

$\psi(3770)$

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

$\psi(3770)$ 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 |
|---|--------------|--------------|------|--|
| 3773.15±0.33 OUR FIT | | | | |
| 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.

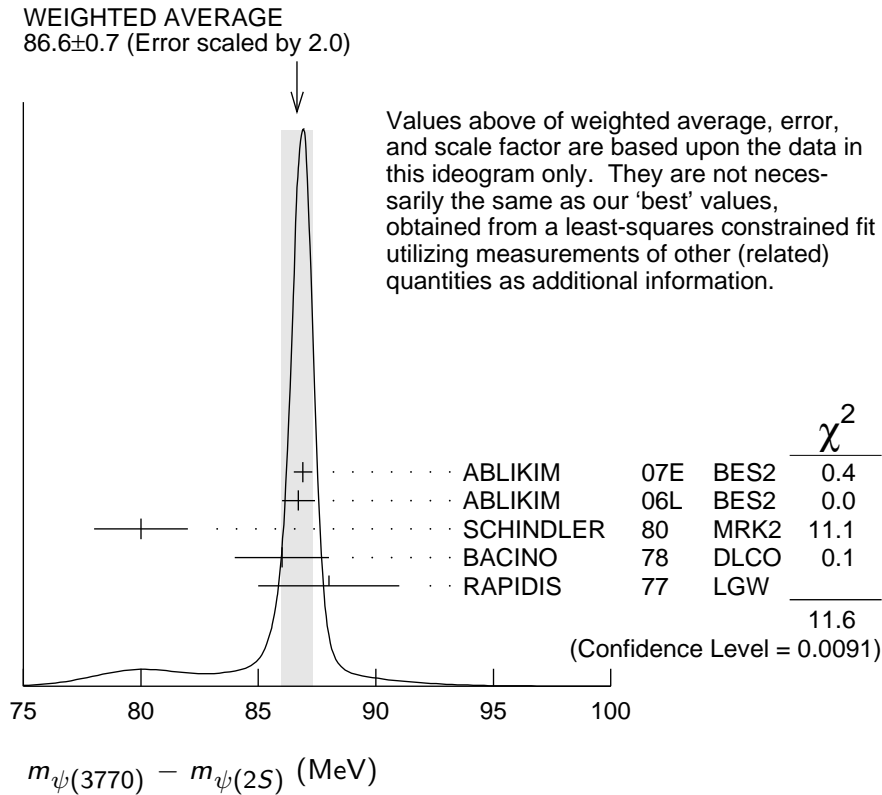
$m_{\psi(3770)} - m_{\psi(2S)}$

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±0.33 OUR FIT | | | |
| 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 $D\bar{D}$ | $(93 \pm 8) \%$ | S=2.0 |
| Γ_2 $D^0\bar{D}^0$ | $(52 \pm 5) \%$ | S=2.0 |
| Γ_3 D^+D^- | $(41 \pm 4) \%$ | S=2.0 |
| Γ_4 $J/\psi\pi^+\pi^-$ | $(1.93 \pm 0.28) \times 10^{-3}$ | |
| Γ_5 $J/\psi\pi^0\pi^0$ | $(8.0 \pm 3.0) \times 10^{-4}$ | |
| Γ_6 $J/\psi\eta$ | $(9 \pm 4) \times 10^{-4}$ | |
| Γ_7 $J/\psi\pi^0$ | $< 2.8 \times 10^{-4}$ | CL=90% |
| Γ_8 e^+e^- | $(9.6 \pm 0.7) \times 10^{-6}$ | 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} $\phi\eta$ | $(3.1 \pm 0.7) \times 10^{-4}$ | |
| 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} $K^*(892)^+K^- + c.c.$ | $< 1.4 \times 10^{-5}$ | CL=90% |
| Γ_{21} $K^*(892)^0\bar{K}^0 + c.c.$ | $< 1.2 \times 10^{-3}$ | CL=90% |
| Γ_{22} $K_S^0 K_L^0$ | $< 1.2 \times 10^{-5}$ | CL=90% |
| Γ_{23} $2(\pi^+\pi^-)$ | $< 1.12 \times 10^{-3}$ | CL=90% |
| Γ_{24} $2(\pi^+\pi^-)\pi^0$ | $< 1.06 \times 10^{-3}$ | CL=90% |
| Γ_{25} $2(\pi^+\pi^-\pi^0)$ | $< 5.85 \%$ | CL=90% |
| Γ_{26} $\omega\pi^+\pi^-$ | $< 6.0 \times 10^{-4}$ | CL=90% |
| Γ_{27} $3(\pi^+\pi^-)$ | $< 9.1 \times 10^{-3}$ | |
| Γ_{28} $3(\pi^+\pi^-)\pi^0$ | $< 1.37 \%$ | |
| Γ_{29} $3(\pi^+\pi^-)2\pi^0$ | $< 11.74 \%$ | CL=90% |
| Γ_{30} $\eta\pi^+\pi^-$ | $< 1.24 \times 10^{-3}$ | CL=90% |
| Γ_{31} $\pi^+\pi^-2\pi^0$ | $< 8.9 \times 10^{-3}$ | CL=90% |
| Γ_{32} $\rho^0\pi^+\pi^-$ | $< 6.9 \times 10^{-3}$ | CL=90% |
| Γ_{33} $\eta3\pi$ | $< 1.34 \times 10^{-3}$ | CL=90% |
| Γ_{34} $\eta2(\pi^+\pi^-)$ | $< 2.43 \%$ | |

| | | | | |
|---------------|-------------------------------------|--------|------------------|--------|
| Γ_{35} | $\eta\rho^0\pi^+\pi^-$ | < 1.45 | % | CL=90% |
| Γ_{36} | $\eta'3\pi$ | < 2.44 | $\times 10^{-3}$ | CL=90% |
| Γ_{37} | $K^+K^-\pi^+\pi^-$ | < 9.0 | $\times 10^{-4}$ | CL=90% |
| Γ_{38} | $\phi\pi^+\pi^-$ | < 4.1 | $\times 10^{-4}$ | CL=90% |
| Γ_{39} | $K^+K^-2\pi^0$ | < 4.2 | $\times 10^{-3}$ | CL=90% |
| Γ_{40} | $4(\pi^+\pi^-)$ | < 1.67 | % | CL=90% |
| Γ_{41} | $4(\pi^+\pi^-)\pi^0$ | < 3.06 | % | CL=90% |
| Γ_{42} | $\phi f_0(980)$ | < 4.5 | $\times 10^{-4}$ | CL=90% |
| Γ_{43} | $K^+K^-\pi^+\pi^-\pi^0$ | < 2.36 | $\times 10^{-3}$ | CL=90% |
| Γ_{44} | $K^+K^-\rho^0\pi^0$ | < 8 | $\times 10^{-4}$ | CL=90% |
| Γ_{45} | $K^+K^-\rho^+\pi^-$ | < 1.46 | % | CL=90% |
| Γ_{46} | ωK^+K^- | < 3.4 | $\times 10^{-4}$ | CL=90% |
| Γ_{47} | $\phi\pi^+\pi^-\pi^0$ | < 3.8 | $\times 10^{-3}$ | CL=90% |
| Γ_{48} | $K^{*0}K^-\pi^+\pi^0 + \text{c.c.}$ | < 1.62 | % | CL=90% |
| Γ_{49} | $K^{*+}K^-\pi^+\pi^- + \text{c.c.}$ | < 3.23 | % | CL=90% |
| Γ_{50} | $K^+K^-\pi^+\pi^-2\pi^0$ | < 2.67 | % | CL=90% |
| Γ_{51} | $K^+K^-2(\pi^+\pi^-)$ | < 1.03 | % | CL=90% |
| Γ_{52} | $K^+K^-2(\pi^+\pi^-)\pi^0$ | < 3.60 | % | CL=90% |
| Γ_{53} | ηK^+K^- | < 4.1 | $\times 10^{-4}$ | CL=90% |
| Γ_{54} | $\eta K^+K^-\pi^+\pi^-$ | < 1.24 | % | CL=90% |
| Γ_{55} | $\rho^0 K^+K^-$ | < 5.0 | $\times 10^{-3}$ | CL=90% |
| Γ_{56} | $2(K^+K^-)$ | < 6.0 | $\times 10^{-4}$ | CL=90% |
| Γ_{57} | ϕK^+K^- | < 7.5 | $\times 10^{-4}$ | CL=90% |
| Γ_{58} | $2(K^+K^-)\pi^0$ | < 2.9 | $\times 10^{-4}$ | CL=90% |
| Γ_{59} | $2(K^+K^-)\pi^+\pi^-$ | < 3.2 | $\times 10^{-3}$ | CL=90% |
| Γ_{60} | $K_S^0 K^-\pi^+$ | < 3.2 | $\times 10^{-3}$ | CL=90% |
| Γ_{61} | $K_S^0 K^-\pi^+\pi^0$ | < 1.33 | % | CL=90% |
| Γ_{62} | $K_S^0 K^-\rho^+$ | < 6.6 | $\times 10^{-3}$ | CL=90% |
| Γ_{63} | $K_S^0 K^-2\pi^+\pi^-$ | < 8.7 | $\times 10^{-3}$ | CL=90% |
| Γ_{64} | $K_S^0 K^-\pi^+\rho^0$ | < 1.6 | % | CL=90% |
| Γ_{65} | $K_S^0 K^-\pi^+\eta$ | < 1.3 | % | CL=90% |
| Γ_{66} | $K_S^0 K^-2\pi^+\pi^-\pi^0$ | < 4.18 | % | CL=90% |
| Γ_{67} | $K_S^0 K^-2\pi^+\pi^-\eta$ | < 4.8 | % | CL=90% |
| Γ_{68} | $K_S^0 K^-\pi^+2(\pi^+\pi^-)$ | < 1.22 | % | CL=90% |
| Γ_{69} | $K_S^0 K^-\pi^+2\pi^0$ | < 2.65 | % | CL=90% |
| Γ_{70} | $K_S^0 K^-K^+K^-\pi^+$ | < 4.9 | $\times 10^{-3}$ | CL=90% |
| Γ_{71} | $K_S^0 K^-K^+K^-\pi^+\pi^0$ | < 3.0 | % | CL=90% |
| Γ_{72} | $K_S^0 K^-K^+K^-\pi^+\eta$ | < 2.2 | % | CL=90% |
| Γ_{73} | $K^{*0}K^-\pi^+ + \text{c.c.}$ | < 9.7 | $\times 10^{-3}$ | CL=90% |
| Γ_{74} | $\rho\bar{\rho}$ | | | |
| Γ_{75} | $\rho\bar{\rho}\pi^0$ | < 4 | $\times 10^{-5}$ | CL=90% |
| Γ_{76} | $\rho\bar{\rho}\pi^+\pi^-$ | < 5.8 | $\times 10^{-4}$ | CL=90% |
| Γ_{77} | $\Lambda\bar{\Lambda}$ | < 1.2 | $\times 10^{-4}$ | CL=90% |

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

Radiative decays

| | | | | |
|----------------|--------------------|-----------------|------------------|--------|
| Γ_{97} | $\gamma\chi_{c2}$ | < 9 | $\times 10^{-4}$ | CL=90% |
| Γ_{98} | $\gamma\chi_{c1}$ | (2.7 ± 0.5) | $\times 10^{-3}$ | |
| Γ_{99} | $\gamma\chi_{c0}$ | (7.3 ± 0.9) | $\times 10^{-3}$ | |
| Γ_{100} | $\gamma\eta_c$ | < 7 | $\times 10^{-4}$ | CL=90% |
| Γ_{101} | $\gamma\eta_c(2S)$ | < 9 | $\times 10^{-4}$ | CL=90% |
| Γ_{102} | $\gamma\eta'$ | < 1.8 | $\times 10^{-4}$ | CL=90% |
| Γ_{103} | $\gamma\eta$ | < 1.5 | $\times 10^{-4}$ | CL=90% |
| Γ_{104} | $\gamma\pi^0$ | < 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 $\chi^2 = 20.0$ 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 | | 98 | | |
| x_8 | | 0 | 0 | |
| Γ | | 0 | 0 | -44 |
| | | x_2 | x_3 | x_8 |

| Mode | Rate (MeV) | Scale factor |
|--------------------------------|----------------------------------|--------------|
| $\Gamma_2 \quad D^0 \bar{D}^0$ | 14.1 ± 1.4 | 1.7 |
| $\Gamma_3 \quad D^+ D^-$ | 11.2 ± 1.1 | 1.7 |
| $\Gamma_8 \quad e^+ e^-$ | $(2.62 \pm 0.18) \times 10^{-4}$ | 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 | $e^+ e^- \rightarrow$ 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 ± 0.05 OUR FIT | Error includes scale factor of 2.0. | | |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | |
| 0.467 ± 0.047 ± 0.023 | ABLIKIM | 06L BES2 | $e^+e^- \rightarrow D^0\bar{D}^0$ |
| 0.499 ± 0.013 ± 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 ± 0.037 ± 0.028 | ABLIKIM | 06L BES2 | $e^+e^- \rightarrow D^+D^-$ |
| 0.357 ± 0.011 ± 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> |
|----------------------------------|-------------|-----------------------|-------------|--|
| 1.260 ± 0.021 OUR FIT | | | | |
| 1.260 ± 0.021 OUR AVERAGE | | | | |
| 1.39 ± 0.31 ± 0.12 | | PAKHLOVA | 08 BELL | 10.6 $e^+e^- \rightarrow D\bar{D}\gamma$ |
| 1.78 ± 0.33 ± 0.24 | | AUBERT | 07BE BABR | $e^+e^- \rightarrow D\bar{D}\gamma$ |
| 1.258 ± 0.016 ± 0.014 | | DOBBS | 07 CLEO | $e^+e^- \rightarrow D\bar{D}$ |
| 1.27 ± 0.12 ± 0.08 | | ABLIKIM | 06L BES2 | $e^+e^- \rightarrow D\bar{D}$ |
| 2.43 ± 1.50 ± 0.43 | 34 | ²¹ CHISTOV | 04 BELL | $B^+ \rightarrow \psi(3770)K^+$ |

$\Gamma(J/\psi\pi^+\pi^-)/\Gamma_{\text{total}}$ 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 ± 0.20 ± 0.20 | 231 ± 33 | ADAM | 06 CLEO | $e^+e^- \rightarrow \psi(3770)$ |
| 3.4 ± 1.4 ± 0.9 | 17.8 ± 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 ± 0.025 ± 0.016 | 39 ± 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 ± 33 ± 22 | 22 ± 10 | ADAM | 06 CLEO | $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(J/\psi\pi^0)/\Gamma_{\text{total}}$ Γ_7/Γ

| <u>VALUE (units 10⁻⁵)</u> | <u>CL%</u> | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|--------------------------------------|------------|-------------|--------------------|-------------|---------------------------------|
| <28 | 90 | <10 | ADAM | 06 CLEO | $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(e^+e^-)/\Gamma_{\text{total}}$ Γ_8/Γ

| <u>VALUE (units 10⁻⁵)</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|--------------------------------------|-------------------------------------|-------------|----------------|
| 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.

———— DECAYS TO LIGHT HADRONS ————

$\Gamma(b_1(1235)\pi)/\Gamma_{total}$ Γ_9/Γ

| VALUE (units 10^{-5}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|---------------------|------|--------------------------------------|
| <1.4 | 90 | ²² ADAMS | 06 | CLEO $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(\phi\eta')/\Gamma_{total}$ Γ_{10}/Γ

| VALUE (units 10^{-4}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|---------------------|------|--------------------------------------|
| <7 | 90 | ²² ADAMS | 06 | CLEO $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(\omega\eta')/\Gamma_{total}$ Γ_{11}/Γ

| VALUE (units 10^{-4}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|---------------------|------|--------------------------------------|
| <4 | 90 | ²² ADAMS | 06 | CLEO $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(\rho^0\eta')/\Gamma_{total}$ Γ_{12}/Γ

| VALUE (units 10^{-4}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|---------------------|------|--------------------------------------|
| <6 | 90 | ²² ADAMS | 06 | CLEO $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(\phi\eta)/\Gamma_{total}$ Γ_{13}/Γ

| VALUE (units 10^{-4}) | DOCUMENT ID | TECN | COMMENT |
|---|---------------------|------|--|
| $3.1 \pm 0.6 \pm 0.3$ | ²² ADAMS | 06 | CLEO $3.773 e^+e^- \rightarrow \phi\eta$ |

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

| | | | |
|---------------|-----------------------|-----|--------------------------------------|
| <19 | ²³ ABLIKIM | 07B | BES2 $e^+e^- \rightarrow \psi(3770)$ |
|---------------|-----------------------|-----|--------------------------------------|

$\Gamma(\omega\eta)/\Gamma_{total}$ Γ_{14}/Γ

| VALUE (units 10^{-5}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|---------------------|------|--------------------------------------|
| <1.4 | 90 | ²² ADAMS | 06 | CLEO $e^+e^- \rightarrow \psi(3770)$ |

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

| VALUE (units 10^{-4}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|---------------------|------|--------------------------------------|
| <5 | 90 | ²² ADAMS | 06 | CLEO $e^+e^- \rightarrow \psi(3770)$ |

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

| VALUE (units 10^{-5}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|---------------------|------|--------------------------------------|
| < 3 | 90 | ²² ADAMS | 06 | CLEO $e^+e^- \rightarrow \psi(3770)$ |

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

| | | | |
|---------------|-----------------------|-----|--------------------------------------|
| <50 | ²³ 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 | 22 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 | 22,24 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 | 22,24 ADAMS | 06 | CLEO $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(K^*(892)^+K^- + \text{c.c.})/\Gamma_{\text{total}}$ Γ_{20}/Γ

| <u>VALUE (units 10^{-5})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|--------------------|-------------|--------------------------------------|
| <1.4 | 90 | 22 ADAMS | 06 | CLEO $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(K^*(892)^0\bar{K}^0 + \text{c.c.})/\Gamma_{\text{total}}$ Γ_{21}/Γ

| <u>VALUE (units 10^{-3})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|--------------------|-------------|--------------------------------------|
| <1.2 | 90 | 22 ADAMS | 06 | CLEO $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(K_S^0 K_L^0)/\Gamma_{\text{total}}$ Γ_{22}/Γ

| <u>VALUE (units 10^{-5})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|--------------------|-------------|---------------------------------|
| < 1.2 | 90 | 25 CRONIN-HEN..06 | CLEO | $e^+e^- \rightarrow \psi(3770)$ |

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

| | | | | |
|-----|----|------------|-----|-------------------------------------|
| <21 | 90 | 26 ABLIKIM | 04F | BES $e^+e^- \rightarrow \psi(3770)$ |
|-----|----|------------|-----|-------------------------------------|

$\Gamma(2(\pi^+\pi^-))/\Gamma_{\text{total}}$ Γ_{23}/Γ

| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|--------------------|-------------|--------------------------------------|
| <11.2 | 90 | 27 HUANG | 06A | CLEO $e^+e^- \rightarrow \psi(3770)$ |

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

| | | | | |
|-----|--|------------|-----|--------------------------------------|
| <48 | | 23 ABLIKIM | 07B | BES2 $e^+e^- \rightarrow \psi(3770)$ |
|-----|--|------------|-----|--------------------------------------|

$\Gamma(2(\pi^+\pi^-\pi^0))/\Gamma_{\text{total}}$ Γ_{24}/Γ

| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|--------------------|-------------|--------------------------------------|
| <10.6 | 90 | 27 HUANG | 06A | CLEO $e^+e^- \rightarrow \psi(3770)$ |

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

| | | | | |
|-----|--|------------|-----|--------------------------------------|
| <62 | | 23 ABLIKIM | 07B | BES2 $e^+e^- \rightarrow \psi(3770)$ |
|-----|--|------------|-----|--------------------------------------|

$\Gamma(2(\pi^+\pi^-\pi^0))/\Gamma_{\text{total}}$ Γ_{25}/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_{26}/Γ

| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|----|--------------------|-------------|--------------------------------------|
| < 6.0 | 90 | 27 | HUANG | 06A | CLEO $e^+e^- \rightarrow \psi(3770)$ |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | | |
| <55 | 90 | 23 | ABLIKIM | 07I | BES2 $3.77 e^+e^-$ |

$\Gamma(3(\pi^+\pi^-))/\Gamma_{\text{total}}$ Γ_{27}/Γ

| <u>VALUE (units 10^{-4})</u> | | | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|--|----|--------------------|-------------|--------------------------------------|
| <91 | | 23 | ABLIKIM | 07B | BES2 $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(3(\pi^+\pi^-\pi^0))/\Gamma_{\text{total}}$ Γ_{28}/Γ

| <u>VALUE (units 10^{-4})</u> | | | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|--|----|--------------------|-------------|--------------------------------------|
| <137 | | 23 | ABLIKIM | 07B | BES2 $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(3(\pi^+\pi^-)2\pi^0)/\Gamma_{\text{total}}$ Γ_{29}/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_{30}/Γ

| <u>VALUE (units 10^{-3})</u> | <u>CL%</u> | | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|----|--------------------|-------------|--------------------------------------|
| <1.24 | 90 | 27 | HUANG | 06A | CLEO $e^+e^- \rightarrow \psi(3770)$ |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | | |
| <2.3 | 90 | 23 | ABLIKIM | 10D | BES2 $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(\pi^+\pi^-2\pi^0)/\Gamma_{\text{total}}$ Γ_{31}/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_{32}/Γ

| <u>VALUE (units 10^{-3})</u> | <u>CL%</u> | | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|----|--------------------|-------------|--------------------------------------|
| <6.9 | 90 | 23 | ABLIKIM | 07F | BES2 $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(\eta3\pi)/\Gamma_{\text{total}}$ Γ_{33}/Γ

| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|----|--------------------|-------------|--------------------------------------|
| <13.4 | 90 | 27 | HUANG | 06A | CLEO $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(\eta2(\pi^+\pi^-))/\Gamma_{\text{total}}$ Γ_{34}/Γ

| <u>VALUE (units 10^{-4})</u> | | | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|--|----|--------------------|-------------|--------------------------------------|
| <243 | | 23 | ABLIKIM | 07B | BES2 $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(\eta\rho^0\pi^+\pi^-)/\Gamma_{\text{total}}$ Γ_{35}/Γ

| <u>VALUE (units 10^{-2})</u> | <u>CL%</u> | | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|----|--------------------|-------------|--------------------------------------|
| <1.45 | 90 | 23 | ABLIKIM | 10D | BES2 $e^+e^- \rightarrow \psi(3770)$ |

| $\Gamma(\eta' 3\pi)/\Gamma_{\text{total}}$ | | | | | Γ_{36}/Γ |
|---|------------|--------------------|--------------------|----------------------------------|----------------------------------|
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <24.4 | 90 | 27 HUANG | 06A CLEO | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(K^+ K^- \pi^+ \pi^-)/\Gamma_{\text{total}}$ | | | | | Γ_{37}/Γ |
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| < 9.0 | 90 | 27 HUANG | 06A CLEO | $e^+ e^- \rightarrow \psi(3770)$ | |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | | |
| <48 | | 23 ABLIKIM | 07B BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(\phi \pi^+ \pi^-)/\Gamma_{\text{total}}$ | | | | | Γ_{38}/Γ |
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| < 4.1 | 90 | 27 HUANG | 06A CLEO | $e^+ e^- \rightarrow \psi(3770)$ | |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | | |
| <16 | | 23 ABLIKIM | 07B BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(K^+ K^- 2\pi^0)/\Gamma_{\text{total}}$ | | | | | Γ_{39}/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_{40}/Γ |
| <u>VALUE (units 10^{-3})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <16.7 | 90 | 23 ABLIKIM | 07F BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(4(\pi^+ \pi^-) \pi^0)/\Gamma_{\text{total}}$ | | | | | Γ_{41}/Γ |
| <u>VALUE (units 10^{-3})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <30.6 | 90 | 23 ABLIKIM | 07F BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(\phi f_0(980))/\Gamma_{\text{total}}$ | | | | | Γ_{42}/Γ |
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <4.5 | 90 | 27 HUANG | 06A CLEO | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(K^+ K^- \pi^+ \pi^- \pi^0)/\Gamma_{\text{total}}$ | | | | | Γ_{43}/Γ |
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| < 23.6 | 90 | 27 HUANG | 06A CLEO | $e^+ e^- \rightarrow \psi(3770)$ | |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | | |
| <111 | | 23 ABLIKIM | 07B BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(K^+ K^- \rho^0 \pi^0)/\Gamma_{\text{total}}$ | | | | | Γ_{44}/Γ |
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <8 | 90 | 23 ABLIKIM | 07I BES2 | $3.77 e^+ e^-$ | |
| $\Gamma(K^+ K^- \rho^+ \pi^-)/\Gamma_{\text{total}}$ | | | | | Γ_{45}/Γ |
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <146 | 90 | 23 ABLIKIM | 07I BES2 | $3.77 e^+ e^-$ | |

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

| VALUE (units 10^{-4}) | CL% | DOCUMENT ID | TECN | COMMENT |
|---|-----|-----------------------|------|---------------------------------------|
| < 3.4 | 90 | ²⁷ HUANG | 06A | CLEO $e^+ e^- \rightarrow \psi(3770)$ |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| <66 | 90 | ²³ ABLIKIM | 07I | BES2 $e^+ e^-$ |

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

| VALUE (units 10^{-4}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|-----------------------|------|----------------|
| <38 | 90 | ²³ ABLIKIM | 07I | BES2 $e^+ e^-$ |

$\Gamma(K^{*0} K^- \pi^+ \pi^0 + \text{c.c.})/\Gamma_{\text{total}}$ Γ_{48}/Γ

| VALUE (units 10^{-4}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|-----------------------|------|----------------|
| <162 | 90 | ²³ ABLIKIM | 07I | BES2 $e^+ e^-$ |

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

| VALUE (units 10^{-4}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|-----------------------|------|----------------|
| <323 | 90 | ²³ ABLIKIM | 07I | BES2 $e^+ e^-$ |

$\Gamma(K^+ K^- \pi^+ \pi^- 2\pi^0)/\Gamma_{\text{total}}$ Γ_{50}/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_{51}/Γ

| VALUE (units 10^{-3}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|-----------------------|------|---------------------------------------|
| <10.3 | 90 | ²³ ABLIKIM | 07F | BES2 $e^+ e^- \rightarrow \psi(3770)$ |

$\Gamma(K^+ K^- 2(\pi^+ \pi^-) \pi^0)/\Gamma_{\text{total}}$ Γ_{52}/Γ

| VALUE (units 10^{-3}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|-----------------------|------|---------------------------------------|
| <36.0 | 90 | ²³ ABLIKIM | 07F | BES2 $e^+ e^- \rightarrow \psi(3770)$ |

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

| VALUE (units 10^{-4}) | CL% | DOCUMENT ID | TECN | COMMENT |
|---|-----|-----------------------|------|---------------------------------------|
| < 4.1 | 90 | ²⁷ HUANG | 06A | CLEO $e^+ e^- \rightarrow \psi(3770)$ |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| <31 | 90 | ²³ ABLIKIM | 10D | BES2 $e^+ e^- \rightarrow \psi(3770)$ |

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

| VALUE (units 10^{-2}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|-----------------------|------|---------------------------------------|
| <1.24 | 90 | ²³ ABLIKIM | 10D | BES2 $e^+ e^- \rightarrow \psi(3770)$ |

$\Gamma(\rho^0 K^+ K^-)/\Gamma_{\text{total}}$ Γ_{55}/Γ

| VALUE (units 10^{-3}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|-----------------------|------|---------------------------------------|
| <5.0 | 90 | ²³ ABLIKIM | 07F | BES2 $e^+ e^- \rightarrow \psi(3770)$ |

| $\Gamma(2(K^+ K^-))/\Gamma_{\text{total}}$ | | | | | Γ_{56}/Γ |
|---|------------|--------------------|--------------------|----------------------------------|----------------------------------|
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| < 6.0 | 90 | 27 HUANG | 06A CLEO | $e^+ e^- \rightarrow \psi(3770)$ | |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | | |
| <17 | | 23 ABLIKIM | 07B BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(\phi K^+ K^-)/\Gamma_{\text{total}}$ | | | | | Γ_{57}/Γ |
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| < 7.5 | 90 | 27 HUANG | 06A CLEO | $e^+ e^- \rightarrow \psi(3770)$ | |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | | |
| <24 | | 23 ABLIKIM | 07B BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(2(K^+ K^-)\pi^0)/\Gamma_{\text{total}}$ | | | | | Γ_{58}/Γ |
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| < 2.9 | 90 | 27 HUANG | 06A CLEO | $e^+ e^- \rightarrow \psi(3770)$ | |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | | |
| <46 | | 23 ABLIKIM | 07B BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(2(K^+ K^-)\pi^+ \pi^-)/\Gamma_{\text{total}}$ | | | | | Γ_{59}/Γ |
| <u>VALUE (units 10^{-3})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <3.2 | 90 | 23 ABLIKIM | 07F BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(K_S^0 K^- \pi^+)/\Gamma_{\text{total}}$ | | | | | Γ_{60}/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_{61}/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_{62}/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_{63}/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_{64}/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_{65}/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_{66}/Γ

| VALUE (units 10^{-3}) | CL% | EVTS | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|------|-------------|----------|----------------------------------|
| <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_{67}/Γ

| VALUE (units 10^{-2}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|-------------|----------|----------------------------------|
| <4.8 | 90 | ABLIKIM | 09C BES2 | $e^+ e^- \rightarrow \psi(3770)$ |

$\Gamma(K_S^0 K^- \pi^+ 2(\pi^+ \pi^-))/\Gamma_{\text{total}}$ Γ_{68}/Γ

| VALUE (units 10^{-3}) | CL% | EVTS | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|------|-------------|----------|----------------------------------|
| <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_{69}/Γ

| VALUE (units 10^{-3}) | CL% | EVTS | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|------|-------------|----------|----------------------------------|
| <26.5 | 90 | 17 | ABLIKIM | 08M BES2 | $e^+ e^- \rightarrow \psi(3770)$ |

$\Gamma(K_S^0 K^- K^+ K^- \pi^+)/\Gamma_{\text{total}}$ Γ_{70}/Γ

| VALUE (units 10^{-3}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|-------------|----------|----------------------------------|
| <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_{71}/Γ

| VALUE (units 10^{-2}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|-------------|----------|----------------------------------|
| <3.0 | 90 | ABLIKIM | 09C BES2 | $e^+ e^- \rightarrow \psi(3770)$ |

$\Gamma(K_S^0 K^- K^+ K^- \pi^+ \eta)/\Gamma_{\text{total}}$ Γ_{72}/Γ

| VALUE (units 10^{-2}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|-------------|----------|----------------------------------|
| <2.2 | 90 | ABLIKIM | 09C BES2 | $e^+ e^- \rightarrow \psi(3770)$ |

$\Gamma(K^{*0} K^- \pi^+ + \text{c.c.})/\Gamma_{\text{total}}$ Γ_{73}/Γ

| VALUE (units 10^{-3}) | CL% | EVTS | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|------|-------------|----------|----------------------------------|
| <9.7 | 90 | 23 | ABLIKIM | 07F BES2 | $e^+ e^- \rightarrow \psi(3770)$ |

$\Gamma(\rho\bar{\rho})/\Gamma_{\text{total}}$ Γ_{74}/Γ

| VALUE (units 10^{-6}) | EVTS | DOCUMENT ID | TECN | COMMENT |
|--------------------------|------|-------------|------|---------|
|--------------------------|------|-------------|------|---------|

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

| | | | | | | |
|---------------------|-----|----|---------|----------|----------------------------------|--|
| $7.1^{+8.6}_{-2.9}$ | 684 | 28 | ABLIKIM | 14L BES3 | $e^+ e^- \rightarrow \psi(3770)$ | |
| 310 ± 30 | 684 | 29 | ABLIKIM | 14L BES3 | $e^+ e^- \rightarrow \psi(3770)$ | |

$\Gamma(\rho\bar{\rho}\pi^0)/\Gamma_{\text{total}}$ Γ_{75}/Γ

| VALUE (units 10^{-4}) | CL% | EVTS | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|------|-------------|----------|--|
| < 0.4 | 90 | 30 | ABLIKIM | 14O BES3 | Sol. I, $e^+ e^- \rightarrow \psi(3770)$ |

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

| | | | | | |
|----------------------|----|---------|----------|---|--|
| $59^{+3}_{-2} \pm 5$ | 30 | ABLIKIM | 14O BES3 | Sol. II, $e^+ e^- \rightarrow \psi(3770)$ | |
| <12 | 23 | ABLIKIM | 07B BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |

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

| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|-----------------------|-------------|--------------------------------------|
| < 5.8 | 90 | ²⁷ HUANG | 06A | CLEO $e^+e^- \rightarrow \psi(3770)$ |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | |
| <16 | | ²³ ABLIKIM | 07B | BES2 $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(\Lambda\bar{\Lambda})/\Gamma_{\text{total}}$ Γ_{77}/Γ

| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|-----------------------|-------------|--------------------------------------|
| <1.2 | 90 | ²⁷ HUANG | 06A | CLEO $e^+e^- \rightarrow \psi(3770)$ |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | |
| <4 | 90 | ²³ ABLIKIM | 07F | BES2 $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(\rho\bar{\rho}\pi^+\pi^-\pi^0)/\Gamma_{\text{total}}$ Γ_{78}/Γ

| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|-----------------------|-------------|--------------------------------------|
| <18.5 | 90 | ²⁷ HUANG | 06A | CLEO $e^+e^- \rightarrow \psi(3770)$ |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | |
| <73 | | ²³ ABLIKIM | 07B | BES2 $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(\omega\rho\bar{\rho})/\Gamma_{\text{total}}$ Γ_{79}/Γ

| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|-----------------------|-------------|--------------------------------------|
| < 2.9 | 90 | ²⁷ HUANG | 06A | CLEO $e^+e^- \rightarrow \psi(3770)$ |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | |
| <30 | 90 | ³¹ ABLIKIM | 07I | BES2 $3.77 e^+e^-$ |

$\Gamma(\Lambda\bar{\Lambda}\pi^0)/\Gamma_{\text{total}}$ Γ_{80}/Γ

| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|-----------------------|-------------|--------------------------------------|
| < 0.7 | 90 | ³² ABLIKIM | 13Q | BES3 $e^+e^- \rightarrow \psi(3770)$ |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | |
| <12 | 90 | ²³ ABLIKIM | 07I | BES2 $3.77 e^+e^-$ |

$\Gamma(\rho\bar{\rho}2(\pi^+\pi^-))/\Gamma_{\text{total}}$ Γ_{81}/Γ

| <u>VALUE (units 10^{-3})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|-----------------------|-------------|--------------------------------------|
| <2.6 | 90 | ²³ ABLIKIM | 07F | BES2 $e^+e^- \rightarrow \psi(3770)$ |

$\Gamma(\eta\rho\bar{\rho})/\Gamma_{\text{total}}$ Γ_{82}/Γ

| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|-----------------------|-------------|--------------------------------------|
| < 5.4 | 90 | ²⁷ HUANG | 06A | CLEO $e^+e^- \rightarrow \psi(3770)$ |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | | |
| <11 | 90 | ²³ ABLIKIM | 10D | BES2 $e^+e^- \rightarrow \psi(3770)$ |

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

| <u>VALUE (units 10^{-3})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|------------|-----------------------|-------------|--------------------------------------|
| <3.3 | 90 | ²³ ABLIKIM | 10D | BES2 $e^+e^- \rightarrow \psi(3770)$ |

| $\Gamma(\rho^0 \rho \bar{\rho})/\Gamma_{\text{total}}$ | | | | | Γ_{84}/Γ |
|---|------------|--------------------|-------------|----------------------------------|----------------------|
| <u>VALUE (units 10^{-3})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <1.7 | 90 | 23 ABLIKIM | 07F BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(\rho \bar{\rho} K^+ K^-)/\Gamma_{\text{total}}$ | | | | | Γ_{85}/Γ |
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| < 3.2 | 90 | 27 HUANG | 06A CLEO | $e^+ e^- \rightarrow \psi(3770)$ | |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | | |
| <11 | | 23 ABLIKIM | 07B BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(\eta \rho \bar{\rho} K^+ K^-)/\Gamma_{\text{total}}$ | | | | | Γ_{86}/Γ |
| <u>VALUE (units 10^{-3})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <6.9 | 90 | 23 ABLIKIM | 10D BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(\pi^0 \rho \bar{\rho} K^+ K^-)/\Gamma_{\text{total}}$ | | | | | Γ_{87}/Γ |
| <u>VALUE (units 10^{-3})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <1.2 | 90 | 23 ABLIKIM | 10D BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(\phi \rho \bar{\rho})/\Gamma_{\text{total}}$ | | | | | Γ_{88}/Γ |
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <1.3 | 90 | 27 HUANG | 06A CLEO | $e^+ e^- \rightarrow \psi(3770)$ | |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | | |
| <9 | | 23 ABLIKIM | 07B BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(\Lambda \bar{\Lambda} \pi^+ \pi^-)/\Gamma_{\text{total}}$ | | | | | Γ_{89}/Γ |
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| < 2.5 | 90 | 27 HUANG | 06A CLEO | $e^+ e^- \rightarrow \psi(3770)$ | |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | | |
| < 4.7 | 90 | 32 ABLIKIM | 13Q BES3 | $e^+ e^- \rightarrow \psi(3770)$ | |
| <39 | 90 | 23 ABLIKIM | 07F BES2 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(\Lambda \bar{\rho} K^+)/\Gamma_{\text{total}}$ | | | | | Γ_{90}/Γ |
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <2.8 | 90 | 27 HUANG | 06A CLEO | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(\Lambda \bar{\rho} K^+ \pi^+ \pi^-)/\Gamma_{\text{total}}$ | | | | | Γ_{91}/Γ |
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <6.3 | 90 | 27 HUANG | 06A CLEO | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(\Lambda \bar{\Lambda} \eta)/\Gamma_{\text{total}}$ | | | | | Γ_{92}/Γ |
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <1.9 | 90 | 32 ABLIKIM | 13Q BES3 | $e^+ e^- \rightarrow \psi(3770)$ | |
| $\Gamma(\Sigma^+ \bar{\Sigma}^-)/\Gamma_{\text{total}}$ | | | | | Γ_{93}/Γ |
| <u>VALUE (units 10^{-4})</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <1.0 | 90 | 32 ABLIKIM | 13Q BES3 | $e^+ e^- \rightarrow \psi(3770)$ | |

$\Gamma(\Sigma^0 \bar{\Sigma}^0)/\Gamma_{\text{total}}$ Γ_{94}/Γ

| VALUE (units 10^{-4}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|-----------------------|----------|----------------------------------|
| <0.4 | 90 | ³² ABLIKIM | 13Q BES3 | $e^+ e^- \rightarrow \psi(3770)$ |

$\Gamma(\Xi^+ \bar{\Xi}^-)/\Gamma_{\text{total}}$ Γ_{95}/Γ

| VALUE (units 10^{-4}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|-----------------------|----------|----------------------------------|
| <1.5 | 90 | ³² ABLIKIM | 13Q BES3 | $e^+ e^- \rightarrow \psi(3770)$ |

$\Gamma(\Xi^0 \bar{\Xi}^0)/\Gamma_{\text{total}}$ Γ_{96}/Γ

| VALUE (units 10^{-4}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|-----------------------|----------|----------------------------------|
| <1.4 | 90 | ³² ABLIKIM | 13Q BES3 | $e^+ e^- \rightarrow \psi(3770)$ |

²² 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.

²³ Assuming that interference effects between resonance and continuum can be neglected and using $\sigma^{\text{obs}}(e^+ e^- \rightarrow \psi(3770)) = 7.15 \pm 0.38$ nb.

²⁴ Data suggest possible destructive interference with continuum.

²⁵ Using $\sigma(e^+ e^- \rightarrow \psi(3770) \rightarrow \text{hadrons}) = (6.38 \pm 0.08^{+0.41}_{-0.30})$ nb from BESSON 06 and $B(K_S^0 \rightarrow \pi^+ \pi^-) = 0.6895 \pm 0.0014$.

²⁶ Using $B(K_S^0 \rightarrow \pi^+ \pi^-) = 0.6860 \pm 0.0027$.

²⁷ Using $\sigma_{\text{tot}}(e^+ e^- \rightarrow \psi(3770)) = 7.9 \pm 0.6$ nb at the resonance.

²⁸ Solution I of two equivalent solutions in a fit with a resonance interfering with continuum.

²⁹ Solution II of two equivalent solutions in a fit with a resonance interfering with continuum.

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

³¹ Using $\sigma^{\text{obs}} = 7.15 \pm 0.27 \pm 0.27$ nb and neglecting interference.

³² Assuming that interference effects between resonance and continuum can be neglected.

————— **RADIATIVE DECAYS** —————

$\Gamma(\gamma\chi_{c2})/\Gamma_{\text{total}}$ Γ_{97}/Γ

| VALUE (units 10^{-3}) | CL% | DOCUMENT ID | TECN | COMMENT |
|--------------------------|-----|--------------------|----------|--|
| <0.9 | 90 | ³³ COAN | 06A CLEO | $e^+ e^- \rightarrow \psi(3770) \rightarrow \gamma\gamma J/\psi$ |

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

| | | | | |
|------|----|----------------------|---------|--|
| <2.0 | 90 | ³⁴ BRIERE | 06 CLEO | $e^+ e^- \rightarrow \psi(3770) \rightarrow \gamma + \text{hadrons}$ |
|------|----|----------------------|---------|--|

$\Gamma(\gamma\chi_{c1})/\Gamma_{\text{total}}$ Γ_{98}/Γ

| VALUE (units 10^{-3}) | EVTS | DOCUMENT ID | TECN | COMMENT |
|----------------------------|------|-------------|------|---------|
| 2.7±0.5 OUR AVERAGE | | | | |

2.4±0.8±0.2

³⁵ ABLIKIM 14H BES3

2.9±0.5±0.4

³⁶ 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 ± 17 ³⁷ BRIERE 06 CLEO $e^+ e^- \rightarrow \psi(3770) \rightarrow \gamma + \text{hadrons}$

2.8±0.5±0.4 53 ± 10 ³³ COAN 06A CLEO $e^+ e^- \rightarrow \psi(3770) \rightarrow \gamma\gamma J/\psi$

| $\Gamma(\gamma\chi_{c1})/\Gamma(J/\psi\pi^+\pi^-)$ | | | | | Γ_{98}/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 | 38 COAN | 06A CLEO | $e^+e^- \rightarrow \psi(3770) \rightarrow \gamma\gamma J/\psi$ | |

| $\Gamma(\gamma\chi_{c0})/\Gamma_{\text{total}}$ | | | | | Γ_{99}/Γ |
|---|------------|-------------|--------------------|-------------|---|
| <u>VALUE (units 10⁻³)</u> | <u>CL%</u> | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
| 7.3±0.7±0.6 | | 274 ± 27 | 39 BRIERE | 06 CLEO | $e^+e^- \rightarrow \psi(3770) \rightarrow \gamma + \text{hadrons}$ |
| < 44 | 90 | | 33 COAN | 06A CLEO | $e^+e^- \rightarrow \psi(3770) \rightarrow \gamma\gamma J/\psi$ |

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

| $\Gamma(\gamma\chi_{c0})/\Gamma(\gamma\chi_{c2})$ | | | | | Γ_{99}/Γ_{97} |
|---|------------|--------------------|-------------|---------------------------------|---------------------------|
| <u>VALUE</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| >8 | 90 | 40 BRIERE | 06 CLEO | $e^+e^- \rightarrow \psi(3770)$ | |

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

| $\Gamma(\gamma\chi_{c0})/\Gamma(\gamma\chi_{c1})$ | | | | | Γ_{99}/Γ_{98} |
|---|--------------------|-------------|---------------------------------|--|---------------------------|
| <u>VALUE</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | | |
| 2.5±0.6 | 40 BRIERE | 06 CLEO | $e^+e^- \rightarrow \psi(3770)$ | | |

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

| $\Gamma(\gamma\eta_c)/\Gamma_{\text{total}}$ | | | | | Γ_{100}/Γ |
|--|------------|--------------------|-------------|----------------|-----------------------|
| <u>VALUE</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <7 × 10 ⁻⁴ | 90 | 41 ABLIKIM | 14H BES3 | | |

| $\Gamma(\gamma\eta_c(2S))/\Gamma_{\text{total}}$ | | | | | Γ_{101}/Γ |
|--|------------|--------------------|-------------|----------------|-----------------------|
| <u>VALUE</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <9 × 10 ⁻⁴ | 90 | 42 ABLIKIM | 14H BES3 | | |

| $\Gamma(\gamma\eta')/\Gamma_{\text{total}}$ | | | | | Γ_{102}/Γ |
|---|------------|--------------------|-------------|---------------------------------|-----------------------|
| <u>VALUE (units 10⁻⁴)</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <1.8 | 90 | 43 PEDLAR | 09 CLE3 | $\psi(2S) \rightarrow \gamma X$ | |

| $\Gamma(\gamma\eta)/\Gamma_{\text{total}}$ | | | | | Γ_{103}/Γ |
|--|------------|--------------------|-------------|---------------------------------|-----------------------|
| <u>VALUE (units 10⁻⁴)</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <1.5 | 90 | 43 PEDLAR | 09 CLE3 | $\psi(2S) \rightarrow \gamma X$ | |

| $\Gamma(\gamma\pi^0)/\Gamma_{\text{total}}$ | | | | | Γ_{104}/Γ |
|---|------------|--------------------|-------------|---------------------------------|-----------------------|
| <u>VALUE (units 10⁻⁴)</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> | |
| <2 | 90 | PEDLAR | 09 CLE3 | $\psi(2S) \rightarrow \gamma X$ | |

- ³³ 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 $\sigma(e^+e^- \rightarrow \psi(3770))$.
- ³⁴ 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.
- ³⁵ 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 $B(\chi_{c1}(1P) \rightarrow \bar{K}^0 K^+ \pi^- + \text{c.c.}) = (7.1 \pm 0.6) \times 10^{-3}$.
- ³⁶ Averages the two measurements from COAN 06A and BRIERE 06.
- ³⁷ 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.
- ³⁸ Using $B(\psi(3770) \rightarrow J/\psi \pi^+ \pi^-) = (1.89 \pm 0.20 \pm 0.20) \times 10^{-3}$ from ADAM 06.
- ³⁹ Uses $B(\psi(2S) \rightarrow \gamma\chi_{c0}) = 9.33 \pm 0.14 \pm 0.61\%$ 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.
- ⁴⁰ Not independent of other results in BRIERE 06.
- ⁴¹ 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 $B(\eta_c(1S) \rightarrow K_S^0 K^\pm \pi^\mp) = 2.42 \times 10^{-2}$. We have calculated the best value of $B(\eta_c(1S) \rightarrow K_S^0 K^\pm \pi^\mp)$ as 1/3 of $B(\eta_c(1S) \rightarrow K\bar{K}\pi) = 7.3 \times 10^{-2}$.
- ⁴² 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 $B(\eta_c(2S) \rightarrow K\bar{K}\pi) = 1.9 \times 10^{-2}$.
- ⁴³ Assuming maximal destructive interference between $\psi(3770)$ and continuum sources.

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