

$\phi(2170)$

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

See the review on "Spectroscopy of Light Meson Resonances."

$\phi(2170)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
2164 ± 6 OUR AVERAGE				
2178 ± 20 ± 5		¹ ABLIKIM	23AX BES3	$e^+e^- \rightarrow \phi\pi^+\pi^-$
2190 ± 19 ± 37		² ABLIKIM	22L BES3	2.0–3.08 $e^+e^- \rightarrow K^+K^-\pi^0$
2176 ± 24 ± 3		³ ABLIKIM	21A BES3	$e^+e^- \rightarrow \omega\eta$
2163.5 ± 6.2 ± 3.0		⁴ ABLIKIM	21T BES3	$e^+e^- \rightarrow \phi\eta$
2177.5 ± 4.8 ± 19.5		⁵ ABLIKIM	20M BES3	$e^+e^- \rightarrow \eta'\phi$
2126.5 ± 16.8 ± 12.4		⁶ ABLIKIM	20S BES3	$e^+e^- \rightarrow K^+K^-\pi^0\pi^0$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
2215.7 ± 8.3		⁷ LICHARD	23 RVUE	$e^+e^- \rightarrow \Upsilon(nS) \rightarrow \phi\eta\gamma$
2169 ± 5 ± 6		⁸ ZHU	23A RVUE	$e^+e^- \rightarrow \eta\phi$
2273.7 ± 5.7 ± 19.3		⁹ ABLIKIM	21AP BES3	$e^+e^- \rightarrow K_S^0 K_L^0$
2135 ± 8 ± 9	95	ABLIKIM	19I BES3	$e^+e^- \rightarrow \eta\phi f_0(980)$
2239.2 ± 7.1 ± 11.3		¹⁰ ABLIKIM	19L BES3	$e^+e^- \rightarrow K^+K^-$
2200 ± 6 ± 5	471	ABLIKIM	15H BES3	$J/\psi \rightarrow \eta\phi\pi^+\pi^-$
2180 ± 8 ± 8		^{11,12} LEES	12F BABR	10.6 $e^+e^- \rightarrow \phi\pi^+\pi^-\gamma$
2079 ± 13 ⁺⁷⁹ / ₋₂₈	4.8k	¹³ SHEN	09 BELL	10.6 $e^+e^- \rightarrow K^+K^-\pi^+\pi^-\gamma$
2186 ± 10 ± 6	52	ABLIKIM	08F BES	$J/\psi \rightarrow \eta\phi f_0(980)$
2125 ± 22 ± 10	483	AUBERT	08S BABR	10.6 $e^+e^- \rightarrow \phi\eta\gamma$
2192 ± 14	116	¹⁴ AUBERT	07AK BABR	10.6 $e^+e^- \rightarrow K^+K^-\pi^+\pi^-\gamma$
2169 ± 20	149	¹⁴ AUBERT	07AK BABR	10.6 $e^+e^- \rightarrow K^+K^-\pi^0\pi^0\gamma$
2175 ± 10 ± 15	201	^{12,15} AUBERT, BE	06D BABR	10.6 $e^+e^- \rightarrow K^+K^-\pi\pi\gamma$

¹ From a fit to the e^+e^- cross section between 2.00 and 3.08 GeV with a sum of Breit-Wigner amplitude and a non-resonant contribution.

² By a simultaneous fit of the $K_2^*(1430)^+K^-$ and $K^*(892)^+K^-$ intermediate channels in a partial-wave analysis, assuming the same structure, modelled with a coherent sum of a nonresonant component and a resonant component by a Breit-Wigner function.

³ From a fit to the cross section between 2.00 and 3.08 GeV with a coherent sum of Breit-Wigner amplitudes, including contributions from $\omega(1420)$ and $\omega(1650)/\phi(1680)$.

⁴ From a fit to the cross section below 3.5 GeV measured by BaBar and BESIII with a coherent sum of two modified Breit-Wigner amplitudes ($\phi(1680)$ and $\phi(2170)$) and a nonresonant term.

⁵ From a fit using a coherent sum of a phase-space modified Breit-Wigner function and a phase-space term.

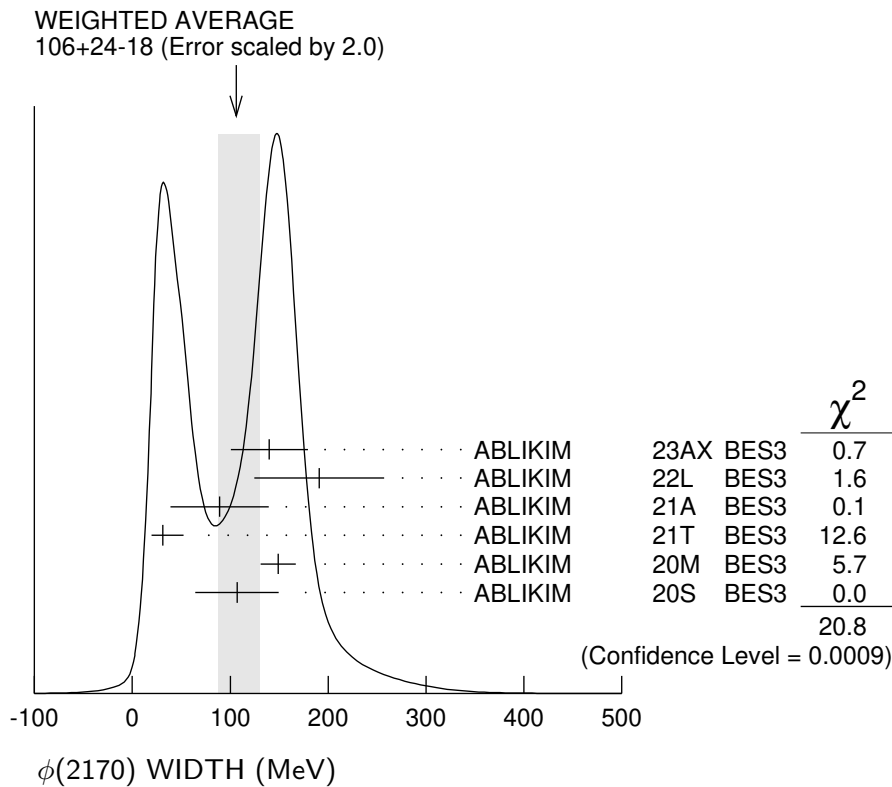
⁶ By a simultaneous fit of the intermediate channels in a partial-wave analysis, assuming the same structure, modelled with a coherent sum of a nonresonant component and a resonant component by a Breit-Wigner function.

- ⁷ From a VDM fit to ZHU 23 $\eta\phi\gamma$ data with two resonances, $\phi(1680)$, $\phi(2170)$, and a third resonance with mass 1850.7 ± 5.3 MeV and width 25 ± 35 MeV of 1.7σ statistical evidence.
- ⁸ From the analysis of the combined measurements of $\sigma(e^+e^- \rightarrow \eta\phi)$ from BaBar, Belle, BESIII, CMD3. The statistical significance for $\phi(2170)$ is 7.2σ .
- ⁹ From a fit to the cross section between 2.00 and 3.08 GeV with a sum of Breit-Wigner amplitude and a nonresonant contribution. The observed structure can be also due to $\rho(2150)$.
- ¹⁰ The observed structure can be due to both the $\phi(2170)$ and $\rho(2150)$.
- ¹¹ Fit includes interference with the $\phi(1680)$.
- ¹² From the $\phi f_0(980)$ component.
- ¹³ From a fit with two incoherent Breit-Wigners.
- ¹⁴ From the $K^+K^-f_0(980)$ component.
- ¹⁵ Superseded by LEES 12F.

$\phi(2170)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
106 $\begin{matrix} +24 \\ -18 \end{matrix}$	OUR AVERAGE	Error includes scale factor of 2.0. See the ideogram below.		
140 ± 36 ± 16		¹ ABLIKIM	23AX BES3	$e^+e^- \rightarrow \phi\pi^+\pi^-$
191 ± 28 ± 60		² ABLIKIM	22L BES3	$2.0-3.08 e^+e^- \rightarrow K^+K^-\pi^0$
89 ± 50 ± 5		³ ABLIKIM	21A BES3	$e^+e^- \rightarrow \omega\eta$
31.1 $\begin{matrix} +21.1 \\ -11.6 \end{matrix} \pm 1.1$		⁴ ABLIKIM	21T BES3	$e^+e^- \rightarrow \phi\eta$
149.0 ± 15.6 ± 8.9		⁵ ABLIKIM	20M BES3	$e^+e^- \rightarrow \eta'\phi$
106.9 ± 32.1 ± 28.1		⁶ ABLIKIM	20S BES3	$e^+e^- \rightarrow K^+K^-\pi^0\pi^0$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
35 ± 23		⁷ LICHARD	23 RVUE	$e^+e^- \rightarrow \Upsilon(nS) \rightarrow \phi\eta\gamma$
96 $\begin{matrix} +17 \\ -14 \end{matrix} \pm 9$		⁸ ZHU	23A RVUE	$e^+e^- \rightarrow \eta\phi$
86 ± 44 ± 51		⁹ ABLIKIM	21AP BES3	$e^+e^- \rightarrow K_S^0 K_L^0$
104 ± 24 ± 12	95	ABLIKIM	19I BES3	$e^+e^- \rightarrow \eta\phi f_0(980)$
139.8 ± 12.3 ± 20.6		¹⁰ ABLIKIM	19L BES3	$e^+e^- \rightarrow K^+K^-$
104 ± 15 ± 15	471	ABLIKIM	15H BES3	$J/\psi \rightarrow \eta\phi\pi^+\pi^-$
77 ± 15 ± 10		^{11,12} LEES	12F BABR	$10.6 e^+e^- \rightarrow \phi\pi^+\pi^-\gamma$
192 ± 23 $\begin{matrix} +25 \\ -61 \end{matrix}$	4.8k	¹³ SHEN	09 BELL	$10.6 e^+e^- \rightarrow K^+K^-\pi^+\pi^-\gamma$
65 ± 23 ± 17	52	ABLIKIM	08F BES	$J/\psi \rightarrow \eta\phi f_0(980)$
61 ± 50 ± 13	483	AUBERT	08S BABR	$10.6 e^+e^- \rightarrow \phi\eta\gamma$
71 ± 21	116	¹⁴ AUBERT	07AK BABR	$10.6 e^+e^- \rightarrow K^+K^-\pi^+\pi^-\gamma$
102 ± 27	149	¹⁴ AUBERT	07AK BABR	$10.6 e^+e^- \rightarrow K^+K^-\pi^0\pi^0\gamma$
58 ± 16 ± 20	201	^{12,15} AUBERT, BE	06D BABR	$10.6 e^+e^- \rightarrow K^+K^-\pi\pi\gamma$

- 1 From a fit to the $e^+ e^-$ cross section between 2.00 and 3.08 GeV with a sum of Breit-Wigner amplitude and a non-resonant contribution.
- 2 By a simultaneous fit of the $K_2^*(1430)^+ K^-$ and $K^*(892)^+ K^-$ intermediate channels in a partial-wave analysis, assuming the same structure, modelled with a coherent sum of a nonresonant component and a resonant component by a Breit-Wigner function.
- 3 From a fit to the cross section between 2.00 and 3.08 GeV with a coherent sum of Breit-Wigner amplitudes, including contributions from $\omega(1420)$ and $\omega(1650)/\phi(1680)$.
- 4 From a fit to the cross section below 3.5 GeV measured by BaBar and BESIII with a coherent sum of two modified Breit-Wigner amplitudes ($\phi(1680)$ and $\phi(2170)$) and a nonresonant term.
- 5 From a fit using a coherent sum of a phase-space modified Breit-Wigner function and a phase-space term.
- 6 By a simultaneous fit of the intermediate channels in a partial-wave analysis, assuming the same structure, modelled with a coherent sum of a nonresonant component and a resonant component by a Breit-Wigner function.
- 7 From a VDM fit to ZHU 23 $\eta\phi\gamma$ data with two resonances, $\phi(1680)$, $\phi(2170)$, and a third resonance with mass 1850.7 ± 5.3 MeV and width 25 ± 35 MeV of 1.7σ statistical evidence.
- 8 From the analysis of the combined measurements of $\sigma(e^+ e^- \rightarrow \eta\phi)$ from BaBar, Belle, BESIII, CMD3. The statistical significance for $\phi(2170)$ is 7.2σ .
- 9 From a fit to the cross section between 2.00 and 3.08 GeV with a sum of Breit-Wigner amplitude and a nonresonant contribution. The observed structure can be also due to $\rho(2150)$.
- 10 The observed structure can be due to both the $\phi(2170)$ and $\rho(2150)$.
- 11 Fit includes interference with the $\phi(1680)$.
- 12 From the $\phi f_0(980)$ component.
- 13 From a fit with two incoherent Breit-Wigners.
- 14 From the $K^+ K^- f_0(980)$ component.
- 15 Superseded by LEES 12F.



$\phi(2170)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $e^+ e^-$	seen
Γ_2 $\phi\eta$	seen
Γ_3 $\omega\eta$	seen
Γ_4 $\phi\eta'$	seen
Γ_5 $\phi\pi\pi$	seen
Γ_6 $\phi f_0(980)$	seen
Γ_7 $K_S^0 K_L^0$	
Γ_8 $K^+ K^- \pi^+ \pi^-$	
Γ_9 $K^+ K^- f_0(980) \rightarrow K^+ K^- \pi^+ \pi^-$	seen
Γ_{10} $K^+ K^- \pi^0 \pi^0$	
Γ_{11} $K^+ K^- f_0(980) \rightarrow K^+ K^- \pi^0 \pi^0$	seen
Γ_{12} $K^{*0} K^\pm \pi^\mp$	not seen
Γ_{13} $K^*(892)^0 \bar{K}^*(892)^0$	not seen
Γ_{14} $K^*(892)^+ K^*(892)^-$	
Γ_{15} $K^*(892)^+ K^- + c.c.$	
Γ_{16} $K(1460)^+ K^- + c.c.$	
Γ_{17} $K_1(1270)^+ K^- + c.c.$	
Γ_{18} $K_1(1400)^+ K^- + c.c.$	
Γ_{19} $K_2^*(1430)^+ K^- + c.c.$	

$\phi(2170) \Gamma(i)\Gamma(e^+ e^-)/\Gamma(\text{total})$

$\Gamma(\phi\eta) \times \Gamma(e^+ e^-)/\Gamma_{\text{total}}$						$\Gamma_2\Gamma_1/\Gamma$
VALUE (eV)	CL%	EVTS	DOCUMENT ID	TECN	COMMENT	
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●						
0.17	90		¹ ZHU	23 BELL	$e^+ e^- \rightarrow \gamma(nS) \rightarrow \phi\eta\gamma$	
$0.36^{+0.05}_{-0.03} \pm 0.07$ to $41 \pm 2 \pm 6$			² ZHU	23A RVUE	$e^+ e^- \rightarrow \eta\phi$	
$0.24^{+0.12}_{-0.07}$			³ ABLIKIM	21T BES3	$e^+ e^- \rightarrow \phi\eta$	
$1.7 \pm 0.7 \pm 1.3$		483	AUBERT	08S BABR	$10.6 e^+ e^- \rightarrow \phi\eta\gamma$	

¹ From a solution of the fit using a vector meson dominance model with contributions from $\phi(1680)$, $\phi(2170)$ and non resonant contribution with mass and width of $\phi(2170)$ fixed at 2163.5 MeV and 31.1 MeV respectively. Four solutions are found with equal fit quality giving 0.17 eV (solution I and II) and 18.6 eV (III and IV) at 90% CL.

² From the analysis of the combined measurements of $\sigma(e^+ e^- \rightarrow \eta\phi)$ from BaBar, Belle, BESIII, CMD3. The statistical significance for $\phi(2170)$ is 7.2σ . Four solutions are found, with equal fit quality: $(0.56^{+0.03}_{-0.02} \pm 0.07)$ eV, $(0.36^{+0.05}_{-0.03} \pm 0.07)$ eV, $(38 \pm 1 \pm 5)$ eV, $(41 \pm 2 \pm 6)$ eV.

³ From a solution of the fit to the cross section below 3.5 GeV measured by BaBar and BESIII with a coherent sum of two modified Breit-Wigner amplitudes ($\phi(1680)$ and $\phi(2170)$) and a nonresonant term. The other solution gives $10.11^{+3.87}_{-3.13}$ eV.

$\Gamma(\omega\eta) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ $\Gamma_3\Gamma_1/\Gamma$

VALUE (eV)	DOCUMENT ID	TECN	COMMENT
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0.43±0.15±0.04	¹ ABLIKIM	21A BES3	$e^+e^- \rightarrow \omega\eta$
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¹ For constructive interference with $\omega(1420)$ and $\omega(1650)/\phi(1680)$. For destructive interference: $1.25 \pm 0.48 \pm 0.18$ eV.

$\Gamma(\phi\eta') \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ $\Gamma_4\Gamma_1/\Gamma$

VALUE (eV)	DOCUMENT ID	TECN	COMMENT
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7.1±0.7±0.7	¹ ABLIKIM	20M BES3	$e^+e^- \rightarrow \eta'\phi$
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¹ From a fit using a coherent sum of a phase-space modified Breit-Wigner function and a phase-space term.

$\Gamma(\phi f_0(980)) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ $\Gamma_6\Gamma_1/\Gamma$

VALUE (eV)	EVTS	DOCUMENT ID	TECN	COMMENT
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• • • We do not use the following data for averages, fits, limits, etc. • • •

2.3±0.3±0.3	^{1,2} LEES	12F BABR	10.6 $e^+e^- \rightarrow \phi\pi^+\pi^-\gamma$
2.5±0.8±0.4	201 ^{2,3} AUBERT, BE	06D BABR	10.6 $e^+e^- \rightarrow K^+K^-\pi\pi\gamma$

¹ From a fit with constructive interference with the $\phi(1680)$. In a fit with destructive interference, the value is larger by a factor of 12.

² For $f_0(980) \rightarrow \pi\pi$.

³ Superseded by LEES 12F.

$\Gamma(K_S^0 K_L^0) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ $\Gamma_7\Gamma_1/\Gamma$

VALUE (eV)	DOCUMENT ID	TECN	COMMENT
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• • • We do not use the following data for averages, fits, limits, etc. • • •

0.9±0.6±0.7	¹ ABLIKIM	21AP BES3	$e^+e^- \rightarrow K_S^0 K_L^0$
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¹ From a fit to the cross section between 2.00 and 3.08 GeV with a sum of Breit-Wigner amplitude and a nonresonant contribution. The observed structure can be also due to $\rho(2150)$.

$\Gamma(K^*(892)^+ K^{*-}(892)^-) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ $\Gamma_{14}\Gamma_1/\Gamma$

VALUE (eV)	CL%	DOCUMENT ID	TECN	COMMENT
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<1.9	90	¹ ABLIKIM	20S BES3	$e^+e^- \rightarrow K^+K^-\pi^0\pi^0$
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¹ By a simultaneous fit of the intermediate channels in a partial-wave analysis, assuming the same structure, modelled with a coherent sum of a nonresonant component and a resonant component by a Breit-Wigner function.

$\Gamma(K^*(892)^+ K^- + \text{c.c.}) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ $\Gamma_{15}\Gamma_1/\Gamma$

VALUE (eV)	DOCUMENT ID	TECN	COMMENT
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• • • We do not use the following data for averages, fits, limits, etc. • • •

1.0±0.3	¹ ABLIKIM	22L BES3	2.0–3.08 $e^+e^- \rightarrow K^+K^-\pi^0$
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¹ From a solution of a simultaneous fit of the $K_2^*(1430)^+ K^-$ and $K^*(892)^+ K^-$ intermediate channels in a partial-wave analysis, assuming the same structure, modelled with a coherent sum of a nonresonant component and a resonant component by a Breit-Wigner function. The other solution gives 7.1 ± 0.9 eV. Significance 3.7σ .

$$\Gamma(K(1460)^+ K^- + \text{c.c.}) \times \Gamma(e^+ e^-) / \Gamma_{\text{total}} \quad \Gamma_{16} \Gamma_1 / \Gamma$$

VALUE (eV)	DOCUMENT ID	TECN	COMMENT
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• • • We do not use the following data for averages, fits, limits, etc. • • •

3.0 ± 3.8	¹ ABLIKIM	20S	BES3	$e^+ e^- \rightarrow K^+ K^- \pi^0 \pi^0$
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¹ By a simultaneous fit of the intermediate channels in a partial-wave analysis, assuming the same structure, modelled with a coherent sum of a nonresonant component and a resonant component by a Breit-Wigner function.

$$\Gamma(K_1(1270)^+ K^- + \text{c.c.}) \times \Gamma(e^+ e^-) / \Gamma_{\text{total}} \quad \Gamma_{17} \Gamma_1 / \Gamma$$

VALUE (eV)	CL%	DOCUMENT ID	TECN	COMMENT
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< 12.5	90	¹ ABLIKIM	20S	BES3	$e^+ e^- \rightarrow K^+ K^- \pi^0 \pi^0$
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¹ By a simultaneous fit of the intermediate channels in a partial-wave analysis, assuming the same structure, modelled with a coherent sum of a nonresonant component and a resonant component by a Breit-Wigner function. A second solution of the fit with equal fit quality gives an upper limit value of 297.6 eV.

$$\Gamma(K_1(1400)^+ K^- + \text{c.c.}) \times \Gamma(e^+ e^-) / \Gamma_{\text{total}} \quad \Gamma_{18} \Gamma_1 / \Gamma$$

VALUE (eV)	DOCUMENT ID	TECN	COMMENT
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• • • We do not use the following data for averages, fits, limits, etc. • • •

4.7 ± 3.3	¹ ABLIKIM	20S	BES3	$e^+ e^- \rightarrow K^+ K^- \pi^0 \pi^0$
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¹ By a simultaneous fit of the intermediate channels in a partial-wave analysis, assuming the same structure, modelled with a coherent sum of a nonresonant component and a resonant component by a Breit-Wigner function. A second solution of the fit with equal fit quality gives a value of 98.8 ± 7.8 eV.

$$\Gamma(K_2^*(1430)^+ K^- + \text{c.c.}) \times \Gamma(e^+ e^-) / \Gamma_{\text{total}} \quad \Gamma_{19} \Gamma_1 / \Gamma$$

VALUE (eV)	DOCUMENT ID	TECN	COMMENT
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• • • We do not use the following data for averages, fits, limits, etc. • • •

12.6 ± 2.4	¹ ABLIKIM	22L	BES3	2.0–3.08	$e^+ e^- \rightarrow K^+ K^- \pi^0$
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¹ From a solution of a simultaneous fit of the $K_2^*(1430)^+ K^-$ and $K^*(892)^+ K^-$ intermediate channels in a partial-wave analysis, assuming the same structure, modelled with a coherent sum of a nonresonant component and a resonant component by a Breit-Wigner function. The other solution gives 161.1 ± 20.6 eV.

$$\phi(2170) \Gamma(i) \Gamma(e^+ e^-) / \Gamma^2(\text{total})$$

$$\Gamma(\phi \pi \pi) / \Gamma_{\text{total}} \times \Gamma(e^+ e^-) / \Gamma_{\text{total}} \quad \Gamma_5 / \Gamma \times \Gamma_1 / \Gamma$$

VALUE (units 10^{-7})	EVTS	DOCUMENT ID	TECN	COMMENT
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• • • We do not use the following data for averages, fits, limits, etc. • • •

$1.65 \pm 0.15 \pm 0.18$	4.8k	¹ SHEN	09	BELL	10.6	$e^+ e^- \rightarrow K^+ K^- \pi^+ \pi^- \gamma$
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¹ Multiplied by 3/2 to take into account the $\phi \pi^0 \pi^0$ mode. Using $B(\phi \rightarrow K^+ K^-) = (49.2 \pm 0.6)\%$.

$\phi(2170)$ BRANCHING RATIOS

$\Gamma(\phi\pi\pi)/\Gamma_{\text{total}}$ Γ_5/Γ

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
seen	¹ ABLIKIM	23AX BES3	$e^+e^- \rightarrow \phi\pi^+\pi^-$

¹ From a fit to the e^+e^- cross section between 2.00 and 3.08 GeV with a sum of Breit-Wigner amplitude and a non-resonant contribution.

$\Gamma(K^+K^-f_0(980) \rightarrow K^+K^-\pi^+\pi^-)/\Gamma_{\text{total}}$ Γ_9/Γ

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
seen	AUBERT	07AK BABR	10.6 $e^+e^- \rightarrow K^+K^-\pi^+\pi^-\gamma$

$\Gamma(K^+K^-f_0(980) \rightarrow K^+K^-\pi^0\pi^0)/\Gamma_{\text{total}}$ Γ_{11}/Γ

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
seen	AUBERT	07AK BABR	10.6 $e^+e^- \rightarrow K^+K^-\pi^0\pi^0\gamma$

$\Gamma(K^{*0}K^\pm\pi^\mp)/\Gamma_{\text{total}}$ Γ_{12}/Γ

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
not seen	AUBERT	07AK BABR	10.6 GeV e^+e^-

$\Gamma(K^*(892)^0\bar{K}^*(892)^0)/\Gamma_{\text{total}}$ Γ_{13}/Γ

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
not seen	ABLIKIM	10C BES2	$J/\psi \rightarrow \eta K^+\pi^- K^-\pi^+$

$\phi(2170)$ REFERENCES

ABLIKIM	23AX	PR D108 032011	M. Ablikim <i>et al.</i>	(BESIII Collab.)
LICHARD	23	PR D108 092005	P. Lichard	(OPAV, CTUP)
ZHU	23	PR D107 012006	W. Zhu <i>et al.</i>	(BELLE Collab.)
ZHU	23A	CP C47 113003	W. Zhu, X. Wang	(RVUE)
ABLIKIM	22L	JHEP 2207 045	M. Ablikim <i>et al.</i>	(BESIII Collab.)
ABLIKIM	21A	PL B813 136059	M. Ablikim <i>et al.</i>	(BESIII Collab.)
ABLIKIM	21AP	PR D104 092014	M. Ablikim <i>et al.</i>	(BESIII Collab.)
ABLIKIM	21T	PR D104 032007	M. Ablikim <i>et al.</i>	(BESIII Collab.)
ABLIKIM	20M	PR D102 012008	M. Ablikim <i>et al.</i>	(BESIII Collab.)
ABLIKIM	20S	PRL 124 112001	M. Ablikim <i>et al.</i>	(BESIII Collab.)
ABLIKIM	19I	PR D99 012014	M. Ablikim <i>et al.</i>	(BESIII Collab.)
ABLIKIM	19L	PR D99 032001	M. Ablikim <i>et al.</i>	(BESIII Collab.)
ABLIKIM	15H	PR D91 052017	M. Ablikim <i>et al.</i>	(BESIII Collab.)
LEES	12F	PR D86 012008	J.P. Lees <i>et al.</i>	(BABAR Collab.)
ABLIKIM	10C	PL B685 27	M. Ablikim <i>et al.</i>	(BES II Collab.)
SHEN	09	PR D80 031101	C.P. Shen <i>et al.</i>	(BELLE Collab.)
ABLIKIM	08F	PRL 100 102003	M. Ablikim <i>et al.</i>	(BES Collab.)
AUBERT	08S	PR D77 092002	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT	07AK	PR D76 012008	B. Aubert <i>et al.</i>	(BABAR Collab.)
AUBERT,BE	06D	PR D74 091103	B. Aubert <i>et al.</i>	(BABAR Collab.)