

$f'_2(1525)$

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

$f'_2(1525)$ 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 $\pi^- C \rightarrow K_S^0 K_S^0 K_L^0 X$
1547 ⁺¹⁰ ₋₂		² LONGACRE 86	MPS	22 $\pi^- p \rightarrow K_S^0 K_S^0 n$
1496 ⁺⁹ ₋₈		³ CHABAUD 81	ASPK	6 $\pi^- p \rightarrow K^+ K^- n$
1497 ⁺⁸ ₋₉		CHABAUD 81	ASPK	18.4 $\pi^- p \rightarrow K^+ K^- n$
1492 ± 29		GORLICH 80	ASPK	17 $\pi^- p$ polarized $\rightarrow K^+ K^- n$
1502 ± 25		⁴ CORDEN 79	OMEG	12–15 $\pi^- p \rightarrow \pi^+ \pi^- n$
1480	14	CRENNELL 66	HBC	6.0 $\pi^- p \rightarrow K_S^0 K_S^0 n$

PRODUCED BY K^\pm BEAM

VALUE (MeV) EVTS DOCUMENT ID TECN COMMENT

1523.5 ± 1.3 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 $K^- p \rightarrow K_S^0 K_S^0 \Lambda$
1504 ± 12		BOLONKIN 86	SPEC	40 $K^- p \rightarrow K_S^0 K_S^0 Y$
1529 ± 3		ARMSTRONG 83B	OMEG	18.5 $K^- p \rightarrow K^- K^+ \Lambda$
1521 ± 6	650	AGUILAR-...	81B HBC	4.2 $K^- p \rightarrow \Lambda K^+ K^-$
1521 ± 3	572	ALHARRAN 81	HBC	8.25 $K^- p \rightarrow \Lambda K \bar{K}$
1522 ± 6	123	BARREIRO 77	HBC	4.15 $K^- p \rightarrow \Lambda K_S^0 K_S^0$
1528 ± 7	166	EVANGELISTA 77	OMEG	10 $K^- p \rightarrow K^+ K^- (\Lambda, \Sigma)$
1527 ± 3	120	BRANDENB... 76C	ASPK	13 $K^- p \rightarrow K^+ K^- (\Lambda, \Sigma)$
1519 ± 7	100	AGUILAR-...	72B HBC	3.9, 4.6 $K^- p \rightarrow K \bar{K} (\Lambda, \Sigma)$

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

1513 ± 10		⁵ BARKOV 99	SPEC	40 $K^- p \rightarrow K_S^0 K_S^0 y$
-----------	--	------------------------	------	--------------------------------------

PRODUCED IN e^+e^- ANNIHILATION

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
-------------	------	-------------	------	---------

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

1520.6 ± 2.3 OUR AVERAGE Error includes scale factor of 1.1.

1518 ± 1 ± 3		ABE	04 BELL	$10.6 e^+e^- \rightarrow e^+e^- K^+ K^-$
1519 ± 2 $\begin{smallmatrix} +15 \\ -5 \end{smallmatrix}$		BAI	03G BES	$J/\psi \rightarrow \gamma K \bar{K}$
1523 ± 6	331	⁶ ACCIARRI	01H L3	91, 183-209 $e^+e^- \rightarrow e^+e^- K_S^0 K_S^0$
1535 ± 5 ± 4		ABREU	96C DLPH	$Z^0 \rightarrow K^+ K^- + X$
1516 ± 5 $\begin{smallmatrix} +9 \\ -15 \end{smallmatrix}$		BAI	96C BES	$J/\psi \rightarrow \gamma K^+ K^-$
1531.6 ± 10.0		AUGUSTIN	88 DM2	$J/\psi \rightarrow \gamma K^+ K^-$
1515 ± 5		⁷ FALVARD	88 DM2	$J/\psi \rightarrow \phi K^+ K^-$
1525 ± 10 ± 10		BALTRUSAIT..	87 MRK3	$J/\psi \rightarrow \gamma K^+ K^-$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
1529 ± 10		ACCIARRI	95J L3	Repl. by ACCIARRI 01H
1496 ± 2		⁸ FALVARD	88 DM2	$J/\psi \rightarrow \phi K^+ K^-$

PRODUCED IN $\bar{p}p$ ANNIHILATION

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
-------------	-------------	------	---------

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

1508 ± 9	⁹ AMSLER	02 CBAR	$0.9 \bar{p}p \rightarrow \pi^0 \eta \eta, \pi^0 \pi^0 \pi^0$
----------	---------------------	---------	---

CENTRAL PRODUCTION

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
-------------	-------------	------	---------

1515 ± 15	BARBERIS	99 OMEG	450 $pp \rightarrow p_s p_f K^+ K^-$
------------------	----------	---------	--------------------------------------

PRODUCED IN $e p$ COLLISIONS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
-------------	------	-------------	------	---------

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

1537 $\begin{smallmatrix} +9 \\ -8 \end{smallmatrix}$	84	¹ CHEKANOV	04 ZEUS	$ep \rightarrow K_S^0 K_S^0 X$
---	----	-----------------------	---------	--------------------------------

¹ Systematic errors not estimated.

² From a partial-wave analysis of data using a K-matrix formalism with 5 poles.

³ CHABAUD 81 is a reanalysis of PAWLICKI 77 data.

⁴ From an amplitude analysis where the $f_2'(1525)$ width and elasticity are in complete disagreement with the values obtained from $K \bar{K}$ channel, making the solution dubious.

⁵ Systematic errors not estimated.

⁶ Supersedes ACCIARRI 95J.

⁷ From an analysis ignoring interference with $f_0(1710)$.

⁸ From an analysis including interference with $f_0(1710)$.

⁹ T-matrix pole.

$f'_2(1525)$ 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 $\pi^- C \rightarrow K_S^0 K_S^0 K_L^0 X$
108 $^{+5}_{-2}$	¹¹ LONGACRE	86 MPS	22 $\pi^- p \rightarrow K_S^0 K_S^0 n$
69 $^{+22}_{-16}$	¹² CHABAUD	81 ASPK	6 $\pi^- p \rightarrow K^+ K^- n$
137 $^{+23}_{-21}$	CHABAUD	81 ASPK	18.4 $\pi^- p \rightarrow K^+ K^- n$
150 $^{+83}_{-50}$	GORLICH	80 ASPK	17 $\pi^- p$ polarized $\rightarrow K^+ K^- n$
165 ± 42	¹³ CORDEN	79 OMEG	12–15 $\pi^- p \rightarrow \pi^+ \pi^- n$
92 $^{+39}_{-22}$	¹⁴ POLYCHRO...	79 STRC	7 $\pi^- p \rightarrow n K_S^0 K_S^0$

PRODUCED BY K^\pm BEAM

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
-------------	------	-------------	------	---------

80.3 ± 2.7 OUR AVERAGE Includes data from the datablock that follows this one.

90 ± 12	ASTON	88D LASS	11 $K^- p \rightarrow K_S^0 K_S^0 \Lambda$
73 ± 18	BOLONKIN	86 SPEC	40 $K^- p \rightarrow K_S^0 K_S^0 Y$
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 $K^- p \rightarrow \Lambda K \bar{K}$
72 ± 25	166 EVANGELISTA	77 OMEG	10 $K^- p \rightarrow K^+ K^- (\Lambda, \Sigma)$
69 ± 22	100 AGUILAR-...	72B HBC	3.9, 4.6 $K^- p \rightarrow K \bar{K} (\Lambda, \Sigma)$

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

75 ± 20	¹⁵ BARKOV	99 SPEC	40 $K^- p \rightarrow K_S^0 K_S^0 y$
62 $^{+19}_{-14}$	123 BARREIRO	77 HBC	4.15 $K^- p \rightarrow \Lambda K_S^0 K_S^0$
61 ± 8	120 BRANDENB...	76C ASPK	13 $K^- p \rightarrow K^+ K^- (\Lambda, \Sigma)$

PRODUCED IN $e^+ e^-$ ANNIHILATION

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
-------------	------	-------------	------	---------

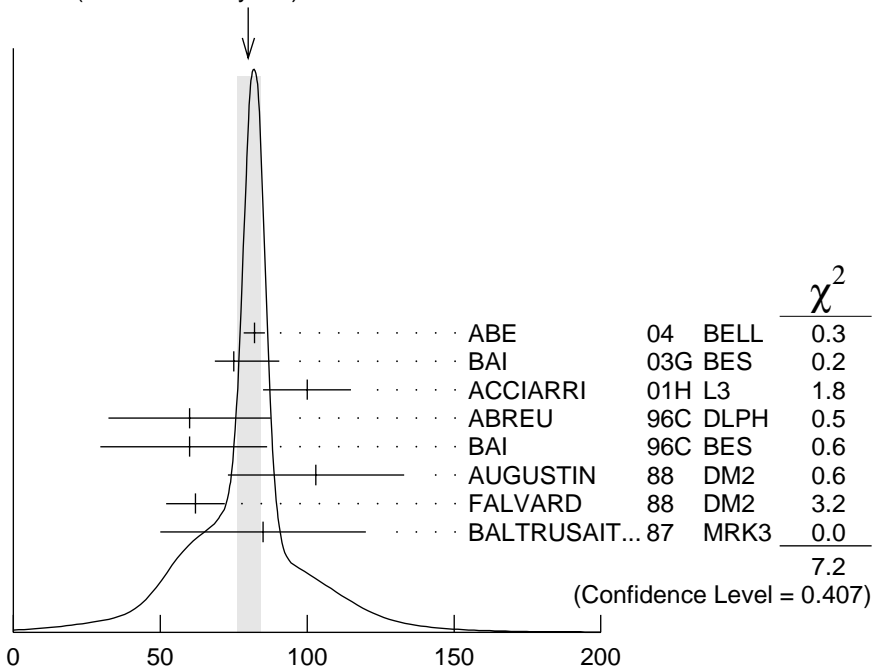
The data in this block is included in the average printed for a previous datablock.

80 ± 4 OUR AVERAGE Error includes scale factor of 1.4. See the ideogram below.

82 ± 2 ± 3	ABE	04 BELL	10.6 $e^+ e^- \rightarrow e^+ e^- K^+ K^-$
------------	-----	---------	--

$75 \pm 4^{+15}_{-5}$	BAI	03G BES	$J/\psi \rightarrow \gamma K \bar{K}$
100 ± 15	331 16 ACCIARRI	01H L3	$91, 183-209 e^+ e^- \rightarrow e^+ e^- K_S^0 K_S^0$
$60 \pm 20 \pm 19$	ABREU	96C DLPH	$Z^0 \rightarrow K^+ K^- + X$
$60 \pm 23^{+13}_{-20}$	BAI	96C BES	$J/\psi \rightarrow \gamma K^+ K^-$
103 ± 30	AUGUSTIN	88 DM2	$J/\psi \rightarrow \gamma K^+ K^-$
62 ± 10	17 FALVARD	88 DM2	$J/\psi \rightarrow \phi K^+ K^-$
85 ± 35	BALTRUSAIT..87	MRK3	$J/\psi \rightarrow \gamma K^+ K^-$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
76 ± 40	ACCIARRI	95J L3	Repl. by ACCIARRI 01H
100 ± 3	18 FALVARD	88 DM2	$J/\psi \rightarrow \phi K^+ K^-$

WEIGHTED AVERAGE
 80 ± 4 (Error scaled by 1.4)



Produced in $e^+ e^-$ annihilation

PRODUCED IN $\bar{p}p$ ANNIHILATION

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
79 ± 8	19 AMSLER	02 CBAR	$0.9 \bar{p}p \rightarrow \pi^0 \eta \eta,$ $\pi^0 \pi^0 \pi^0$

CENTRAL PRODUCTION

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
70 ± 25	BARBERIS	99 OMEG	450 $pp \rightarrow p_s p_f K^+ K^-$

PRODUCED IN $e p$ COLLISIONS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
-------------	------	-------------	------	---------

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

50^{+34}_{-22}	84	¹⁰ CHEKANOV	04 ZEUS	$e p \rightarrow K_S^0 K_S^0 X$
------------------	----	------------------------	---------	---------------------------------

¹⁰ Systematic errors not estimated.

¹¹ From a partial-wave analysis of data using a K-matrix formalism with 5 poles.

¹² CHABAUD 81 is a reanalysis of PAWLICKI 77 data.

¹³ From an amplitude analysis where the $f_2'(1525)$ width and elasticity are in complete disagreement with the values obtained from $K\bar{K}$ channel, making the solution dubious.

¹⁴ From a fit to the D with $f_2(1270)$ - $f_2'(1525)$ interference. Mass fixed at 1516 MeV.

¹⁵ Systematic errors not estimated.

¹⁶ Supersedes ACCIARRI 95J.

¹⁷ From an analysis ignoring interference with $f_0(1710)$.

¹⁸ From an analysis including interference with $f_0(1710)$.

¹⁹ T-matrix pole.

$f_2'(1525)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $K\bar{K}$	$(88.8 \pm 3.1) \%$
Γ_2 $\eta\eta$	$(10.3 \pm 3.1) \%$
Γ_3 $\pi\pi$	$(8.2 \pm 1.5) \times 10^{-3}$
Γ_4 $K\bar{K}^*(892) + \text{c.c.}$	
Γ_5 $\pi K\bar{K}$	
Γ_6 $\pi\pi\eta$	
Γ_7 $\pi^+\pi^+\pi^-\pi^-$	
Γ_8 $\gamma\gamma$	$(1.11 \pm 0.14) \times 10^{-6}$

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 15 measurements and one constraint to determine 5 parameters. The overall fit has a $\chi^2 = 14.0$ for 11 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_2	-100			
x_3	-3	-1		
x_8	-8	8	1	
Γ	-32	32	-1	-53
	x_1	x_2	x_3	x_8

Mode	Rate (MeV)
Γ_1 $K \bar{K}$	65 $\begin{smallmatrix} +5 \\ -4 \end{smallmatrix}$
Γ_2 $\eta \eta$	7.6 ± 2.5
Γ_3 $\pi \pi$	0.60 ± 0.12
Γ_8 $\gamma \gamma$	(8.1 ± 0.9) $\times 10^{-5}$

$f'_2(1525)$ PARTIAL WIDTHS

$\Gamma(K \bar{K})$	Γ_1
<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u> <u>TECN</u> <u>COMMENT</u>
65$\begin{smallmatrix} +5 \\ -4 \end{smallmatrix}$ OUR FIT	
63$\begin{smallmatrix} +6 \\ -5 \end{smallmatrix}$	²⁰ LONGACRE 86 MPS 22 $\pi^- p \rightarrow K_S^0 K_S^0 n$
$\Gamma(\pi \pi)$	Γ_3
<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u> <u>TECN</u> <u>COMMENT</u>
0.60 ± 0.12 OUR FIT	
1.4 $\begin{smallmatrix} +1.0 \\ -0.5 \end{smallmatrix}$	²⁰ LONGACRE 86 MPS 22 $\pi^- p \rightarrow K_S^0 K_S^0 n$
$\Gamma(\eta \eta)$	Γ_2
<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u> <u>TECN</u> <u>COMMENT</u>
7.6 ± 2.5 OUR FIT	
• • • We do not use the following data for averages, fits, limits, etc. • • •	
24 $\begin{smallmatrix} +3 \\ -1 \end{smallmatrix}$	²⁰ LONGACRE 86 MPS 22 $\pi^- p \rightarrow K_S^0 K_S^0 n$
²⁰ From a partial-wave analysis of data using a K-matrix formalism with 5 poles.	

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

$\Gamma(K\bar{K}) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$			$\Gamma_1\Gamma_8/\Gamma$		
VALUE (keV)	EVTS	DOCUMENT ID	TECN	COMMENT	
0.072 ± 0.007 OUR FIT					
0.072 ± 0.007 OUR AVERAGE					
0.0564 ± 0.0048 ± 0.0116		ABE	04 BELL	10.6 $e^+e^- \rightarrow e^+e^-K^+K^-$	
0.076 ± 0.006 ± 0.011	331	²³ ACCIARRI	01H L3	91, 183-209 $e^+e^- \rightarrow e^+e^-K_S^0K_S^0$	
0.067 ± 0.008 ± 0.015		²¹ ALBRECHT	90G ARG	$e^+e^- \rightarrow e^+e^-K^+K^-$	
0.11 $\begin{smallmatrix} +0.03 \\ -0.02 \end{smallmatrix}$ ± 0.02		BEHREND	89C CELL	$e^+e^- \rightarrow e^+e^-K_S^0K_S^0$	
0.10 $\begin{smallmatrix} +0.04 \\ -0.03 \end{smallmatrix}$ $\begin{smallmatrix} +0.03 \\ -0.02 \end{smallmatrix}$		BERGER	88 PLUT	$e^+e^- \rightarrow e^+e^-K_S^0K_S^0$	
0.12 ± 0.07 ± 0.04		²¹ AIHARA	86B TPC	$e^+e^- \rightarrow e^+e^-K^+K^-$	
0.11 ± 0.02 ± 0.04		²¹ ALTHOFF	83 TASS	$e^+e^- \rightarrow e^+e^-K\bar{K}$	
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
0.093 ± 0.018 ± 0.022		²¹ ACCIARRI	95J L3	Repl. by ACCIARRI 01H	
0.0314 ± 0.0050 ± 0.0077		²² ALBRECHT	90G ARG	$e^+e^- \rightarrow e^+e^-K^+K^-$	
²¹ Using an incoherent background.					
²² Using a coherent background.					
²³ Supersedes ACCIARRI 95J.					

$f'_2(1525) \text{ BRANCHING RATIOS}$

$\Gamma(\eta\eta)/\Gamma(K\bar{K})$			Γ_2/Γ_1		
VALUE	CL%	DOCUMENT ID	TECN	COMMENT	
0.12 ± 0.04 OUR FIT					
0.11 ± 0.04					
		²⁴ PROKOSHKIN	91 GAM4	300 $\pi^-p \rightarrow \pi^-p\eta\eta$	
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
<0.14	90	BARBERIS	00E	450 $pp \rightarrow p_f\eta\eta p_S$	
<0.50		BARNES	67 HBC	4.6, 5.0 K^-p	
²⁴ Combining results of GAM4 with those of WA76 on $K\bar{K}$ central production and results of CBAL, MRK3 and DM2 on $J/\psi \rightarrow \gamma\eta\eta$.					

$\Gamma(\pi\pi)/\Gamma_{\text{total}}$			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 $\pi^-p \rightarrow K^+K^-n$	
0.027 $\begin{smallmatrix} +0.071 \\ -0.013 \end{smallmatrix}$		²⁵ GORLICH	80 ASPK	17, 18 π^-p	
0.0075 ± 0.0025		^{25,26} MARTIN	79 RVUE		

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

<0.06	95	AGUILAR-...	81B HBC	4.2	$K^- p \rightarrow \Lambda K^+ K^-$
0.19 ± 0.03		CORDEN	79 OMEG	12-15	$\pi^- p \rightarrow \pi^+ \pi^- n$
<0.045	95	BARREIRO	77 HBC	4.15	$K^- p \rightarrow \Lambda K_S^0 K_S^0$
0.012 ± 0.004		²⁵ PAWLICKI	77 SPEC	6	$\pi N \rightarrow K^+ K^- N$
<0.063	90	BRANDENB...	76C ASPK	13	$K^- p \rightarrow K^+ K^- (\Lambda, \Sigma)$
<0.0086		²⁵ BEUSCH	75B OSPK	8.9	$\pi^- p \rightarrow K^0 \bar{K}^0 n$

²⁵ Assuming that the $f_2'(1525)$ is produced by an one-pion exchange production mechanism.

²⁶ MARTIN 79 uses the PAWLICKI 77 data with different input value of the $f_2'(1525) \rightarrow K \bar{K}$ branching ratio.

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

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

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

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
--------------	------------	--------------------	-------------	----------------

• • • 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		

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

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
--------------	------------	--------------------	-------------	----------------

• • • 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		

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

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
--------------	------------	--------------------	-------------	----------------

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

<0.32	95	AGUILAR-...	72B HBC	3.9,4.6	$K^- p$
-------	----	-------------	---------	---------	---------

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

<u>VALUE</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
--------------	--	--------------------	-------------	----------------

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

0.10 ± 0.03		²⁷ PROKOSHKIN	91 GAM4	300	$\pi^- p \rightarrow \pi^- p \eta \eta$
-------------	--	--------------------------	---------	-----	---

²⁷ Combining results of GAM4 with those of WA76 on $K\bar{K}$ central production and results of CBAL, MRK3 and DM2 on $J/\psi \rightarrow \gamma \eta \eta$.

$f_2'(1525)$ REFERENCES

ABE	04	EPJ C32 323	K. Abe <i>et al.</i>	(BELLE Collab.)
CHEKANOV	04	PL B578 33	S. Chekanov <i>et al.</i>	(ZEUS Collab.)
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>	
ACCIARRI	01H	PL B501 173	M. Acciarri <i>et al.</i>	(L3 Collab.)
BARBERIS	00E	PL B479 59	D. Barberis <i>et al.</i>	(WA 102 Collab.)
BARBERIS	99	PL B453 305	D. Barberis <i>et al.</i>	(Omega Expt.)
BARKOV	99	JETPL 70 248	B.P. Barkov <i>et al.</i>	
		Translated from ZETFP 70 242.		
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.)
ACCIARRI	95J	PL B363 118	M. Acciarri <i>et al.</i>	(L3 Collab.)
PROKOSHKIN	91	SPD 36 155	Y.D. Prokoshkin	(GAM2, GAM4 Collab.)
		Translated from DANS 316 900.		
ALBRECHT	90G	ZPHY C48 183	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
PDG	90	PL B239	J.J. Hernandez <i>et al.</i>	(IFIC, BOST, CIT+)
BEHREND	89C	ZPHY C43 91	H.J. Behrend <i>et al.</i>	(CELLO Collab.)
ASTON	88D	NP B301 525	D. Aston <i>et al.</i>	(SLAC, NAGO, CINC, INUS)
AUGUSTIN	88	PRL 60 2238	J.E. Augustin <i>et al.</i>	(DM2 Collab.)
BERGER	88	ZPHY C37 329	C. Berger <i>et al.</i>	(PLUTO Collab.)
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.)
AIHARA	86B	PRL 57 404	H. Aihara <i>et al.</i>	(TPC-2 γ Collab.)
BOLONKIN	86	SJNP 43 776	B.V. Bolonkin <i>et al.</i>	(ITEP) JP
		Translated from YAF 43 1211.		
LONGACRE	86	PL B177 223	R.S. Longacre <i>et al.</i>	(BNL, BRAN, CUNY+)
ALTHOFF	83	PL 121B 216	M. Althoff <i>et al.</i>	(TASSO Collab.)
ARMSTRONG	83B	NP B224 193	T.A. Armstrong <i>et al.</i>	(BARI, BIRM, CERN+)
AGUILAR...	81B	ZPHY C8 313	M. Aguilar-Benitez <i>et al.</i>	(CERN, CDEF+)
ALHARRAN	81	NP B191 26	S. Al-Harran <i>et al.</i>	(BIRM, CERN, GLAS+)
CHABAUD	81	APP B12 575	V. Chabaud <i>et al.</i>	(CERN, CRAC, MPIM)
COSTA...	80	NP B175 402	G. Costa de Beauregard <i>et al.</i>	(BARI, BONN+)
GORLICH	80	NP B174 16	L. Gorlich <i>et al.</i>	(CRAC, MPIM, CERN+)
CORDEN	79	NP B157 250	M.J. Corden <i>et al.</i>	(BIRM, RHEL, TELA+) JP
MARTIN	79	NP B158 520	A.D. Martin, E.N. Ozmutlu	(DURH)
POLYCHRO...	79	PR D19 1317	V.A. Polychronakos <i>et al.</i>	(NDAM, ANL)
BARREIRO	77	NP B121 237	F. Barreiro <i>et al.</i>	(CERN, AMST, NIJM+)
EVANGELISTA	77	NP B127 384	C. Evangelista <i>et al.</i>	(BARI, BONN, CERN+)
PAWLICKI	77	PR D15 3196	A.J. Pawlicki <i>et al.</i>	(ANL) IJP
BRANDENB...	76C	NP B104 413	G.W. Brandenburg <i>et al.</i>	(SLAC)
BEUSCH	75B	PL 60B 101	W. Beusch <i>et al.</i>	(CERN, ETH)
AGUILAR...	72B	PR D6 29	M. Aguilar-Benitez <i>et al.</i>	(BNL)
AMMAR	67	PRL 19 1071	R. Ammar <i>et al.</i>	(NWES, ANL) JP
BARNES	67	PRL 19 964	V.E. Barnes <i>et al.</i>	(BNL, SYRA) IJCP
CRENNELL	66	PRL 16 1025	D.J. Crennell <i>et al.</i>	(BNL) I

OTHER RELATED PAPERS

LI	01	JPG 27 807	D.-M. Li, H. Yu, Q.-X. Shen	
ALBERICO	98	PL B438 430	A. Alberico <i>et al.</i>	(Obelix Collab.)
JENNI	83	PR D27 1031	P. Jenni <i>et al.</i>	(SLAC, LBL)
ARMSTRONG	82	PL 110B 77	T.A. Armstrong <i>et al.</i>	(BARI, BIRM, CERN+)
ETKIN	82B	PR D25 1786	A. Etkin <i>et al.</i>	(BNL, CUNY, TUFTS, VAND)
ABRAMS	67B	PRL 18 620	G.S. Abrams <i>et al.</i>	(UMD)
BARNES	65	PRL 15 322	V.E. Barnes <i>et al.</i>	(BNL, SYRA)