$f_2'(1525)$

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

$f_2'(1525)$ MASS

VALUE (MeV)	DOCUMENT ID

1525±5 OUR ESTIMATE This is only an educated guess; the error given is larger than the error on the average of the published values.

PRODUCED BY PION BEAM

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1521 ± 13		TIKHOMIROV	03	SPEC	$40.0\ \pi^- C \to K^0_S K^0_S K^0_L X$
1547^{+10}_{-2}		[1] LONGACRE	86	MPS	$22\ \pi^- p \to K^0_S K^0_S n$
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	$6.0\ \pi^- p \to K^0_S K^0_S n$

PRODUCED BY $K^\pm$ BEAM

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
1523.3± 1.1 OUR AVERAGE Includes data from the datablock that follows this one. Error includes scale factor of 1.1.					
1526.8 ± 4.3		ASTON	88D	LASS	$11\ K^- p \to K^0_S K^0_S \Lambda$
$1504\ \pm12$		BOLONKIN	86	SPEC	$40\ K^- p \to K^0_S K^0_S Y$
$1529\ \pm 3$		ARMSTRONG	83B	OMEG	$18.5\ K^- p \to K^- K^+ \Lambda$
$1521\ \pm 6$	650	AGUILAR-...	81B	HBC	$4.2\ K^- p \to \Lambda K^+ K^-$
$1521\ \pm 3$	572	ALHARRAN	81	HBC	$8.25\ K^- p \to \Lambda K \overline{K}$
$1522\ \pm 6$	123	BARREIRO	77	HBC	$4.15\ K^- p \to \Lambda K^0_S K^0_S$
$1528\ \pm 7$	166	EVANGELIS...	77	OMEG	$10\ K^- p \to K^+ K^- (\Lambda, \Sigma)$
$1527\ \pm 3$	120	BRANDENB...	76C	ASPK	$13\ K^- p \to K^+ K^- (\Lambda, \Sigma)$
$1519\ \pm 7$	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. • • •					
$1514\ \pm 8$	61	BINON	07	GAMS	$32.5\ K^- p \to \eta\eta(\Lambda/\Sigma^0)$
$1513\ \pm10$		[4] BARKOV	99	SPEC	$40\ K^- p \to K^0_S K^0_S y$

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.					
$1521.9^{+1.8}_{-1.5}$ OUR AVERAGE Error includes scale factor of 1.1.					
$1522.2\pm 2.8^{+5.3}_{-2.0}$		AAIJ	13AN	LHCB	$\overline{B}^0_s \to J/\psi K^+ K^-$

$1513 \pm 5 \, ^{+4}_{-10}$	5.5k	[5] 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	[6] 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	$J/\psi \to \gamma K^+ K^-$
1515 ± 5		[7] FALVARD	88	DM2	$J/\psi \to \phi K^+ K^-$
$1525 \pm 10 \pm 10$		BALTRUSAIT...	87	MRK3	$J/\psi \to \gamma K^+ K^-$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1523 ± 5	870	[8] SCHEGELSKY	06A	RVUE	$\gamma\gamma \to K^0_S K^0_S$
1496 ± 2		[9] FALVARD	88	DM2	$J/\psi \to \phi K^+ K^-$

PRODUCED IN $\overline{p}p$ ANNIHILATION

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1530 ± 12	[10] ANISOVICH	09	RVUE	$0.0\ \overline{p}p, \pi N$
1513 ± 4	AMSLER	06	CBAR	$0.9\ \overline{p}p \to K^+ K^- \pi^0$
1508 ± 9	[11] AMSLER	02	CBAR	$0.9\ \overline{p}p \to \pi^0 \eta\eta, \pi^0\pi^0\pi^0$

CENTRAL PRODUCTION

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
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
$\mathbf{1512 \pm 3^{+1.4}_{-0.5}}$		[12] 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	[13] CHEKANOV	04	ZEUS	$ep \to K^0_S K^0_S X$

[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] Systematic errors not estimated.
[5] From partial wave analysis including all possible combinations of 0^{++}, 2^{++}, and 4^{++} resonances.
[6] Supersedes ACCIARRI 95J.
[7] From an analysis ignoring interference with $f_0(1710)$.
[8] From analysis of L3 data at 91 and 183–209 GeV.
[9] From an analysis including interference with $f_0(1710)$.
[10] 4-poles, 5-channel K matrix fit.

[11] T-matrix pole.
[12] In the SU(3) based model with a specific interference pattern of the $f_2(1270)$, $a_2^0(1320)$, and $f_2'(1525)$ mesons incoherently added to the $f_0(1710)$ and non-resonant background.
[13] Systematic errors not estimated.

$f_2'(1525)$ WIDTH

VALUE (MeV)	DOCUMENT ID		COMMENT
73^{+6}_{-5} OUR FIT			
76±10	PDG	90	For fitting

PRODUCED BY PION BEAM

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
102±42	TIKHOMIROV	03	SPEC	40.0 $\pi^- C \to K_S^0 K_S^0 K_L^0 X$
108^{+5}_{-2}	[14] LONGACRE	86	MPS	22 $\pi^- p \to K_S^0 K_S^0 n$
69^{+22}_{-16}	[15] 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 $\to K^+ K^- n$
165±42	[16] CORDEN	79	OMEG	12–15 $\pi^- p \to \pi^+ \pi^- n$
92^{+39}_{-22}	[17] POLYCHRO...	79	STRC	7 $\pi^- p \to n K_S^0 K_S^0$

PRODUCED BY $K^\pm$ BEAM

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
$81.4^{+2.2}_{-1.9}$ OUR AVERAGE	Includes data from the datablock that follows this one.				
90 ±12		ASTON	88D	LASS	11 $K^- p \to K_S^0 K_S^0 \Lambda$
73 ±18		BOLONKIN	86	SPEC	40 $K^- p \to K_S^0 K_S^0 Y$
83 ±15		ARMSTRONG	83B	OMEG	18.5 $K^- p \to K^- K^+ \Lambda$
85 ±16	650	AGUILAR-...	81B	HBC	4.2 $K^- p \to \Lambda K^+ K^-$
80 $^{+14}_{-11}$	572	ALHARRAN	81	HBC	8.25 $K^- p \to \Lambda K \overline{K}$
72 ±25	166	EVANGELIS...	77	OMEG	10 $K^- p \to K^+ K^- (\Lambda, \Sigma)$
69 ±22	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. • • •					
92 $^{+25}_{-16}$	61	BINON	07	GAMS	32.5 $K^- p \to \eta\eta(\Lambda/\Sigma^0)$
75 ±20		[18] BARKOV	99	SPEC	40 $K^- p \to K_S^0 K_S^0 y$
62 $^{+19}_{-14}$	123	BARREIRO	77	HBC	4.15 $K^- p \to \Lambda K_S^0 K_S^0$
61 ± 8	120	BRANDENB...	76C	ASPK	13 $K^- p \to K^+ K^- (\Lambda, \Sigma)$

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.

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
$81.4^{+2.4}_{-2.0}$ OUR AVERAGE					
$84 \pm 6 {}^{+10}_{-5}$		AAIJ	13AN	LHCB	$\overline{B}^0_s \to J/\psi K^+ K^-$
$75 {}^{+12}_{-10} {}^{+16}_{-8}$	5.5k	[19] ABLIKIM	13N	BES3	$e^+e^- \to J/\psi \to \gamma\eta\eta$
$82.9 {}^{+2.1}_{-2.2} {}^{+3.3}_{-2.0}$		UEHARA	13	BELL	$\gamma\gamma \to K^0_S K^0_S$
77 ± 15		ABLIKIM	05	BES2	$J/\psi \to \phi K^+ K^-$
$82 \pm 2 \pm 3$		ABE	04	BELL	10.6 $e^+e^- \to e^+e^- K^+K^-$
$75 \pm 4 {}^{+15}_{-5}$		BAI	03G	BES	$J/\psi \to \gamma K \overline{K}$
100 ± 15	331	[20] ACCIARRI	01H	L3	91, 183–209 $e^+e^- \to e^+e^- K^0_S K^0_S$
$60 \pm 20 \pm 19$		ABREU	96C	DLPH	$Z^0 \to K^+K^- + X$
$60 \pm 23 {}^{+13}_{-20}$		BAI	96C	BES	$J/\psi \to \gamma K^+ K^-$
103 ± 30		AUGUSTIN	88	DM2	$J/\psi \to \gamma K^+ K^-$
62 ± 10		[21] 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. • • •					
104 ± 10	870	[22] SCHEGELSKY	06A	RVUE	$\gamma\gamma \to K^0_S K^0_S$
100 ± 3		[23] FALVARD	88	DM2	$J/\psi \to \phi K^+ K^-$

PRODUCED IN $\overline{p}p$ ANNIHILATION

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
79 ± 8	[24] 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. • • •				
128 ± 20	[25] ANISOVICH	09	RVUE	0.0 $\overline{p}p$, πN
76 ± 6	AMSLER	06	CBAR	0.9 $\overline{p}p \to K^+K^-\pi^0$

CENTRAL PRODUCTION

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
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
$83 \pm 9^{+5}_{-4}$		[26] CHEKANOV	08	ZEUS	$ep \to K^0_S K^0_S X$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
50^{+34}_{-22}	84	[27] CHEKANOV	04	ZEUS	$ep \to K^0_S K^0_S X$

[14] From a partial-wave analysis of data using a K-matrix formalism with 5 poles.
[15] CHABAUD 81 is a reanalysis of PAWLICKI 77 data.
[16] 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.
[17] From a fit to the D with $f_2(1270)$-$f'_2(1525)$ interference. Mass fixed at 1516 MeV.
[18] Systematic errors not estimated.
[19] From partial wave analysis including all possible combinations of 0^{++}, 2^{++}, and 4^{++} resonances.
[20] Supersedes ACCIARRI 95J.
[21] From an analysis ignoring interference with $f_0(1710)$.
[22] From analysis of L3 data at 91 and 183–209 GeV.
[23] From an analysis including interference with $f_0(1710)$.
[24] T-matrix pole.
[25] 4-poles, 5-channel K matrix fit.
[26] In the SU(3) based model with a specific interference pattern of the $f_2(1270)$, $a_2^0(1320)$, and $f'_2(1525)$ mesons incoherently added to the $f_0(1710)$ and non-resonant background.
[27] Systematic errors not estimated.

$f'_2(1525)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$K\overline{K}$	(88.7 ± 2.2) %
Γ_2	$\eta\eta$	(10.4 ± 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	$\gamma\gamma$	$(1.10 \pm 0.14) \times 10^{-6}$

CONSTRAINED FIT INFORMATION

An overall fit to the total width, 2 partial widths, a combination of partial widths obtained from integrated cross sections, and 3 branching ratios uses 17 measurements and one constraint to determine 5 parameters. The overall fit has a $\chi^2 = 14.3$ for 13 degrees of freedom.

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

x_2	−100			
x_3	−6	−1		
x_8	−6	6	1	
Γ	−23	23	−1	−56
	x_1	x_2	x_3	x_8

	Mode	Rate (MeV)
Γ_1	$K\overline{K}$	$65\ ^{+5}_{-4}$
Γ_2	$\eta\eta$	7.6 ± 1.8
Γ_3	$\pi\pi$	0.60 ± 0.12
Γ_8	$\gamma\gamma$	$(8.1 \pm 0.9) \times 10^{-5}$

$f'_2(1525)$ PARTIAL WIDTHS

$\Gamma(K\overline{K})$ — Γ_1

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
65^{+5}_{-4} OUR FIT				
63^{+6}_{-5}	[28] LONGACRE	86	MPS	$22\ \pi^- p \to K^0_S K^0_S n$

$\Gamma(\eta\eta)$ — Γ_2

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
7.6±1.8 OUR FIT					
• • • We do not use the following data for averages, fits, limits, etc. • • •					
5.0±0.8	870	[29] SCHEGELSKY	06A	RVUE	$\gamma\gamma \to K^0_S K^0_S$
$24\ ^{+3}_{-1}$		[28] LONGACRE	86	MPS	$22\ \pi^- p \to K^0_S K^0_S n$

$\Gamma(\pi\pi)$ — Γ_3

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
0.60±0.12 OUR FIT					
$1.4\ ^{+1.0}_{-0.5}$		[28] 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	[29] SCHEGELSKY	06A	RVUE	$\gamma\gamma \to K^0_S K^0_S$

$\Gamma(\gamma\gamma)$ — 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 ±0.03	870	[29] SCHEGELSKY	06A	RVUE	$\gamma\gamma \to K^0_S K^0_S$

[28] From a partial-wave analysis of data using a K-matrix formalism with 5 poles.
[29] 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.

$f'_2(1525)$ $\Gamma(i)\Gamma(\gamma\gamma)/\Gamma(\text{total})$

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

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	$\gamma\gamma \to K^0_S K^0_S$
0.0564±0.0048±0.0116		ABE	04	BELL	10.6 $e^+e^- \to e^+e^- K^+K^-$
0.076 ±0.006 ±0.011	331	[30] ACCIARRI	01H	L3	$e^+e^- \to e^+e^- K^0_S K^0_S$
0.067 ±0.008 ±0.015		[31] ALBRECHT	90G	ARG	$e^+e^- \to e^+e^- K^+K^-$
$0.11\ ^{+0.03}_{-0.02}\ \pm0.02$		BEHREND	89C	CELL	$e^+e^- \to e^+e^- K^0_S K^0_S$
$0.10\ ^{+0.04}_{-0.03}\ ^{+0.03}_{-0.02}$		BERGER	88	PLUT	$e^+e^- \to e^+e^- K^0_S K^0_S$
0.12 ±0.07 ±0.04		[31] AIHARA	86B	TPC	$e^+e^- \to e^+e^- K^+K^-$
0.11 ±0.02 ±0.04		[31] 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±0.0050±0.0077		[32] ALBRECHT	90G	ARG	$e^+e^- \to e^+e^- K^+K^-$

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

$f'_2(1525)$ BRANCHING RATIOS

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

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
seen	UEHARA	10A	BELL	10.6 $e^+e^- \to e^+e^-\eta\eta$
0.10±0.03	[33] PROKOSHKIN	91	GAM4	300 $\pi^- p \to \pi^- p\eta\eta$

[33] 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
0.118±0.028 OUR FIT						
0.115±0.028 OUR AVERAGE						
0.119±0.015±0.036		61	[34] BINON	07	GAMS	32.5 $K^- p \to \eta\eta(\Lambda/\Sigma^0)$
0.11 ±0.04			[35] 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 $K^- p$

[34] Using the compilation of the cross sections for $f'_2(1525)$ production in $K^- p$ collisions from ASTON 88D.
[35] 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	CL%	DOCUMENT ID		TECN	COMMENT
0.0082±0.0016 OUR FIT					
0.0075±0.0016 OUR AVERAGE					
0.007 ±0.002		COSTA...	80	OMEG	$10\ \pi^- p \to K^+ K^- n$
$0.027^{+0.071}_{-0.013}$		[36] GORLICH	80	ASPK	$17,18\ \pi^- p$
0.0075±0.0025		[36,37] MARTIN	79	RVUE	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.06	95	AGUILAR-...	81B	HBC	$4.2\ K^- p \to \Lambda K^+ K^-$
0.19 ±0.03		CORDEN	79	OMEG	$12–15\ \pi^- p \to \pi^+ \pi^- n$
<0.045	95	BARREIRO	77	HBC	$4.15\ K^- p \to \Lambda K^0_S K^0_S$
0.012 ±0.004		[36] PAWLICKI	77	SPEC	$6\ \pi N \to K^+ K^- N$
<0.063	90	BRANDENB...	76C	ASPK	$13\ K^- p \to K^+ K^- (\Lambda, \Sigma)$
<0.0086		[36] BEUSCH	75B	OSPK	$8.9\ \pi^- p \to K^0 \overline{K}^0 n$

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

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

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

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BARBERIS 00E PL B479 59 D. Barberis *et al.* (WA 102 Collab.)
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BARKOV 99 JETPL 70 248 B.P. Barkov *et al.*
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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, GAM4 Collab.)
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ALBRECHT 90G ZPHY C48 183 H. Albrecht *et al.* (ARGUS Collab.)
PDG 90 PL B239 1 J.J. Hernandez *et al.* (IFIC, BOST, CIT+)
BEHREND 89C ZPHY C43 91 H.J. Behrend *et al.* (CELLO Collab.)
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AUGUSTIN 88 PRL 60 2238 J.E. Augustin *et al.* (DM2 Collab.)
BERGER 88 ZPHY C37 329 C. Berger *et al.* (PLUTO Collab.)
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AUGUSTIN 87 ZPHY C36 369 J.E. Augustin *et al.* (LALO, CLER, FRAS+)
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BOLONKIN 86 SJNP 43 776 B.V. Bolonkin *et al.* (ITEP) JP
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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+)
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 de Beauregard *et al.* (BARI, BONN+)
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)
AGUILAR-... 72B PR D6 29 M. Aguilar-Benitez *et al.* (BNL)
AMMAR 67 PRL 19 1071 R. Ammar *et al.* (NWES, ANL) JP
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