

$f_0(1710)$

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

See our mini-review in the 2004 edition of this Review, PDG 04.

$f_0(1710)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
1718 ± 6	OUR AVERAGE	Error includes scale factor of 1.2.		
1760 ± 15	$\begin{smallmatrix} +15 \\ -10 \end{smallmatrix}$	¹ ABLIKIM	05Q BES2	$\psi(2S) \rightarrow \gamma \pi^+ \pi^- K^+ K^-$
1738 ± 30		ABLIKIM	04E BES2	$J/\psi \rightarrow \omega K^+ K^-$
1740 ± 4	$\begin{smallmatrix} +10 \\ -25 \end{smallmatrix}$	² BAI	03G BES	$J/\psi \rightarrow \gamma K \bar{K}$
1740	$\begin{smallmatrix} +30 \\ -25 \end{smallmatrix}$	² BAI	00A BES	$J/\psi \rightarrow \gamma(\pi^+ \pi^- \pi^+ \pi^-)$
1698 ± 18		³ BARBERIS	00E	450 $pp \rightarrow p_f \eta \eta p_s$
1710 ± 12	± 11	⁴ BARBERIS	99D OMEG	450 $pp \rightarrow K^+ K^-$, $\pi^+ \pi^-$
1710 ± 25		⁵ FRENCH	99	300 $pp \rightarrow p_f(K^+ K^-) p_s$
1707 ± 10		⁶ AUGUSTIN	88 DM2	$J/\psi \rightarrow \gamma K^+ K^-$, $K_S^0 K_S^0$
1698 ± 15		⁶ AUGUSTIN	87 DM2	$J/\psi \rightarrow \gamma \pi^+ \pi^-$
1720 ± 10	± 10	⁷ BALTRUSAIT..	87 MRK3	$J/\psi \rightarrow \gamma K^+ K^-$
1742 ± 15		⁶ WILLIAMS	84 MPSF	200 $\pi^- N \rightarrow 2K_S^0 X$
1670 ± 50		BLOOM	83 CBAL	$J/\psi \rightarrow \gamma 2\eta$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
1790	$\begin{smallmatrix} +40 \\ -30 \end{smallmatrix}$	¹ ABLIKIM	05 BES2	$J/\psi \rightarrow \phi \pi^+ \pi^-$
1670 ± 20		⁸ BINON	05 GAMS	33 $\pi^- p \rightarrow \eta \eta n$
1726 ± 7	74	⁹ CHEKANOV	04 ZEUS	$ep \rightarrow K_S^0 K_S^0 X$
1732 ± 15		¹⁰ ANISOVICH	03 RVUE	
1682 ± 16		TIKHOMIROV	03 SPEC	40.0 $\pi^- C \rightarrow K_S^0 K_S^0 K_L^0 X$
1670 ± 26	3651	^{2,11} NICHITIU	02 OBLX	
1767 ± 14	221	¹² ACCIARRI	01H L3	$\gamma\gamma \rightarrow K_S^0 K_S^0, E_{cm}^{ee} = 91, 183-209 \text{ GeV}$
1770 ± 12		^{13,14} ANISOVICH	99B SPEC	0.6-1.2 $p\bar{p} \rightarrow \eta \eta \pi^0$
1730 ± 15		² BARBERIS	99 OMEG	450 $pp \rightarrow p_s p_f K^+ K^-$
1750 ± 20		² BARBERIS	99B OMEG	450 $pp \rightarrow p_s p_f \pi^+ \pi^-$
1750 ± 30		¹⁵ ANISOVICH	98B RVUE	Compilation
1720 ± 39		BAI	98H BES	$J/\psi \rightarrow \gamma \pi^0 \pi^0$
1775 ± 1.5	57	¹⁶ BARKOV	98	$\pi^- p \rightarrow K_S^0 K_S^0 n$
1690 ± 11		¹⁷ ABREU	96C DLPH	$Z^0 \rightarrow K^+ K^- + X$
1696 ± 5	$\begin{smallmatrix} +9 \\ -34 \end{smallmatrix}$	⁷ BAI	96C BES	$J/\psi \rightarrow \gamma K^+ K^-$
1781 ± 8	$\begin{smallmatrix} +10 \\ -31 \end{smallmatrix}$	² BAI	96C BES	$J/\psi \rightarrow \gamma K^+ K^-$

1768±14	BALOSHIN	95	SPEC	40	$\pi^- C \rightarrow K_S^0 K_S^0 X$
1750±15	¹⁸ BUGG	95	MRK3	$J/\psi \rightarrow \gamma \pi^+ \pi^- \pi^+ \pi^-$	
1620±16	⁷ BUGG	95	MRK3	$J/\psi \rightarrow \gamma \pi^+ \pi^- \pi^+ \pi^-$	
1748±10	⁶ ARMSTRONG	93C	E760	$\bar{p}p \rightarrow \pi^0 \eta \eta \rightarrow 6\gamma$	
~ 1750	BREAKSTONE	93	SFM	$pp \rightarrow$ $pp\pi^+ \pi^- \pi^+ \pi^-$	
1744±15	¹⁹ ALDE	92D	GAM2	$38 \pi^- p \rightarrow \eta \eta n$	
1713±10	²⁰ ARMSTRONG	89D	OMEG	$300 pp \rightarrow ppK^+ K^-$	
1706±10	²⁰ ARMSTRONG	89D	OMEG	$300 pp \rightarrow ppK_S^0 K_S^0$	
1700±15	⁷ BOLONKIN	88	SPEC	$40 \pi^- p \rightarrow K_S^0 K_S^0 n$	
1720±60	² BOLONKIN	88	SPEC	$40 \pi^- p \rightarrow K_S^0 K_S^0 n$	
1638±10	²¹ FALVARD	88	DM2	$J/\psi \rightarrow \phi K^+ K^-$, $K_S^0 K_S^0$	
1690± 4	²² FALVARD	88	DM2	$J/\psi \rightarrow \phi K^+ K^-$, $K_S^0 K_S^0$	
1755± 8	²³ ALDE	86C	GAM2	$38 \pi^- p \rightarrow n2\eta$	
1730 ⁺² ₋₁₀	²⁴ LONGACRE	86	RVUE	$22 \pi^- p \rightarrow n2K_S^0$	
1650±50	BURKE	82	MRK2	$J/\psi \rightarrow \gamma 2\rho$	
1640±50	^{25,26} EDWARDS	82D	CBAL	$J/\psi \rightarrow \gamma 2\eta$	
1730±10 ±20	²⁷ ETKIN	82C	MPS	$23 \pi^- p \rightarrow n2K_S^0$	

¹ This state may be different from $f_0(1710)$, see CLOSE 05.

² $J^P = 0^+$.

³ T-matrix pole.

⁴ Supersedes BARBERIS 99 and BARBERIS 99B.

⁵ $J^P = 0^+$, supersedes by ARMSTRONG 89D.

⁶ No J^{PC} determination.

⁷ $J^P = 2^+$.

⁸ Breit-Wigner mass.

⁹ Systematic errors not estimated.

¹⁰ K-matrix pole, assuming $J^P = 0^+$, from combined analysis of $\pi^- p \rightarrow \pi^0 \pi^0 n$, $\pi^- p \rightarrow K \bar{K} n$, $\pi^+ \pi^- \rightarrow \pi^+ \pi^-$, $\bar{p}p \rightarrow \pi^0 \pi^0 \pi^0$, $\pi^0 \eta \eta$, $\pi^0 \pi^0 \eta$, $\pi^+ \pi^- \pi^0$, $K^+ K^- \pi^0$, $K_S^0 K_S^0 \pi^0$, $K^+ K_S^0 \pi^-$ at rest, $\bar{p}n \rightarrow \pi^- \pi^- \pi^+$, $K_S^0 K^- \pi^0$, $K_S^0 K_S^0 \pi^-$ at rest.

¹¹ Decaying to $f_0(1370)\pi\pi$.

¹² Spin 2 dominant, isospin not determined, could also be $l=1$.

¹³ $J^P = 0^+$.

¹⁴ Not seen by AMSLER 02.

¹⁵ T-matrix pole, assuming $J^P = 0^+$

¹⁶ No J^{PC} determination.

¹⁷ No J^{PC} determination, width not determined.

¹⁸ From a fit to the 0^+ partial wave.

¹⁹ ALDE 92D combines all the GAMS-2000 data.

²⁰ $J^P = 2^+$, superseded by FRENCH 99.

²¹ From an analysis ignoring interference with $f_2'(1525)$.

²² From an analysis including interference with $f_2'(1525)$.

²³ Superseded by ALDE 92D.

²⁴ Uses MRK3 data. From a partial-wave analysis of data using a K-matrix formalism with 5 poles, but assuming spin 2. Fit with constrained inelasticity.

²⁵ $J^P = 2^+$ preferred.

²⁶ From fit neglecting nearby $f_2'(1525)$. Replaced by BLOOM 83.

²⁷ Superseded by LONGACRE 86.

$f_0(1710)$ WIDTH

VALUE (MeV)	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
137 ± 8	OUR AVERAGE		Error includes scale factor of 1.1.		
125 ± 25	+10 -15		28 ABLIKIM	05Q BES2	$\psi(2S) \rightarrow \gamma \pi^+ \pi^- K^+ K^-$
125 ± 20			ABLIKIM	04E BES2	$J/\psi \rightarrow \omega K^+ K^-$
166 + 5 - 8	+15 -10		29 BAI	03G BES	$J/\psi \rightarrow \gamma K \bar{K}$
120 + 50 - 40			29 BAI	00A BES	$J/\psi \rightarrow \gamma(\pi^+ \pi^- \pi^+ \pi^-)$
120 ± 26			30 BARBERIS	00E	450 $pp \rightarrow p_f \eta \eta p_s$
126 ± 16	±18		31 BARBERIS	99D OMEG	450 $pp \rightarrow K^+ K^-$,
105 ± 34			32 FRENCH	99	$\pi^+ \pi^-$ 300 $pp \rightarrow p_f(K^+ K^-) p_s$
166.4 ± 33.2			33 AUGUSTIN	88 DM2	$J/\psi \rightarrow \gamma K^+ K^-$,
					$K_S^0 K_S^0$
136 ± 28			33 AUGUSTIN	87 DM2	$J/\psi \rightarrow \gamma \pi^+ \pi^-$
130 ± 20			34 BALTRUSAIT..	87 MRK3	$J/\psi \rightarrow \gamma K^+ K^-$
57 ± 38			6 WILLIAMS	84 MPSF	200 $\pi^- N \rightarrow 2K_S^0 X$
160 ± 80			BLOOM	83 CBAL	$J/\psi \rightarrow \gamma 2\eta$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
270 + 60 - 30			35 ABLIKIM	05 BES2	$J/\psi \rightarrow \phi \pi^+ \pi^-$
260 ± 50			28 BINON	05 GAMS	33 $\pi^- p \rightarrow \eta \eta n$
38 + 20 - 14		74	36 CHEKANOV	04 ZEUS	$ep \rightarrow K_S^0 K_S^0 X$
144 ± 30			37,38 ANISOVICH	03 RVUE	
320 + 50 - 20			38,39 ANISOVICH	03 RVUE	
102 ± 26			TIKHOMIROV	03 SPEC	40.0 $\pi^- C \rightarrow K_S^0 K_S^0 K_L^0 X$
267 ± 44		3651	29,40 NICHITIU	02 OBLX	
187 ± 60		221	41 ACCIARRI	01H L3	$\gamma\gamma \rightarrow K_S^0 K_S^0$,
					$E_{cm}^{ee} = 91$,
					183–209 GeV
220 ± 40			42,43 ANISOVICH	99B SPEC	0.6–1.2 $p\bar{p} \rightarrow \eta \eta \pi^0$
100 ± 25			29 BARBERIS	99 OMEG	450 $pp \rightarrow p_s p_f K^+ K^-$
160 ± 30			29 BARBERIS	99B OMEG	450 $pp \rightarrow p_s p_f \pi^+ \pi^-$
250 ± 140			44 ANISOVICH	98B RVUE	Compilation
30 ± 7		57	45 BARKOV	98	$\pi^- p \rightarrow K_S^0 K_S^0 n$
103 ± 18	+30 -11		34 BAI	96C BES	$J/\psi \rightarrow \gamma K^+ K^-$
85 ± 24	+22 -19		29 BAI	96C BES	$J/\psi \rightarrow \gamma K^+ K^-$
56 ± 19			BALOSHIN	95 SPEC	40 $\pi^- C \rightarrow K_S^0 K_S^0 X$

160 ± 40		46 BUGG	95 MRK3	$J/\psi \rightarrow \gamma \pi^+ \pi^- \pi^+ \pi^-$
160 + 60 - 20		34 BUGG	95 MRK3	$J/\psi \rightarrow \gamma \pi^+ \pi^- \pi^+ \pi^-$
264 ± 25		33 ARMSTRONG 93C	E760	$\bar{p}p \rightarrow \pi^0 \eta \eta \rightarrow 6\gamma$
200 to 300		BREAKSTONE 93	SFM	$pp \rightarrow pp \pi^+ \pi^- \pi^+ \pi^-$
< 80	90	47 ALDE	92D GAM2	$38 \pi^- p \rightarrow \eta \eta N^*$
181 ± 30		48 ARMSTRONG	89D OMEG	$300 pp \rightarrow pp K^+ K^-$
104 ± 30		48 ARMSTRONG	89D OMEG	$300 pp \rightarrow pp K_S^0 K_S^0$
30 ± 20		34 BOLONKIN	88 SPEC	$40 \pi^- p \rightarrow K_S^0 K_S^0 n$
350 ± 150		29 BOLONKIN	88 SPEC	$40 \pi^- p \rightarrow K_S^0 K_S^0 n$
148 ± 17		49 FALVARD	88 DM2	$J/\psi \rightarrow \phi K^+ K^-, K_S^0 K_S^0$
184 ± 6		50 FALVARD	88 DM2	$J/\psi \rightarrow \phi K^+ K^-, K_S^0 K_S^0$
122 + 74 - 15		51 LONGACRE	86 RVUE	$22 \pi^- p \rightarrow n 2K_S^0$
200 ± 100		BURKE	82 MRK2	$J/\psi \rightarrow \gamma 2\rho$
220 + 100 - 70		52,53 EDWARDS	82D CBAL	$J/\psi \rightarrow \gamma 2\eta$
200 + 156 - 9		54 ETKIN	82B MPS	$23 \pi^- p \rightarrow n 2K_S^0$

²⁸ Breit-Wigner width.

²⁹ $J^P = 0^+$.

³⁰ T-matrix pole.

³¹ Supersedes BARBERIS 99 and BARBERIS 99B.

³² $J^P = 0^+$, supersedes by ARMSTRONG 89D.

³³ No J^{PC} determination.

³⁴ $J^P = 2^+$.

³⁵ This state may be different from $f_0(1710)$, see CLOSE 05.

³⁶ Systematic errors not estimated.

³⁷ (Solution I)

³⁸ K-matrix pole, assuming $J^P = 0^+$, from combined analysis of $\pi^- p \rightarrow \pi^0 \pi^0 n$, $\pi^- p \rightarrow K \bar{K} n$, $\pi^+ \pi^- \rightarrow \pi^+ \pi^-$, $\bar{p}p \rightarrow \pi^0 \pi^0 \pi^0$, $\pi^0 \eta \eta$, $\pi^0 \pi^0 \eta$, $\pi^+ \pi^- \pi^0$, $K^+ K^- \pi^0$, $K_S^0 K_S^0 \pi^0$, $K^+ K_S^0 \pi^-$ at rest, $\bar{p}n \rightarrow \pi^- \pi^- \pi^+$, $K_S^0 K^- \pi^0$, $K_S^0 K_S^0 \pi^-$ at rest.

³⁹ (Solution I)

⁴⁰ Decaying to $f_0(1370) \pi \pi$.

⁴¹ Spin 2 dominant, isospin not determined, could also be $l=1$.

⁴² $J^P = 0^+$.

⁴³ Not seen by AMSLER 02.

⁴⁴ T-matrix pole, assuming $J^P = 0^+$

⁴⁵ No J^{PC} determination.

⁴⁶ From a fit to the 0^+ partial wave.

⁴⁷ ALDE 92D combines all the GAMS-2000 data.

⁴⁸ $J^P = 2^+$, (0^+ excluded).

⁴⁹ From an analysis ignoring interference with $f_2'(1525)$.

⁵⁰ From an analysis including interference with $f_2'(1525)$.

⁵¹ Uses MRK3 data. From a partial-wave analysis of data using a K-matrix formalism with 5 poles, but assuming spin 2. Fit with constrained inelasticity.

⁵² $J^P = 2^+$ preferred.

⁵³ From fit neglecting nearby $f'_2(1525)$. Replaced by BLOOM 83.

⁵⁴ From an amplitude analysis of the $K_S^0 K_S^0$ system, superseded by LONGACRE 86.

$f_0(1710)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $K\bar{K}$	seen
Γ_2 $\eta\eta$	seen
Γ_3 $\pi\pi$	seen
Γ_4 $\gamma\gamma$	

$f_0(1710)$ $\Gamma(i)\Gamma(\gamma\gamma)/\Gamma(\text{total})$

$\Gamma(K\bar{K}) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$	CL%	DOCUMENT ID	TECN	COMMENT	$\Gamma_1\Gamma_4/\Gamma$
<110	95	⁵⁶ BEHREND	89C CELL	$\gamma\gamma \rightarrow K_S^0 K_S^0$	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$49 \pm 11 \pm 13$		⁵⁷ ACCIARRI	01H L3	$\gamma\gamma \rightarrow K_S^0 K_S^0, E_{\text{cm}}^{\text{ee}} = 91, 183-209 \text{ GeV}$	
<480	95	ALBRECHT	90G ARG	$\gamma\gamma \rightarrow K^+ K^-$	
<280	95	⁵⁶ ALTHOFF	85B TASS	$\gamma\gamma \rightarrow K\bar{K}\pi$	

$\Gamma(\pi\pi) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$	CL%	DOCUMENT ID	TECN	COMMENT	$\Gamma_3\Gamma_4/\Gamma$
<0.82	95	⁵⁵ BARATE	00E ALEP	$\gamma\gamma \rightarrow \pi^+ \pi^-$	

⁵⁵ Assuming spin 0.

⁵⁶ Assuming helicity 2.

⁵⁷ Spin 2 dominant, isospin not determined, could also be $I=1$.

$f_0(1710)$ BRANCHING RATIOS

$\Gamma(K\bar{K})/\Gamma_{\text{total}}$	DOCUMENT ID	TECN	COMMENT	Γ_1/Γ
$0.38^{+0.09}_{-0.19}$	^{58,59} LONGACRE	86 MPS	$22 \pi^- p \rightarrow n 2 K_S^0$	

$\Gamma(\eta\eta)/\Gamma_{\text{total}}$	DOCUMENT ID	TECN		Γ_2/Γ
$0.18^{+0.03}_{-0.13}$	^{58,59} LONGACRE	86 RVUE		

$\Gamma(\pi\pi)/\Gamma_{\text{total}}$				Γ_3/Γ
VALUE	DOCUMENT ID	TECN	COMMENT	
• • • We do not use the following data for averages, fits, limits, etc. • • •				
not seen	AMSLER	02	CBAR	$0.9 \bar{p}p \rightarrow \pi^0 \eta \eta,$ $\pi^0 \pi^0 \pi^0$
$0.039^{+0.002}_{-0.024}$	58,59 LONGACRE	86	RVUE	

$\Gamma(\pi\pi)/\Gamma(K\bar{K})$				Γ_3/Γ_1
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.11	95	60 ABLIKIM	04E BES2	$J/\psi \rightarrow \omega K^+ K^-$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$5.8^{+9.1}_{-5.5}$		61 ANISOVICH	02D SPEC	Combined fit
$0.2 \pm 0.024 \pm 0.036$		BARBERIS	99D OMEG	450 $pp \rightarrow K^+ K^-,$ $\pi^+ \pi^-$
0.39 ± 0.14		ARMSTRONG	91 OMEG	300 $pp \rightarrow pp\pi\pi,$ $ppK\bar{K}$

$\Gamma(\eta\eta)/\Gamma(K\bar{K})$				Γ_2/Γ_1
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
0.48 ± 0.15		BARBERIS	00E	450 $pp \rightarrow p_f \eta \eta p_s$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.46^{+0.70}_{-0.38}$		61 ANISOVICH	02D SPEC	Combined fit
<0.02	90	62 PROKOSHKIN	91 GA24	300 $\pi^- p \rightarrow \pi^- p \eta \eta$
58				From a partial-wave analysis of data using a K-matrix formalism with 5 poles, but assuming spin 2.
59				Fit with constrained inelasticity.
60				Using data from ABLIKIM 04A.
61				From a combined K-matrix analysis of Crystal Barrel ($0. \bar{p}p \rightarrow \pi^0 \pi^0 \pi^0, \pi^0 \eta \eta,$ $\pi^0 \pi^0 \eta$), GAMS ($\pi p \rightarrow \pi^0 \pi^0 n, \eta \eta n, \eta \eta' n$), and BNL ($\pi p \rightarrow K\bar{K} n$) data.
62				Combining results of GAM4 with those of ARMSTRONG 89D.

$f_0(1710)$ REFERENCES

ABLIKIM	05	PL B607 243	M. Ablikim <i>et al.</i>	(BES Collab.)
ABLIKIM	05Q	PR D72 092002	M. Ablikim <i>et al.</i>	(BES Collab.)
BINON	05	PAN 68 960	F. Binon <i>et al.</i>	
		Translated from YAF 68 998.		
CLOSE	05	PR D71 094022	F.E. Close, Q. Zhao	
ABLIKIM	04A	PL B598 149	M. Ablikim <i>et al.</i>	(BES Collab.)
ABLIKIM	04E	PL B603 138	M. Ablikim <i>et al.</i>	(BES Collab.)
CHEKANOV	04	PL B578 33	S. Chekanov <i>et al.</i>	(ZEUS Collab.)
PDG	04	PL B592 1	S. Eidelman <i>et al.</i>	
ANISOVICH	03	EPJ A16 229	V.V. Anisovich <i>et al.</i>	
BAI	03G	PR D68 052003	J.Z. Bai <i>et al.</i>	(BES Collab.)
TIKHOMIROV	03	PAN 66 828	G.D. Tikhomirov <i>et al.</i>	
		Translated from YAF 66 860.		
AMSLER	02	EPJ C23 29	C. Amsler <i>et al.</i>	
ANISOVICH	02D	PAN 65 1545	V.V. Anisovich <i>et al.</i>	
		Translated from YAF 65 1583.		

NICHITIU	02	PL B545 261	F. Nichitiu <i>et al.</i>	(OBELIX Collab.)
ACCIARRI	01H	PL B501 173	M. Acciari <i>et al.</i>	(L3 Collab.)
BAI	00A	PL B472 207	J.Z. Bai <i>et al.</i>	(BES Collab.)
BARATE	00E	PL B472 189	R. Barate <i>et al.</i>	(ALEPH Collab.)
BARBERIS	00E	PL B479 59	D. Barberis <i>et al.</i>	(WA 102 Collab.)
ANISOVICH	99B	PL B449 154	A.V. Anisovich <i>et al.</i>	
BARBERIS	99	PL B453 305	D. Barberis <i>et al.</i>	(Omega Expt.)
BARBERIS	99B	PL B453 316	D. Barberis <i>et al.</i>	(Omega Expt.)
BARBERIS	99D	PL B462 462	D. Barberis <i>et al.</i>	(Omega Expt.)
FRENCH	99	PL B460 213	B. French <i>et al.</i>	(WA76 Collab.)
ANISOVICH	98B	UFL 41 419	V.V. Anisovich <i>et al.</i>	
BAI	98H	PRL 81 1179	J.Z. Bai <i>et al.</i>	(BES Collab.)
BARKOV	98	JEPTL 68 764	B.P. Barkov <i>et al.</i>	
ABREU	96C	PL B379 309	P. Abreu <i>et al.</i>	(DELPHI Collab.)
BAI	96C	PRL 77 3959	J.Z. Bai <i>et al.</i>	(BES Collab.)
BALOSHIN	95	PAN 58 46	O.N. Baloshin <i>et al.</i>	(ITEP)
BUGG	95	PL B353 378	D.V. Bugg <i>et al.</i>	(LOQM, PNPI, WASH)
ARMSTRONG	93C	PL B307 394	T.A. Armstrong <i>et al.</i>	(FNAL, FERR, GENO+)
BREAKSTONE	93	ZPHY C58 251	A.M. Breakstone <i>et al.</i>	(IOWA, CERN, DORT+)
ALDE	92D	PL B284 457	D.M. Alde <i>et al.</i>	(GAM2 Collab.)
Also		SJNP 54 451	D.M. Alde <i>et al.</i>	(GAM2 Collab.)
ARMSTRONG	91	ZPHY C51 351	T.A. Armstrong <i>et al.</i>	(ATHU, BARI, BIRM+)
PROKOSHKIN	91	SPD 36 155	Y.D. Prokoshkin	(GAM2, GAM4 Collab.)
ALBRECHT	90G	ZPHY C48 183	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
ARMSTRONG	89D	PL B227 186	T.A. Armstrong, M. Benayoun	(ATHU, BARI, BIRM+)
BEHREND	89C	ZPHY C43 91	H.J. Behrend <i>et al.</i>	(CELLO Collab.)
AUGUSTIN	88	PRL 60 2238	J.E. Augustin <i>et al.</i>	(DM2 Collab.)
BOLONKIN	88	NP B309 426	B.V. Bolonkin <i>et al.</i>	(ITEP, SERP)
FALVARD	88	PR D38 2706	A. Falvard <i>et al.</i>	(CLER, FRAS, LALO+)
AUGUSTIN	87	ZPHY C36 369	J.E. Augustin <i>et al.</i>	(LALO, CLER, FRAS+)
BALTRUSAITIS...	87	PR D35 2077	R.M. Baltrusaitis <i>et al.</i>	(Mark III Collab.)
ALDE	86C	PL B182 105	D.M. Alde <i>et al.</i>	(SERP, BELG, LANL, LAPP)
LONGACRE	86	PL B177 223	R.S. Longacre <i>et al.</i>	(BNL, BRAN, CUNY+)
ALTHOFF	85B	ZPHY C29 189	M. Althoff <i>et al.</i>	(TASSO Collab.)
WILLIAMS	84	PR D30 877	E.G.H. Williams <i>et al.</i>	(VAND, NDAM, TUFTS+)
BLOOM	83	ARNS 33 143	E.D. Bloom, C. Peck	(SLAC, CIT)
BURKE	82	PRL 49 632	D.L. Burke <i>et al.</i>	(LBL, SLAC)
EDWARDS	82D	PRL 48 458	C. Edwards <i>et al.</i>	(CIT, HARV, PRIN+)
ETKIN	82B	PR D25 1786	A. Etkin <i>et al.</i>	(BNL, CUNY, TUFTS, VAND)
ETKIN	82C	PR D25 2446	A. Etkin <i>et al.</i>	(BNL, CUNY, TUFTS, VAND)

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GLOZMAN	06	PR D73 017503	L.Ya. Glozman	
CHANOWITZ	05	PRL 95 172001	M. Chanowitz	
GIACOSA	05	PR C71 025202	F. Giacosa <i>et al.</i>	
GIACOSA	05A	PL B622 277	F. Giacosa <i>et al.</i>	
GIACOSA	05B	PR D72 094006	F. Giacosa <i>et al.</i>	
VIJANDE	05	PR D72 034025	J. Vijande, A. Valarce, F. Fernandez	
ZHAO	05	PR D72 074001	Q. Zhao	
ZHAO	05A	PL B631 22	Q. Zhao, B.-S. Zou, Z.-B. Ma	
LINK	04	PL B585 200	J.M. Link <i>et al.</i>	(FNAL FOCUS Collab.)
TESHIMA	04	JPG 30 663	T. Teshima <i>et al.</i>	
ANISOVICH	03B	PAN 66 741	V.V. Anisovich, V.A. Nikonov, A.V. Sarantsev	
AMSLER	02B	PL B541 22	C. Amsler	
JIN	02	PR D66 057505	H. Jin, X. Zhang	
KLEEFELD	02	PR D66 034007	F. Kleefeld <i>et al.</i>	
RUPP	02	PR D65 078501	G. Rupp, E. vanBeveren, M.D. Scadron	
SHAKIN	02	PR D65 078502	C.M. Shakin, H. Wang	
TESHIMA	02	JPG 28 1391	T. Teshima, I. Kitamura, N. Morisita	
VOLKOV	02	PAN 65 1657	M.K. Volkov, V.L. Yudichev	
LI	01B	EPJ C19 529	D.-M. Li, H. Yu, Q.-X. Shen	
VOLKOV	01	PAN 64 2006	M.K. Volkov, V.L. Yudichev	
		Translated from YAF 64	2091.	

ANISOVICH	99H	PL B467 289	A.V. Anisovich, V.V. Anisovich
GRYGOREV	99	PAN 62 470	V.K. Grygorev <i>et al.</i>
		Translated from YAF 62	513.
PROKOSHKIN	99	PAN 62 356	Yu.D. Prokoshkin
		Translated from YAF 62	396.
ANISOVICH	97	PL B395 123	A.V. Anisovich, A.V. Sarantsev (PNPI)
LINDENBAUM	92	PL B274 492	S.J. Lindenbaum, R.S. Longacre (BNL)
BISELLO	89B	PR D39 701	G. Busetto <i>et al.</i> (DM2 Collab.)
ASTON	88D	NP B301 525	D. Aston <i>et al.</i> (SLAC, NAGO, CINC, INUS)
AKESSON	86	NP B264 154	T. Akesson <i>et al.</i> (Axial Field Spec. Collab.)
ARMSTRONG	86B	PL 167B 133	T.A. Armstrong <i>et al.</i> (ATHU, BARI, BIRM+)
BALTRUSAITIS...	86B	PR D33 1222	R.M. Baltrusaitis <i>et al.</i> (Mark III Collab.)
ALTHOFF	83	PL 121B 216	M. Althoff <i>et al.</i> (TASSO Collab.)
BARNETT	83B	PL 120B 455	B. Barnett <i>et al.</i> (JHU)
BARNES	82B	NP B198 380	T. Barnes, F.E. Close, S. Monaghan (RHEL, OXFTP)
TANIMOTO	82	PL 116B 198	M. Tanimoto (BIEL)
