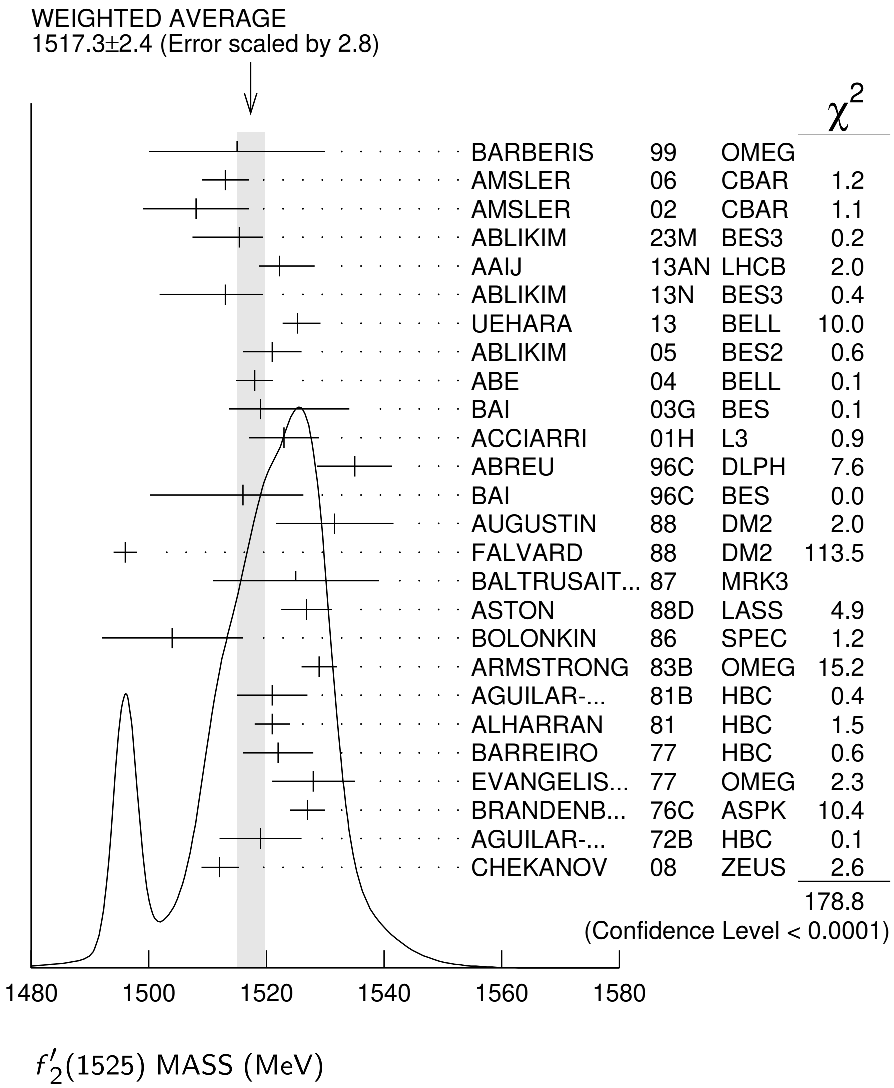
$f_2'(1525)$ $I^G(J^{PC}) = 0^+(2^{++})$

$f_2'(1525)$ MASS

VALUE (MeV)	DOCUMENT ID

1517.3±2.4 OUR AVERAGE Includes data from the 6 datablocks that follow this one. Error includes scale factor of 2.8. See the ideogram below.



PRODUCED BY PION BEAM

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT

The data in this block is included in the average printed for a previous datablock.

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

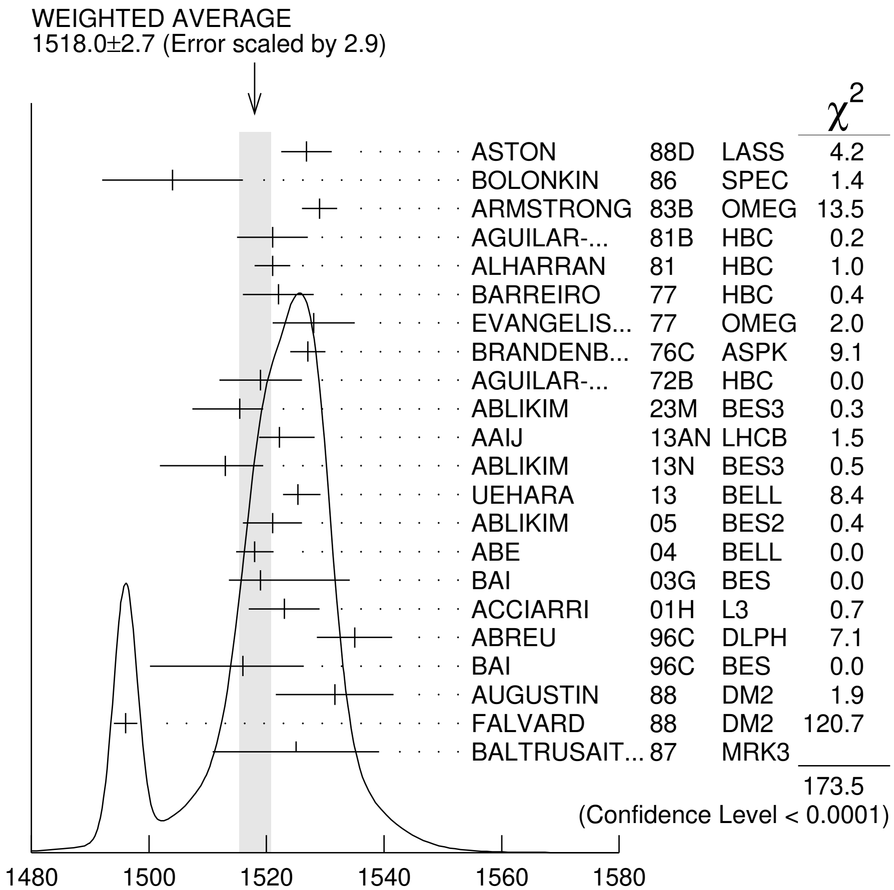
1521 ± 13		TIKHOMIROV	03	SPEC	$40.0\ \pi^- \mathrm{C} \to K_S^0 K_S^0 K_L^0 \mathrm{X}$
1547^{+10}_{-2}		[1] LONGACRE	86	MPS	$22\ \pi^- p \to K_S^0 K_S^0 n$
1496^{+9}_{-8}		[2] CHABAUD	81	ASPK	$6\ \pi^- p \to K^+ K^- n$
1497^{+8}_{-9}		CHABAUD	81	ASPK	$18.4\ \pi^- p \to K^+ K^- n$
1492 ± 29		GORLICH	80	ASPK	$17\ \pi^- p$polarized $\to K^+ K^- n$
1502 ± 25		[3] CORDEN	79	OMEG	12–15 $\pi^- p \to \pi^+ \pi^- n$
1480	14	CRENNELL	66	HBC	$6.0\ \pi^- p \to K_S^0 K_S^0 n$

[1] From a partial-wave analysis of data using a K-matrix formalism with 5 poles.
[2] CHABAUD 81 is a reanalysis of PAWLICKI 77 data.
[3] From an amplitude analysis where the $f_2'(1525)$ width and elasticity are in complete disagreement with the values obtained from $K\overline{K}$ channel, making the solution dubious.

PRODUCED BY $K^\pm$ BEAM

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
The data in this block is included in the average printed for a previous datablock.					
1518.0± 2.7 OUR AVERAGE Includes data from the datablock that follows this one. Error includes scale factor of 2.9. See the ideogram below.					
1526.8 ± 4.3		ASTON	88D	LASS	$11\ K^- p \to K_S^0 K_S^0 \Lambda$
1504 ± 12		BOLONKIN	86	SPEC	$40\ K^- p \to K_S^0 K_S^0 Y$
1529 ± 3		ARMSTRONG	83B	OMEG	$18.5\ K^- p \to K^- K^+ \Lambda$
1521 ± 6	650	AGUILAR-...	81B	HBC	$4.2\ K^- p \to \Lambda K^+ K^-$
1521 ± 3	572	ALHARRAN	81	HBC	$8.25\ K^- p \to \Lambda K \overline{K}$
1522 ± 6	123	BARREIRO	77	HBC	$4.15\ K^- p \to \Lambda K_S^0 K_S^0$
1528 ± 7	166	EVANGELIS...	77	OMEG	$10\ K^- p \to K^+ K^- (\Lambda, \Sigma)$
1527 ± 3	120	BRANDENB...	76C	ASPK	$13\ K^- p \to K^+ K^- (\Lambda, \Sigma)$
1519 ± 7	100	AGUILAR-...	72B	HBC	3.9,4.6 $K^- p \to K \overline{K} (\Lambda, \Sigma)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1514 ± 8	61	BINON	07	GAMS	$32.5\ K^- p \to \eta\eta(\Lambda/\Sigma^0)$
1513 ± 10		[1] BARKOV	99	SPEC	$40\ K^- p \to K_S^0 K_S^0 y$

[1] Systematic errors not estimated.



PRODUCED BY $K^{\pm}$ BEAM (MeV)

PRODUCED IN e^+e^- ANNIHILATION AND PARTICLE DECAYS

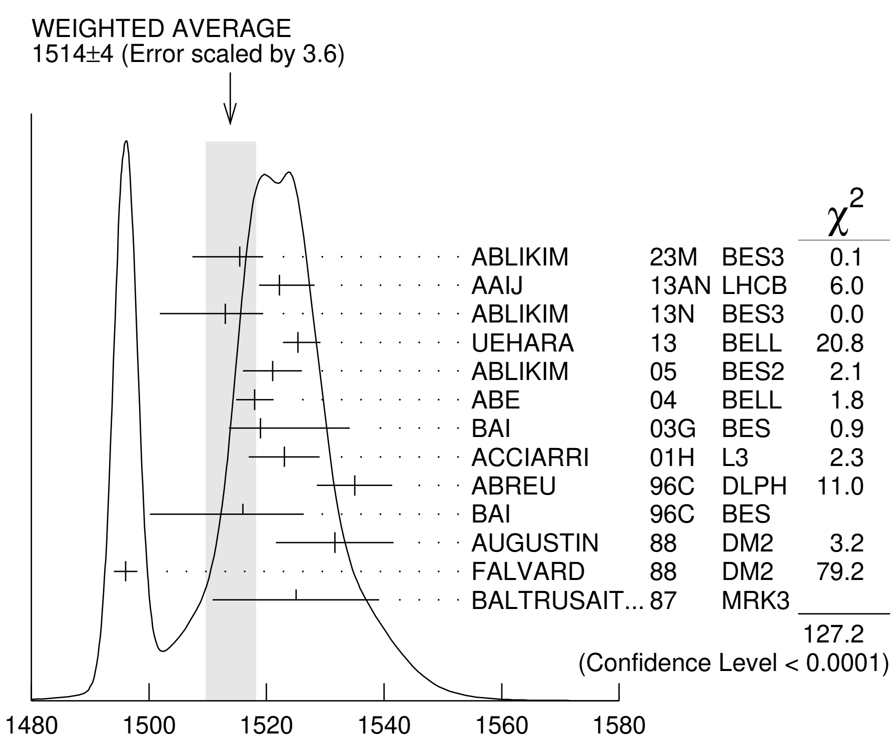
VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
The data in this block is included in the average printed for a previous datablock.				
1514 ± 4 OUR AVERAGE Error includes scale factor of 3.6. See the ideogram below.				
$1515.4 \pm 2.5^{+3.2}_{-7.6}$	126K	ABLIKIM	23M BES3	$J/\psi \to \gamma K^0_S K^0_S \pi^0$
$1522.2 \pm 2.8^{+5.3}_{-2.0}$		AAIJ	13AN LHCB	$\overline{B}^0_s \to J/\psi K^+ K^-$
$1513 \pm 5 ^{+4}_{-10}$	5.5k	[1] ABLIKIM	13N BES3	$e^+e^- \to J/\psi \to \gamma\eta\eta$
$1525.3^{+1.2}_{-1.4}{}^{+3.7}_{-2.1}$		UEHARA	13 BELL	$\gamma\gamma \to K^0_S K^0_S$
1521 ± 5		ABLIKIM	05 BES2	$J/\psi \to \phi K^+ K^-$
$1518 \pm 1 \pm 3$		ABE	04 BELL	10.6 $e^+e^- \to e^+e^- K^+K^-$
$1519 \pm 2 ^{+15}_{-5}$		BAI	03G BES	$J/\psi \to \gamma K \overline{K}$
1523 ± 6	331	[2] ACCIARRI	01H L3	91, 183–209 $e^+e^- \to e^+e^- K^0_S K^0_S$
$1535 \pm 5 \pm 4$		ABREU	96C DLPH	$Z^0 \to K^+K^- + X$
$1516 \pm 5 ^{+9}_{-15}$		BAI	96C BES	$J/\psi \to \gamma K^+ K^-$

1531.6±10.0		AUGUSTIN	88	DM2	$J/\psi \to \gamma K^+ K^-$
1496 ± 2		[3] FALVARD	88	DM2	$J/\psi \to \phi K^+ K^-$
1525 ±10 ±10		BALTRUSAIT...87		MRK3	$J/\psi \to \gamma K^+ K^-$

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

1518 ± 3		[4] KLEMPT	22	RVUE	$J/\psi(1S) \to \gamma \pi^0 \pi^0$, $\gamma K^0_S K^0_S$
1503 ±11		[5] RODAS	22	RVUE	$J/\psi(1S) \to \gamma (\pi\pi, K\overline{K})$
1532 ± 3 ± 6	644	[6,7] DOBBS	15		$J/\psi \to \gamma K^+ K^-$
1557 ± 9 ± 3	113	[6,7] DOBBS	15		$\psi(2S) \to \gamma K^+ K^-$
1526 ± 7	29	[8] LEES	14H	BABR	$e^+ e^- \to K^0_S K^0_S K^+ K^- \gamma$
1523 ± 5	870	[9] SCHEGELSKY	06A	RVUE	$\gamma\gamma \to K^0_S K^0_S$
1515 ± 5		[10] FALVARD	88	DM2	$J/\psi \to \phi K^+ K^-$

[1] From partial wave analysis including all possible combinations of 0^{++}, 2^{++}, and 4^{++} resonances.
[2] Supersedes ACCIARRI 95J.
[3] From an analysis including interference with $f_0(1710)$.
[4] Fit of the tensor partial waves from BES3 in the multipole basis.
[5] T-matrix pole from coupled channel K-matrix fit to data on $J/\psi \to \gamma \pi^0 \pi^0$ (ABLIKIM 15AE) and $J/\psi \to \gamma K^0_S K^0_S$ (ABLIKIM 18AA).
[6] Using CLEO-c data but not authored by the CLEO Collaboration.
[7] From a fit to a Breit-Wigner line shape with fixed $\Gamma = 73$ MeV.
[8] From a fit to a Breit-Wigner line shape plus a second-order polynomial function. Systematic errors not evaluated.
[9] From analysis of L3 data at 91 and 183–209 GeV.
[10] From an analysis ignoring interference with $f_0(1710)$.



$f'_2(1525)$ mass, $e^+ e^-$ annihilation and particle decays (MeV)

PRODUCED IN $\overline{p}p$ ANNIHILATION

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
The data in this block is included in the average printed for a previous datablock.				
1512 ± 4 OUR AVERAGE				
1513 ± 4	AMSLER	06	CBAR	0.9 $\overline{p}p \to K^+ K^- \pi^0$
1508 ± 9	[1] AMSLER	02	CBAR	0.9 $\overline{p}p \to \pi^0 \eta\eta$, $\pi^0\pi^0\pi^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1495.0± 1.1±8.1	[2] ALBRECHT	20	RVUE	0.9 $\overline{p}p \to \pi^0\pi^0\eta$, $\pi^0\eta\eta$, $\pi^0 K^+ K^-$
1530 ±12	[3] ANISOVICH	09	RVUE	0.0 $\overline{p}p$, πN

[1] T-matrix pole.
[2] T-matrix pole, 4 poles, 4 channels, including scattering data from HYAMS 75 ($\pi\pi$), LONGACRE 86 ($K\overline{K}$), BINON 83 ($\eta\eta$).
[3] 4-poles, 5-channel K matrix fit.

CENTRAL PRODUCTION

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
The data in this block is included in the average printed for a previous datablock.				
1515±15	BARBERIS	99	OMEG	450 $pp \to p_s p_f K^+ K^-$

PRODUCED IN ep COLLISIONS

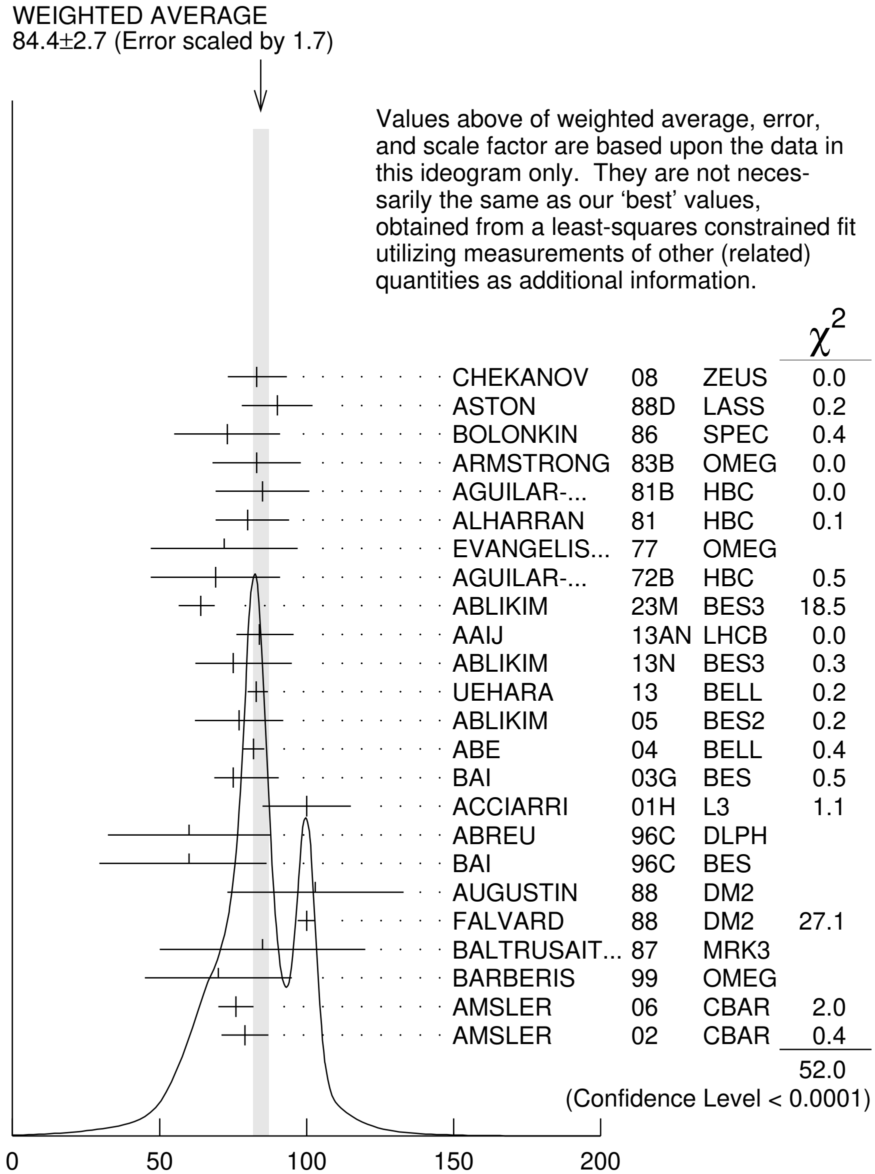
VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
The data in this block is included in the average printed for a previous datablock.					
$1512 \pm 3^{+1.4}_{-0.5}$		[1] CHEKANOV	08	ZEUS	$ep \to K^0_S K^0_S X$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1537^{+9}_{-8}	84	[2] CHEKANOV	04	ZEUS	$ep \to K^0_S K^0_S X$

[1] In the SU(3) based model with a specific interference pattern of the $f_2(1270)$, $a^0_2(1320)$, and $f'_2(1525)$ mesons incoherently added to the $f_0(1710)$ and non-resonant background.
[2] Systematic errors not estimated.

$f'_2(1525)$ WIDTH

VALUE (MeV)	DOCUMENT ID
$72\ ^{+7}_{-6}$ OUR FIT	

84.4±2.7 OUR AVERAGE Includes data from the 6 datablocks that follow this one. Error includes scale factor of 1.7. See the ideogram below.



$f_2'(1525)$ WIDTH (MeV)

PRODUCED BY PION BEAM

VALUE (MeV)	*DOCUMENT ID*	*TECN*	*COMMENT*
The data in this block is included in the average printed for a previous datablock.			
• • • We do not use the following data for averages, fits, limits, etc. • • •			
102 ± 42	TIKHOMIROV 03	SPEC	40.0 $\pi^- \text{C} \to K_S^0 K_S^0 K_L^0 X$
$108^{+\ 5}_{-\ 2}$	[1] LONGACRE 86	MPS	22 $\pi^- p \to K_S^0 K_S^0 n$
69^{+22}_{-16}	[2] CHABAUD 81	ASPK	6 $\pi^- p \to K^+ K^- n$
137^{+23}_{-21}	CHABAUD 81	ASPK	18.4 $\pi^- p \to K^+ K^- n$

150^{+83}_{-50}		GORLICH	80	ASPK	17 $\pi^- p$ polarized $\rightarrow K^+ K^- n$
165 ± 42		[3] CORDEN	79	OMEG	12–15 $\pi^- p \rightarrow \pi^+ \pi^- n$
92^{+39}_{-22}		[4] POLYCHRO...	79	STRC	7 $\pi^- p \rightarrow n K^0_S K^0_S$

[1] From a partial-wave analysis of data using a K-matrix formalism with 5 poles.
[2] CHABAUD 81 is a reanalysis of PAWLICKI 77 data.
[3] From an amplitude analysis where the $f'_2(1525)$ width and elasticity are in complete disagreement with the values obtained from $K\overline{K}$ channel, making the solution dubious.
[4] From a fit to the D with $f_2(1270)$-$f'_2(1525)$ interference. Mass fixed at 1516 MeV.

PRODUCED BY $K^{\pm}$ BEAM

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
The data in this block is included in the average printed for a previous datablock.					
82± 6 OUR AVERAGE					
90 ± 12		ASTON	88D	LASS	11 $K^- p \rightarrow K^0_S K^0_S \Lambda$
73 ± 18		BOLONKIN	86	SPEC	40 $K^- p \rightarrow K^0_S K^0_S Y$
83 ± 15		ARMSTRONG	83B	OMEG	18.5 $K^- p \rightarrow K^- K^+ \Lambda$
85 ± 16	650	AGUILAR-...	81B	HBC	4.2 $K^- p \rightarrow \Lambda K^+ K^-$
80^{+14}_{-11}	572	ALHARRAN	81	HBC	8.25 $K^- p \rightarrow \Lambda K \overline{K}$
72 ± 25	166	EVANGELIS...	77	OMEG	10 $K^- p \rightarrow K^+ K^- (\Lambda, \Sigma)$
69 ± 22	100	AGUILAR-...	72B	HBC	3.9,4.6 $K^- p \rightarrow K \overline{K} (\Lambda, \Sigma)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
92^{+25}_{-16}	61	BINON	07	GAMS	32.5 $K^- p \rightarrow \eta\eta(\Lambda/\Sigma^0)$
75 ± 20		[1] BARKOV	99	SPEC	40 $K^- p \rightarrow K^0_S K^0_S y$
62^{+19}_{-14}	123	BARREIRO	77	HBC	4.15 $K^- p \rightarrow \Lambda K^0_S K^0_S$
61 ± 8	120	BRANDENB...	76C	ASPK	13 $K^- p \rightarrow K^+ K^- (\Lambda, \Sigma)$

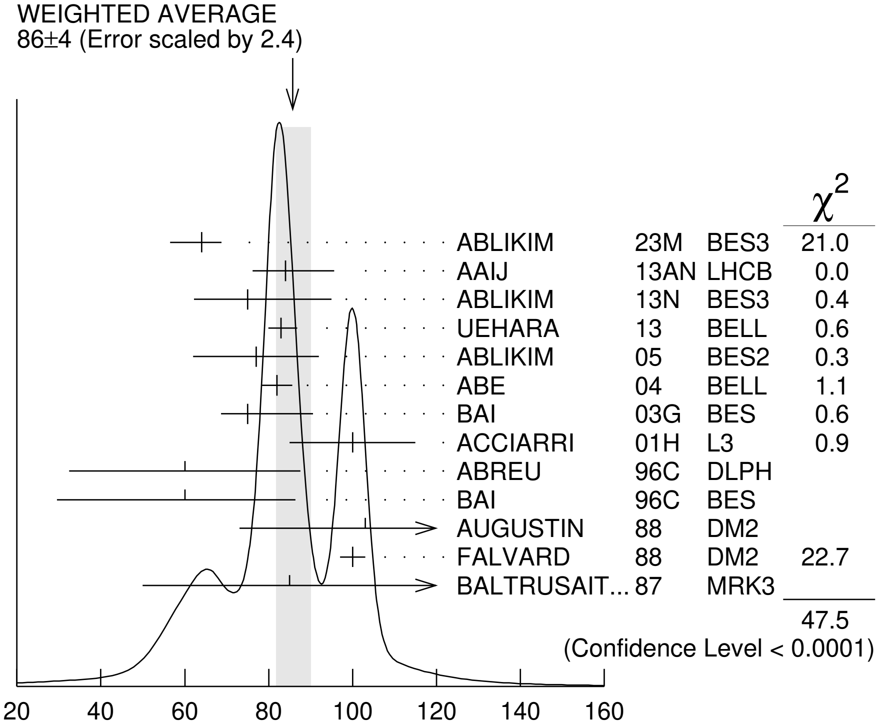
[1] Systematic errors not estimated.

PRODUCED IN $e^+ e^-$ ANNIHILATION AND PARTICLE DECAYS

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
The data in this block is included in the average printed for a previous datablock.					
86 ± 4 OUR AVERAGE Error includes scale factor of 2.4. See the ideogram below.					
$64.0 \pm 4.3^{+2.0}_{-6.1}$	126K	ABLIKIM	23M	BES3	$J/\psi \rightarrow \gamma K^0_S K^0_S \pi^0$
$84 \pm 6^{+10}_{-5}$		AAIJ	13AN	LHCB	$\overline{B}^0_s \rightarrow J/\psi K^+ K^-$
$75^{+12}_{-10}{}^{+16}_{-8}$	5.5k	[1] ABLIKIM	13N	BES3	$e^+ e^- \rightarrow J/\psi \rightarrow \gamma\eta\eta$
$82.9^{+2.1}_{-2.2}{}^{+3.3}_{-2.0}$		UEHARA	13	BELL	$\gamma\gamma \rightarrow K^0_S K^0_S$
77 ± 15		ABLIKIM	05	BES2	$J/\psi \rightarrow \phi K^+ K^-$
$82 \pm 2 \pm 3$		ABE	04	BELL	10.6 $e^+ e^- \rightarrow e^+ e^- K^+ K^-$
$75 \pm 4^{+15}_{-5}$		BAI	03G	BES	$J/\psi \rightarrow \gamma K \overline{K}$

100 ±15		331	[2] ACCIARRI	01H	L3	91, 183–209 $e^+ e^- \to e^+ e^- K^0_S K^0_S$
60 ±20	±19		ABREU	96C	DLPH	$Z^0 \to K^+ K^- + X$
60 ±23	$^{+13}_{-20}$		BAI	96C	BES	$J/\psi \to \gamma K^+ K^-$
103 ±30			AUGUSTIN	88	DM2	$J/\psi \to \gamma K^+ K^-$
100 ± 3			[3] FALVARD	88	DM2	$J/\psi \to \phi K^+ K^-$
85 ±35			BALTRUSAIT...	87	MRK3	$J/\psi \to \gamma K^+ K^-$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
78 ± 6			[4] KLEMPT	22	RVUE	$J/\psi(1S) \to \gamma \pi^0 \pi^0$, $\gamma K^0_S K^0_S$
84 ±15			[5] RODAS	22	RVUE	$J/\psi(1S) \to \gamma$ ($\pi\pi$, $K\overline{K}$)
37 ±12		29	[6] LEES	14H	BABR	$e^+ e^- \to K^0_S K^0_S K^+ K^- \gamma$
104 ±10		870	[7] SCHEGELSKY	06A	RVUE	$\gamma\gamma \to K^0_S K^0_S$
62 ±10			[8] FALVARD	88	DM2	$J/\psi \to \phi K^+ K^-$

[1] From partial wave analysis including all possible combinations of 0^{++}, 2^{++}, and 4^{++} resonances.
[2] Supersedes ACCIARRI 95J.
[3] From an analysis including interference with $f_0(1710)$.
[4] Fit of the tensor partial waves from BES3 in the multipole basis.
[5] T-matrix pole from coupled channel K-matrix fit to data on $J/\psi \to \gamma \pi^0 \pi^0$ (ABLIKIM 15AE) and $J/\psi \to \gamma K^0_S K^0_S$ (ABLIKIM 18AA).
[6] From a fit to a Breit-Wigner line shape plus a second-order polynomial function. Systematic errors not evaluated.
[7] From analysis of L3 data at 91 and 183–209 GeV.
[8] From an analysis ignoring interference with $f_0(1710)$.



$f'_2(1525)$ width, e^+e^- annihilation and particle decays (MeV)

PRODUCED IN $\overline{p}p$ ANNIHILATION

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
The data in this block is included in the average printed for a previous datablock.				
77 ± 5 OUR AVERAGE				
76 ± 6	AMSLER	06	CBAR	0.9 $\overline{p}p \to K^+K^-\pi^0$
79 ± 8	[1] AMSLER	02	CBAR	0.9 $\overline{p}p \to \pi^0\eta\eta$, $\pi^0\pi^0\pi^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
104.8± 0.9±9.8	[2] ALBRECHT	20	RVUE	0.9 $\overline{p}p \to \pi^0\pi^0\eta$, $\pi^0\eta\eta$, $\pi^0K^+K^-$
128 ±20	[3] ANISOVICH	09	RVUE	0.0 $\overline{p}p$, πN

[1] T-matrix pole.
[2] T-matrix pole, 4 poles, 4 channels, including scattering data from HYAMS 75 ($\pi\pi$), LONGACRE 86 ($K\overline{K}$), BINON 83 ($\eta\eta$).
[3] K-matrix, 4-poles, 5-channel fit.

CENTRAL PRODUCTION

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
The data in this block is included in the average printed for a previous datablock.				
70±25	BARBERIS	99	OMEG	450 $pp \to p_s p_f K^+K^-$

PRODUCED IN ep COLLISIONS

VALUE (MeV)	*EVTS*	*DOCUMENT ID*	*TECN*	*COMMENT*
The data in this block is included in the average printed for a previous datablock.				
$\mathbf{83 \pm 9^{+5}_{-4}}$		[1] CHEKANOV 08	ZEUS	$ep \rightarrow K^0_S K^0_S X$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
50^{+34}_{-22}	84	[2] CHEKANOV 04	ZEUS	$ep \rightarrow K^0_S K^0_S X$

[1] In the SU(3) based model with a specific interference pattern of the $f_2(1270)$, $a^0_2(1320)$, and $f'_2(1525)$ mesons incoherently added to the $f_0(1710)$ and non-resonant background.
[2] Systematic errors not estimated.

$f'_2(1525)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$K\overline{K}$	(88.8 ± 2.2) %
Γ_2	$\eta\eta$	(10.3 ± 2.2) %
Γ_3	$\pi\pi$	$(8.2 \pm 1.5) \times 10^{-3}$
Γ_4	$K\overline{K}^*(892)+$ c.c.	
Γ_5	$\pi K\overline{K}$	
Γ_6	$\pi\pi\eta$	
Γ_7	$\pi^+\pi^+\pi^-\pi^-$	
Γ_8	$\gamma\gamma$	$(1.12 \pm 0.15) \times 10^{-6}$

CONSTRAINED FIT INFORMATION

An overall fit to 2 partial widths, a combination of partial widths obtained from integrated cross sections, and 3 branching ratios uses 16 measurements and one constraint to determine 5 parameters. The overall fit has a $\chi^2 = 14.2$ for 12 degrees of freedom.

The following *off-diagonal* array elements are the correlation coefficients $\langle\delta x_i \delta x_j\rangle/(\delta x_i \cdot \delta x_j)$, in percent, from the fit to the branching fractions, $x_i \equiv \Gamma_i/\Gamma_{total}$. The fit constrains the x_i whose labels appear in this array to sum to one.

x_2	−100			
x_3	−5	−1		
x_8	0	0	1	
Γ	−28	28	−1	−62
	x_1	x_2	x_3	x_8

	Mode	Rate (MeV)
Γ_1	$K\overline{K}$	64^{+6}_{-5}
Γ_2	$\eta\eta$	7.4 ± 1.9

Γ_3	$\pi\pi$	0.59 ± 0.12
Γ_8	$\gamma\gamma$	$(8.1\pm0.9)\times10^{-5}$

$f_2'(1525)$ PARTIAL WIDTHS

$\Gamma(K\overline{K})$ — Γ_1

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
64^{+6}_{-5} OUR FIT			
63^{+6}_{-5}	[1] LONGACRE 86	MPS	$22\ \pi^- p \to K^0_S K^0_S n$

[1] From a partial-wave analysis of data using a K-matrix formalism with 5 poles.

$\Gamma(\eta\eta)$ — Γ_2

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
7.4 ± 1.9 OUR FIT				
• • • We do not use the following data for averages, fits, limits, etc. • • •				
5.0 ± 0.8	870	[1] SCHEGELSKY 06A	RVUE	$\gamma\gamma \to K^0_S K^0_S$
$24\ ^{+3}_{-1}$		[2] LONGACRE 86	MPS	$22\ \pi^- p \to K^0_S K^0_S n$

[1] From analysis of L3 data at 91 and 183–209 GeV, using $\Gamma(f_2'(1525) \to K\overline{K}) = 68$ MeV and SU(3) relations.
[2] From a partial-wave analysis of data using a K-matrix formalism with 5 poles.

$\Gamma(\pi\pi)$ — Γ_3

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
0.59 ± 0.12 OUR FIT				
$1.4\ ^{+1.0}_{-0.5}$		[1] LONGACRE 86	MPS	$22\ \pi^- p \to K^0_S K^0_S n$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.2\ ^{+1.0}_{-0.2}$	870	[2] SCHEGELSKY 06A	RVUE	$\gamma\gamma \to K^0_S K^0_S$

[1] From a partial-wave analysis of data using a K-matrix formalism with 5 poles.
[2] From analysis of L3 data at 91 and 183–209 GeV, using $\Gamma(f_2'(1525) \to K\overline{K}) = 68$ MeV and SU(3) relations.

$\Gamma(\gamma\gamma)$ — Γ_8

VALUE (keV)	EVTS	DOCUMENT ID	TECN	COMMENT
0.081 ± 0.009 OUR FIT				
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.13\ \pm0.03$	870	[1] SCHEGELSKY 06A	RVUE	$\gamma\gamma \to K^0_S K^0_S$

[1] From analysis of L3 data at 91 and 183–209 GeV, using $\Gamma(f_2'(1525) \to K\overline{K}) = 68$ MeV and SU(3) relations.

$\Gamma(K\overline{K})/\Gamma_{total}$ Γ_1/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.746\pm0.002^{+0.166}_{-0.162}$	[1] ALBRECHT	20	RVUE	$0.9\ \overline{p}p \to \pi^0\pi^0\eta$, $\pi^0\eta\eta$, $\pi^0K^+K^-$

[1] Residue from T-matrix pole, 4 poles, 4 channels, including scattering data from HYAMS 75 ($\pi\pi$), LONGACRE 86 ($K\overline{K}$), BINON 83 ($\eta\eta$).

$f_2'(1525)$ $\Gamma(i)\Gamma(\gamma\gamma)/\Gamma(total)$

$\Gamma(K\overline{K}) \times \Gamma(\gamma\gamma)/\Gamma_{total}$ $\Gamma_1\Gamma_8/\Gamma$

VALUE (keV)	EVTS	DOCUMENT ID		TECN	COMMENT
0.072 ±0.007 OUR FIT					
0.072 ±0.007 OUR AVERAGE					
$0.048\ ^{+0.067}_{-0.008}\ ^{+0.108}_{-0.012}$		UEHARA	13	BELL	$\gamma\gamma \to K^0_SK^0_S$
$0.0564\pm0.0048\pm0.0116$		ABE	04	BELL	$10.6\ e^+e^- \to e^+e^-K^+K^-$
$0.076\ \pm0.006\ \pm0.011$	331	[1] ACCIARRI	01H	L3	$e^+e^- \to e^+e^-K^0_SK^0_S$
$0.067\ \pm0.008\ \pm0.015$		[2] ALBRECHT	90G	ARG	$e^+e^- \to e^+e^-K^+K^-$
$0.11\ ^{+0.03}_{-0.02}\ \pm0.02$		BEHREND	89C	CELL	$e^+e^- \to e^+e^-K^0_SK^0_S$
$0.10\ ^{+0.04}_{-0.03}\ ^{+0.03}_{-0.02}$		BERGER	88	PLUT	$e^+e^- \to e^+e^-K^0_SK^0_S$
$0.12\ \pm0.07\ \pm0.04$		[2] AIHARA	86B	TPC	$e^+e^- \to e^+e^-K^+K^-$
$0.11\ \pm0.02\ \pm0.04$		[2] ALTHOFF	83	TASS	$e^+e^- \to e^+e^-K\overline{K}$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.0314\pm0.0050\pm0.0077$		[3] ALBRECHT	90G	ARG	$e^+e^- \to e^+e^-K^+K^-$

[1] Supersedes ACCIARRI 95J. From analysis of L3 data at 91 and 183–209 GeV,
[2] Using an incoherent background.
[3] Using a coherent background.

$f_2'(1525)$ BRANCHING RATIOS

$\Gamma(\eta\eta)/\Gamma_{total}$ Γ_2/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.059\pm0.003\pm0.026$	[1] ALBRECHT	20	RVUE	$0.9\ \overline{p}p \to \pi^0\pi^0\eta$, $\pi^0\eta\eta$, $\pi^0K^+K^-$
seen	UEHARA	10A	BELL	$10.6\ e^+e^- \to e^+e^-\eta\eta$
$0.10\ \pm0.03$	[2] PROKOSHKIN	91	GAM4	$300\ \pi^-p \to \pi^-p\eta\eta$

[1] Residue from T-matrix pole, 4 poles, 4 channels, including scattering data from HYAMS 75 ($\pi\pi$), LONGACRE 86 ($K\overline{K}$), BINON 83 ($\eta\eta$).
[2] Combining results of GAM4 with those of WA76 on $K\overline{K}$ central production and results of CBAL, MRK3 and DM2 on $J/\psi \to \gamma\eta\eta$.

$\Gamma(\eta\eta)/\Gamma(K\overline{K})$ — Γ_2/Γ_1

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
0.116±0.028 OUR FIT						
0.115±0.028 OUR AVERAGE						
0.119±0.015±0.036		61	[1] BINON	07	GAMS	32.5 $K^- p \to \eta\eta(\Lambda/\Sigma^0)$
0.11 ±0.04			[2] PROKOSHKIN	91	GAM4	300 $\pi^- p \to \pi^- p \eta\eta$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
< 0.14	90		BARBERIS	00E		450 $pp \to p_f \eta\eta p_s$
< 0.50			BARNES	67	HBC	4.6,5.0 $K^- p$

[1] Using the compilation of the cross sections for $f'_2(1525)$ production in $K^- p$ collisions from ASTON 88D.

[2] Combining results of GAM4 with those of WA76 on $K\overline{K}$ central production and results of CBAL, MRK3 and DM2 on $J/\psi \to \gamma\eta\eta$.

$\Gamma(\pi\pi)/\Gamma_{total}$ — Γ_3/Γ

VALUE (units 10^{-2})	CL%	DOCUMENT ID		TECN	COMMENT
0.82±0.16 OUR FIT					
0.75±0.16 OUR AVERAGE					
0.7 ±0.2		COSTA	80	OMEG	10 $\pi^- p \to K^+ K^- n$
2.7 $^{+7.1}_{-1.3}$		[1] GORLICH	80	ASPK	17,18 $\pi^- p$
0.75±0.25		[1,2] MARTIN	79	RVUE	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
3.4 ±1.5 ±1.0		[3] ALBRECHT	20	RVUE	0.9 $\overline{p}p \to \pi^0\pi^0\eta$, $\pi^0\eta\eta$, $\pi^0 K^+ K^-$
< 6	95	AGUILAR-...	81B	HBC	4.2 $K^- p \to \Lambda K^+ K^-$
19 ±3		CORDEN	79	OMEG	12–15 $\pi^- p \to \pi^+\pi^- n$
< 4.5	95	BARREIRO	77	HBC	4.15 $K^- p \to \Lambda K^0_S K^0_S$
1.2 ±0.4		[1] PAWLICKI	77	SPEC	6 $\pi N \to K^+ K^- N$
< 6.3	90	BRANDENB...	76C	ASPK	13 $K^- p \to K^+ K^- (\Lambda, \Sigma)$
< 0.86		[1] BEUSCH	75B	OSPK	8.9 $\pi^- p \to K^0 \overline{K}^0 n$

[1] Assuming that the $f'_2(1525)$ is produced by an one-pion exchange production mechanism.

[2] MARTIN 79 uses the PAWLICKI 77 data with different input value of the $f'_2(1525) \to K\overline{K}$ branching ratio.

[3] Residue from T-matrix pole, 4 poles, 4 channels, including scattering data from HYAMS 75 ($\pi\pi$), LONGACRE 86 ($K\overline{K}$), BINON 83 ($\eta\eta$).

$\Gamma(\pi\pi)/\Gamma(K\overline{K})$ — Γ_3/Γ_1

VALUE	DOCUMENT ID		TECN	COMMENT
0.0092±0.0018 OUR FIT				
0.075 ±0.035	AUGUSTIN	87	DM2	$J/\psi \to \gamma\pi^+\pi^-$

$\left[\Gamma(K\overline{K}^*(892)+c.c.) + \Gamma(\pi K\overline{K})\right]/\Gamma(K\overline{K})$ — $(\Gamma_4+\Gamma_5)/\Gamma_1$

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.35	95	AGUILAR-...	72B	HBC	3.9,4.6 $K^- p$
<0.4	67	AMMAR	67	HBC	

$\Gamma(\pi\pi\eta)/\Gamma(K\overline{K})$ Γ_6/Γ_1

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.41	95	AGUILAR-...	72B	HBC	3.9,4.6 $K^- p$
<0.3	67	AMMAR	67	HBC	

$\Gamma(\pi^+\pi^+\pi^-\pi^-)/\Gamma(K\overline{K})$ Γ_7/Γ_1

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.32	95	AGUILAR-...	72B	HBC	3.9,4.6 $K^- p$

$f_2'(1525)$ REFERENCES

ABLIKIM	23M	JHEP 2303 121	M. Ablikim et al.	(BESIII Collab.)
KLEMPT	22	PL B830 137171	E. Klempt et al.	(BONN)
RODAS	22	EPJ C82 80	A. Rodas et al.	(JPAC Collab.)
ALBRECHT	20	EPJ C80 453	M. Albrecht et al.	(Crystal Barrel Collab.)
ABLIKIM	18AA	PR D98 072003	M. Ablikim et al.	(BESIII Collab.)
ABLIKIM	15AE	PR D92 052003	M. Ablikim et al.	(BESIII Collab.)
DOBBS	15	PR D91 052006	S. Dobbs et al.	(NWES)
LEES	14H	PR D89 092002	J.P. Lees et al.	(BABAR Collab.)
AAIJ	13AN	PR D87 072004	R. Aaij et al.	(LHCb Collab.)
ABLIKIM	13N	PR D87 092009	M. Ablikim et al.	(BESIII Collab.)
UEHARA	13	PTEP 2013 123C01	S. Uehara et al.	(BELLE Collab.)
UEHARA	10A	PR D82 114031	S. Uehara et al.	(BELLE Collab.)
ANISOVICH	09	IJMP A24 2481	V.V. Anisovich, A.V. Sarantsev	(PNPI)
CHEKANOV	08	PRL 101 112003	S. Chekanov et al.	(ZEUS Collab.)
BINON	07	PAN 70 1713	F. Binon et al.	(GAMS Collab.)
		Translated from YAF 70 1758.		
AMSLER	06	PL B639 165	C. Amsler et al.	(Crystal Barrel Collab.)
SCHEGELSKY	06A	EPJ A27 207	V.A. Schegelsky et al.	
ABLIKIM	05	PL B607 243	M. Ablikim et al.	(BES Collab.)
ABE	04	EPJ C32 323	K. Abe et al.	(BELLE Collab.)
CHEKANOV	04	PL B578 33	S. Chekanov et al.	(ZEUS Collab.)
BAI	03G	PR D68 052003	J.Z. Bai et al.	(BES Collab.)
TIKHOMIROV	03	PAN 66 828	G.D. Tikhomirov et al.	
		Translated from YAF 66 860.		
AMSLER	02	EPJ C23 29	C. Amsler et al.	(Crystal Barrel Collab.)
ACCIARRI	01H	PL B501 173	M. Acciarri et al.	(L3 Collab.)
BARBERIS	00E	PL B479 59	D. Barberis et al.	(WA 102 Collab.)
BARBERIS	99	PL B453 305	D. Barberis et al.	(Omega Expt.)
BARKOV	99	JETPL 70 248	B.P. Barkov et al.	
		Translated from ZETFP 70 242.		
ABREU	96C	PL B379 309	P. Abreu et al.	(DELPHI Collab.)
BAI	96C	PRL 77 3959	J.Z. Bai et al.	(BES Collab.)
ACCIARRI	95J	PL B363 118	M. Acciarri et al.	(L3 Collab.)
PROKOSHKIN	91	SPD 36 155	Y.D. Prokoshkin	(GAM2 and GAM4 Collab.)
		Translated from DANS 316 900.		
ALBRECHT	90G	ZPHY C48 183	H. Albrecht et al.	(ARGUS Collab.)
BEHREND	89C	ZPHY C43 91	H.J. Behrend et al.	(CELLO Collab.)
ASTON	88D	NP B301 525	D. Aston et al.	(SLAC, NAGO, CINC, INUS)
AUGUSTIN	88	PRL 60 2238	J.E. Augustin et al.	(DM2 Collab.)
BERGER	88	ZPHY C37 329	C. Berger et al.	(PLUTO Collab.)
FALVARD	88	PR D38 2706	A. Falvard et al.	(CLER, FRAS, LALO+)
AUGUSTIN	87	ZPHY C36 369	J.E. Augustin et al.	(LALO, CLER, FRAS+)
BALTRUSAIT...	87	PR D35 2077	R.M. Baltrusaitis et al.	(Mark III Collab.)
AIHARA	86B	PRL 57 404	H. Aihara et al.	(TPC-2γ Collab.)
BOLONKIN	86	SJNP 43 776	B.V. Bolonkin et al.	(ITEP) JP
		Translated from YAF 43 1211.		

LONGACRE	86	PL B177 223	R.S. Longacre *et al.*	(BNL, BRAN, CUNY+)	
ALTHOFF	83	PL 121B 216	M. Althoff *et al.*	(TASSO Collab.)	
ARMSTRONG	83B	NP B224 193	T.A. Armstrong *et al.*	(BARI, BIRM, CERN+)	
BINON	83	NC 78A 313	F.G. Binon *et al.*	(BELG, LAPP, SERP+)	
AGUILAR-...	81B	ZPHY C8 313	M. Aguilar-Benitez *et al.*	(CERN, CDEF+)	
ALHARRAN	81	NP B191 26	S. Al-Harran *et al.*	(BIRM, CERN, GLAS+)	
CHABAUD	81	APP B12 575	V. Chabaud *et al.*	(CERN, CRAC, MPIM)	
COSTA	80	NP B175 402	G. Costa *et al.*	(BARI, BONN, CERN, GLAS+)	
GORLICH	80	NP B174 16	L. Gorlich *et al.*	(CRAC, MPIM, CERN+)	
CORDEN	79	NP B157 250	M.J. Corden *et al.*	(BIRM, RHEL, TELA+)	JP
MARTIN	79	NP B158 520	A.D. Martin, E.N. Ozmutlu	(DURH)	
POLYCHRO...	79	PR D19 1317	V.A. Polychronakos *et al.*	(NDAM, ANL)	
BARREIRO	77	NP B121 237	F. Barreiro *et al.*	(CERN, AMST, NIJM+)	
EVANGELIS...	77	NP B127 384	C. Evangelista *et al.*	(BARI, BONN, CERN+)	
PAWLICKI	77	PR D15 3196	A.J. Pawlicki *et al.*	(ANL)	IJP
BRANDENB...	76C	NP B104 413	G.W. Brandenburg *et al.*	(SLAC)	
BEUSCH	75B	PL 60B 101	W. Beusch *et al.*	(CERN, ETH)	
HYAMS	75	NP B100 205	B.D. Hyams *et al.*	(CERN, MPIM)	
AGUILAR-...	72B	PR D6 29	M. Aguilar-Benitez *et al.*	(BNL)	
AMMAR	67	PRL 19 1071	R. Ammar *et al.*	(NWES, ANL)	JP
BARNES	67	PRL 19 964	V.E. Barnes *et al.*	(BNL, SYRA)	IJPC
CRENNELL	66	PRL 16 1025	D.J. Crennell *et al.*	(BNL)	I