					Γ_{99}/Γ_4
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
1.49±0.31±0.26	53 ± 10	44 COAN	06A CLEO	$e^+e^- \rightarrow \psi(3770) \rightarrow \gamma\gamma J/\psi$	

$\Gamma(\gamma\chi_{c0})/\Gamma_{\text{total}}$					Γ_{100}/Γ
<u>VALUE (units 10^{-3})</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
7.0±0.6 OUR AVERAGE					
6.9±0.3±0.7		2.2K	45 ABLIKIM	16B BES3	$e^+e^- \rightarrow \psi(3770) \rightarrow \gamma + \text{hadrons}$
7.3±0.7±0.6		274	BRIERE	06 CLEO	$e^+e^- \rightarrow \psi(3770) \rightarrow \gamma + \text{hadrons}$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 44	90	39 COAN	06A CLEO	$e^+e^- \rightarrow \psi(3770) \rightarrow \gamma\gamma J/\psi$	

$\Gamma(\gamma\chi_{c0})/\Gamma(\gamma\chi_{c2})$					Γ_{100}/Γ_{98}
<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
>8	90	46 BRIERE	06 CLEO	$e^+e^- \rightarrow \psi(3770)$	

$\Gamma(\gamma\chi_{c0})/\Gamma(\gamma\chi_{c1})$					Γ_{100}/Γ_{99}
<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>		
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2.5±0.6	46 BRIERE	06 CLEO	$e^+e^- \rightarrow \psi(3770)$		

$\Gamma(\gamma\eta_c)/\Gamma_{\text{total}}$					Γ_{101}/Γ
<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<7 × 10⁻⁴	90	47 ABLIKIM	14H BES3		

$\Gamma(\gamma\eta_c(2S))/\Gamma_{\text{total}}$					Γ_{102}/Γ
<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<9 × 10⁻⁴	90	48 ABLIKIM	14H BES3		

$\Gamma(\gamma\eta')/\Gamma_{\text{total}}$					Γ_{103}/Γ
VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT	
<1.8	90	49 PEDLAR	09 CLE3	$\psi(2S) \rightarrow \gamma X$	

$\Gamma(\gamma\eta)/\Gamma_{\text{total}}$					Γ_{104}/Γ
VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT	
<1.5	90	49 PEDLAR	09 CLE3	$\psi(2S) \rightarrow \gamma X$	

$\Gamma(\gamma\pi^0)/\Gamma_{\text{total}}$					Γ_{105}/Γ
VALUE (units 10^{-4})	CL%	DOCUMENT ID	TECN	COMMENT	
<2	90	PEDLAR	09 CLE3	$\psi(2S) \rightarrow \gamma X$	

³⁷ This limit is equivalent to $(0.25 \pm 0.21 \pm 0.18) \times 10^{-3}$ branching fraction value.

³⁸ Uses $B(\psi(2S) \rightarrow \gamma\chi_{c2}) = 9.22 \pm 0.11 \pm 0.46\%$ from ATHAR 04, $\psi(2S)$ mass and width from PDG 04, and $\Gamma_{ee}(\psi(2S)) = 2.54 \pm 0.03 \pm 0.11$ keV from ADAM 06.

³⁹ Using $\Gamma_{ee}(\psi(2S)) = (2.54 \pm 0.03 \pm 0.11)$ keV from ADAM 06 and taking $\sigma(e^+e^- \rightarrow D\bar{D})$ from HE 05 for $\sigma(e^+e^- \rightarrow \psi(3770))$.

⁴⁰ ABLIKIM 16B reports $(1.94 \pm 0.42 \pm 0.64) \times 10^{-3}$ from a measurement of $[\Gamma(\psi(3770) \rightarrow \gamma\chi_{c1})/\Gamma_{\text{total}}] / [B(\psi(2S) \rightarrow \gamma\chi_{c1}(1P))]$ assuming $B(\psi(2S) \rightarrow \gamma\chi_{c1}(1P)) = (9.55 \pm 0.31) \times 10^{-2}$.

⁴¹ ABLIKIM 14H reports $[\Gamma(\psi(3770) \rightarrow \gamma\chi_{c1})/\Gamma_{\text{total}}] \times [B(\chi_{c1}(1P) \rightarrow K_S^0 K^\pm \pi^\mp)] = (8.51 \pm 2.39 \pm 1.42) \times 10^{-6}$ which we divide by our best value $B(\chi_{c1}(1P) \rightarrow K_S^0 K^\pm \pi^\mp) = 0.00356 \pm 0.00030$. Our first error is their experiment's error and our second error is the systematic error from using our best value. We have calculated the best value of $B(\chi_{c1}(1P) \rightarrow K_S^0 K^\pm \pi^\mp)$ as 1/2 of $B(\chi_{c1}(1P) \rightarrow \bar{K}^0 K^+ \pi^- + \text{c.c.}) = (7.1 \pm 0.6) \times 10^{-3}$.

⁴² Averages the two measurements from COAN 06A and BRIERE 06.

⁴³ Uses $B(\psi(2S) \rightarrow \gamma\chi_{c1}) = 9.07 \pm 0.11 \pm 0.54\%$ from ATHAR 04, $\psi(2S)$ mass and width from PDG 04, and $\Gamma_{ee}(\psi(2S)) = 2.54 \pm 0.03 \pm 0.11$ keV from ADAM 06.

⁴⁴ Using $B(\psi(3770) \rightarrow J/\psi \pi^+ \pi^-) = (1.89 \pm 0.20 \pm 0.20) \times 10^{-3}$ from ADAM 06.

⁴⁵ ABLIKIM 16B reports $(6.88 \pm 0.28 \pm 0.67) \times 10^{-3}$ from a measurement of $[\Gamma(\psi(3770) \rightarrow \gamma\chi_{c0})/\Gamma_{\text{total}}] / [B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P))]$ assuming $B(\psi(2S) \rightarrow \gamma\chi_{c0}(1P)) = (9.99 \pm 0.27) \times 10^{-2}$.

⁴⁶ Not independent of other results in BRIERE 06.

⁴⁷ ABLIKIM 14H reports $[\Gamma(\psi(3770) \rightarrow \gamma\eta_c)/\Gamma_{\text{total}}] \times [B(\eta_c(1S) \rightarrow K_S^0 K^\pm \pi^\mp)] < 16 \times 10^{-6}$ which we divide by our best value $B(\eta_c(1S) \rightarrow K_S^0 K^\pm \pi^\mp) = 2.43 \times 10^{-2}$. We have calculated the best value of $B(\eta_c(1S) \rightarrow K_S^0 K^\pm \pi^\mp)$ as 1/3 of $B(\eta_c(1S) \rightarrow K\bar{K}\pi) = 7.3 \times 10^{-2}$.

⁴⁸ ABLIKIM 14H reports $[\Gamma(\psi(3770) \rightarrow \gamma\eta_c(2S))/\Gamma_{\text{total}}] \times [B(\eta_c(2S) \rightarrow K_S^0 K^\pm \pi^\mp)] < 5.6 \times 10^{-6}$ which we divide by our best value $B(\eta_c(2S) \rightarrow K_S^0 K^\pm \pi^\mp) = 6 \times 10^{-3}$. We have calculated the best value of $B(\eta_c(2S) \rightarrow K_S^0 K^\pm \pi^\mp)$ as 1/3 of $B(\eta_c(2S) \rightarrow K\bar{K}\pi) = 1.9 \times 10^{-2}$.

⁴⁹ Assuming maximal destructive interference between $\psi(3770)$ and continuum sources.

$\psi(3770)$ REFERENCES

ABLIKIM	16B	PL B753 103	M. Ablikim <i>et al.</i>	(BES III Collab.)
ABLIKIM	15J	PR D91 092009	M. Ablikim <i>et al.</i>	(BES III Collab.)
DRUZHININ	15	PR D92 054024	V.P. Druzhinin	(NOVO)
ABLIKIM	14H	PR D89 112005	M. Ablikim <i>et al.</i>	(BES III Collab.)
ABLIKIM	14L	PL B735 101	M. Ablikim <i>et al.</i>	(BES III Collab.)
ABLIKIM	14O	PR D90 032007	M. Ablikim <i>et al.</i>	(BES III Collab.)
BONVICINI	14	PR D89 072002	G. Bonvicini <i>et al.</i>	(CLEO Collab.)
ABLIKIM	13Q	PR D87 112011	Ablikim M. <i>et al.</i>	(BES III Collab.)
ANASHIN	12A	PL B711 292	V.V. Anashin <i>et al.</i>	(KEDR Collab.)
ABLIKIM	10D	EPJ C66 11	M. Ablikim <i>et al.</i>	(BES II Collab.)
BESSON	10	PRL 104 159901 (errat.)	D. Besson <i>et al.</i>	(CLEO Collab.)
ABLIKIM	09C	EPJ C64 243	M. Ablikim <i>et al.</i>	(BES Collab.)
PEDLAR	09	PR D79 111101	T.K. Pedlar <i>et al.</i>	(CLEO Collab.)
ABLIKIM	08B	PL B659 74	M. Ablikim <i>et al.</i>	(BES Collab.)
ABLIKIM	08D	PL B660 315	M. Ablikim <i>et al.</i>	(BES Collab.)
ABLIKIM	08M	PL B670 179	M. Ablikim <i>et al.</i>	(BES Collab.)
ABLIKIM	08N	PL B670 184	M. Ablikim <i>et al.</i>	(BES Collab.)
AUBERT	08B	PR D77 011102	B. Aubert <i>et al.</i>	(BABAR Collab.)
BRODZICKA	08	PRL 100 092001	J. Brodzicka <i>et al.</i>	(BELLE Collab.)
PAKHLOVA	08	PR D77 011103	G. Pakhlova <i>et al.</i>	(BELLE Collab.)
ABLIKIM	07B	PL B650 111	M. Ablikim <i>et al.</i>	(BES Collab.)
ABLIKIM	07E	PL B652 238	M. Ablikim <i>et al.</i>	(BES Collab.)
ABLIKIM	07F	PL B656 30	M. Ablikim <i>et al.</i>	(BES Collab.)
ABLIKIM	07I	EPJ C52 805	M. Ablikim <i>et al.</i>	(BES Collab.)
ABLIKIM	07K	PR D76 122002	M. Ablikim <i>et al.</i>	(BES Collab.)
AUBERT	07BE	PR D76 111105	B. Aubert <i>et al.</i>	(BABAR Collab.)
DOBBS	07	PR D76 112001	S. Dobbs <i>et al.</i>	(CLEO Collab.)
ABLIKIM	06L	PRL 97 121801	M. Ablikim <i>et al.</i>	(BES Collab.)
ABLIKIM	06N	PL B641 145	M. Ablikim <i>et al.</i>	(BES Collab.)
ADAM	06	PRL 96 082004	N.E. Adam <i>et al.</i>	(CLEO Collab.)
ADAMS	06	PR D73 012002	G.S. Adams <i>et al.</i>	(CLEO Collab.)
BESSON	06	PRL 96 092002	D. Besson <i>et al.</i>	(CLEO Collab.)
Also		PRL 104 159901 (errat.)	D. Besson <i>et al.</i>	(CLEO Collab.)
BRIERE	06	PR D74 031106	R.A. Briere <i>et al.</i>	(CLEO Collab.)
COAN	06A	PRL 96 182002	T.E. Coan <i>et al.</i>	(CLEO Collab.)
CRONIN-HEN...	06	PR D74 012005	D. Cronin-Hennessy <i>et al.</i>	(CLEO Collab.)
HUANG	06A	PRL 96 032003	G.S. Huang <i>et al.</i>	(CLEO Collab.)
BAI	05	PL B605 63	J.Z. Bai <i>et al.</i>	(BES Collab.)
HE	05	PRL 95 121801	Q. He <i>et al.</i>	(CLEO Collab.)
Also		PRL 96 199903 (errat.)	Q. He <i>et al.</i>	(CLEO Collab.)
ABLIKIM	04F	PR D70 077101	M. Ablikim <i>et al.</i>	(BES Collab.)
ATHAR	04	PR D70 112002	S.B. Athar <i>et al.</i>	(CLEO Collab.)
CHISTOV	04	PRL 93 051803	R. Chistov <i>et al.</i>	(BELLE Collab.)
PDG	04	PL B592 1	S. Eidelman <i>et al.</i>	(PDG Collab.)
BAI	02C	PRL 88 101802	J.Z. Bai <i>et al.</i>	(BES Collab.)
ADLER	88C	PRL 60 89	J. Adler <i>et al.</i>	(Mark III Collab.)
SCHINDLER	80	PR D21 2716	R.H. Schindler <i>et al.</i>	(Mark II Collab.)
BACINO	78	PRL 40 671	W.J. Bacino <i>et al.</i>	(SLAC, UCLA, UCI)
RAPIDIS	77	PRL 39 526	P.A. Rapidis <i>et al.</i>	(LGW Collab.)