

**$f'_2(1525)$**

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

### $f'_2(1525)$ 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 <sup>+10</sup> <sub>-2</sub>		<sup>2</sup> LONGACRE 86	MPS	22 $\pi^- p \rightarrow K_S^0 K_S^0 n$
1496 <sup>+9</sup> <sub>-8</sub>		<sup>3</sup> CHABAUD 81	ASPK	6 $\pi^- p \rightarrow K^+ K^- n$
1497 <sup>+8</sup> <sub>-9</sub>		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		<sup>4</sup> 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

**1523.4 ± 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		<sup>5</sup> BARKOV 99	SPEC	40 $K^- p \rightarrow K_S^0 K_S^0 y$
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**PRODUCED IN  $e^+e^-$  ANNIHILATION**

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
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The data in this block is included in the average printed for a previous datablock.

**1520.7 ± 2.0 OUR AVERAGE**

1521 ± 5		ABLIKIM	05 BES2	$J/\psi \rightarrow \phi K^+ K^-$
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	<sup>6</sup> 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		<sup>7</sup> 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		<sup>8</sup> FALVARD	88 DM2	$J/\psi \rightarrow \phi K^+ K^-$

**PRODUCED IN  $\bar{p}p$  ANNIHILATION**

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

1508 ± 9	<sup>9</sup> AMSLER	02 CBAR	0.9 $\bar{p}p \rightarrow \pi^0 \eta \eta, \pi^0 \pi^0 \pi^0$
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**CENTRAL PRODUCTION**

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
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<b>1515 ± 15</b>	BARBERIS	99 OMEG	450 $pp \rightarrow p_s p_f K^+ K^-$
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**PRODUCED IN  $e p$  COLLISIONS**

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

1537 $\begin{smallmatrix} +9 \\ -8 \end{smallmatrix}$	84	<sup>1</sup> CHEKANOV	04 ZEUS	$ep \rightarrow K_S^0 K_S^0 X$
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<sup>1</sup> Systematic errors not estimated.<sup>2</sup> From a partial-wave analysis of data using a K-matrix formalism with 5 poles.<sup>3</sup> CHABAUD 81 is a reanalysis of PAWLICKI 77 data.<sup>4</sup> 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.<sup>5</sup> Systematic errors not estimated.<sup>6</sup> Supersedes ACCIARRI 95J.<sup>7</sup> From an analysis ignoring interference with  $f_0(1710)$ .<sup>8</sup> From an analysis including interference with  $f_0(1710)$ .<sup>9</sup> T-matrix pole.

## $f'_2(1525)$ WIDTH

VALUE (MeV)	DOCUMENT ID	COMMENT
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**$73^{+6}_{-5}$  OUR FIT**

<b><math>76 \pm 10</math></b>	PDG	90 For fitting
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### PRODUCED BY PION BEAM

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
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• • • 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 <sup>+</sup> <sub>-2</sub> <sup>5</sup>	<sup>11</sup> LONGACRE	86 MPS	22 $\pi^- p \rightarrow K_S^0 K_S^0 n$
69 <sup>+</sup> <sub>-16</sub> <sup>22</sup>	<sup>12</sup> CHABAUD	81 ASPK	6 $\pi^- p \rightarrow K^+ K^- n$
137 <sup>+</sup> <sub>-21</sub> <sup>23</sup>	CHABAUD	81 ASPK	18.4 $\pi^- p \rightarrow K^+ K^- n$
150 <sup>+</sup> <sub>-50</sub> <sup>83</sup>	GORLICH	80 ASPK	17 $\pi^- p$ polarized $\rightarrow K^+ K^- n$
165 ± 42	<sup>13</sup> CORDEN	79 OMEG	12–15 $\pi^- p \rightarrow \pi^+ \pi^- n$
92 <sup>+</sup> <sub>-22</sub> <sup>39</sup>	<sup>14</sup> 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
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**$80.2 \pm 2.6$  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 <sup>+</sup> <sub>-11</sub> <sup>14</sup>	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	<sup>15</sup> BARKOV	99 SPEC	40 $K^- p \rightarrow K_S^0 K_S^0 y$
62 <sup>+</sup> <sub>-14</sub> <sup>19</sup>	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
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The data in this block is included in the average printed for a previous datablock.

**79.9± 3.3 OUR AVERAGE** Error includes scale factor of 1.1.

77 ±15		ABLIKIM	05	BES2	$J/\psi \rightarrow \phi K^+ K^-$
82 ± 2 ± 3		ABE	04	BELL	$10.6 e^+ e^- \rightarrow e^+ e^- K^+ K^-$
75 ± 4 $\begin{smallmatrix} +15 \\ -5 \end{smallmatrix}$		BAI	03G	BES	$J/\psi \rightarrow \gamma K \bar{K}$
100 ±15	331	<sup>16</sup> ACCIARRI	01H	L3	91, 183–209 $e^+ e^- \rightarrow e^+ e^- K_S^0 K_S^0$
60 ±20 ±19		ABREU	96C	DLPH	$Z^0 \rightarrow K^+ K^- + X$
60 ±23 $\begin{smallmatrix} +13 \\ -20 \end{smallmatrix}$		BAI	96C	BES	$J/\psi \rightarrow \gamma K^+ K^-$
103 ±30		AUGUSTIN	88	DM2	$J/\psi \rightarrow \gamma K^+ K^-$
62 ±10		<sup>17</sup> 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		<sup>18</sup> FALVARD	88	DM2	$J/\psi \rightarrow \phi K^+ K^-$

**PRODUCED IN  $\bar{p}p$  ANNIHILATION**

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

**CENTRAL PRODUCTION**

<u>VALUE (MeV)</u>		<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>70±25</b>		BARBERIS	99	OMEG $450 p p \rightarrow p_s p_f K^+ K^-$

**PRODUCED IN  $e p$  COLLISIONS**

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
50 $\begin{smallmatrix} +34 \\ -22 \end{smallmatrix}$	84	<sup>10</sup> CHEKANOV	04	ZEUS $e p \rightarrow K_S^0 K_S^0 X$

<sup>10</sup> Systematic errors not estimated.

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

<sup>12</sup> CHABAUD 81 is a reanalysis of PAWLICKI 77 data.

<sup>13</sup> 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.

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

<sup>15</sup> Systematic errors not estimated.

<sup>16</sup> Supersedes ACCIARRI 95J.

<sup>17</sup> From an analysis ignoring interference with  $f_0(1710)$ .

<sup>18</sup> From an analysis including interference with  $f_0(1710)$ .

<sup>19</sup> T-matrix pole.

## $f'_2(1525)$ DECAY MODES

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1$ $K\bar{K}$	(88.8 $\pm$ 3.1 ) %
$\Gamma_2$ $\eta\eta$	(10.3 $\pm$ 3.1 ) %
$\Gamma_3$ $\pi\pi$	( 8.2 $\pm$ 1.5 ) $\times 10^{-3}$
$\Gamma_4$ $K\bar{K}^*(892) + \text{c.c.}$	
$\Gamma_5$ $\pi K\bar{K}$	
$\Gamma_6$ $\pi\pi\eta$	
$\Gamma_7$ $\pi^+\pi^+\pi^-\pi^-$	
$\Gamma_8$ $\gamma\gamma$	( 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  $\langle \delta p_i \delta p_j \rangle / (\delta p_i \delta p_j)$ , 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	
$\Gamma$	-32	32	-1	-53
	$x_1$	$x_2$	$x_3$	$x_8$

Mode	Rate (MeV)
$\Gamma_1$ $K\bar{K}$	65 $^{+5}_{-4}$
$\Gamma_2$ $\eta\eta$	7.6 $\pm$ 2.5
$\Gamma_3$ $\pi\pi$	0.60 $\pm$ 0.12
$\Gamma_8$ $\gamma\gamma$	( 8.1 $\pm$ 0.9 ) $\times 10^{-5}$

### $f'_2(1525)$ PARTIAL WIDTHS

$\Gamma(K\bar{K})$	$\Gamma_1$		
VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b><math>65^{+5}_{-4}</math> OUR FIT</b>			
<b><math>63^{+6}_{-5}</math></b>	<sup>20</sup> LONGACRE	86 MPS	22 $\pi^- p \rightarrow K_S^0 K_S^0 n$

$\Gamma(\pi\pi)$   $\Gamma_3$

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>0.60 ± 0.12 OUR FIT</b>			
1.4 <sup>+1.0</sup> / <sub>-0.5</sub>	<sup>20</sup> LONGACRE	86 MPS	22 $\pi^- p \rightarrow K_S^0 K_S^0 n$

$\Gamma(\eta\eta)$   $\Gamma_2$

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>7.6 ± 2.5 OUR FIT</b>			
• • • We do not use the following data for averages, fits, limits, etc. • • •			
24 <sup>+3</sup> / <sub>-1</sub>	<sup>20</sup> LONGACRE	86 MPS	22 $\pi^- p \rightarrow K_S^0 K_S^0 n$
<sup>20</sup> 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
<b>0.072 ± 0.007 OUR FIT</b>				
<b>0.072 ± 0.007 OUR AVERAGE</b>				
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	<sup>23</sup> ACCIARRI	01H L3	91, 183-209 $e^+e^- \rightarrow e^+e^- K_S^0 K_S^0$
0.067 ± 0.008 ± 0.015		<sup>21</sup> ALBRECHT	90G ARG	$e^+e^- \rightarrow e^+e^- K^+ K^-$
0.11 <sup>+0.03</sup> / <sub>-0.02</sub> ± 0.02		BEHREND	89C CELL	$e^+e^- \rightarrow e^+e^- K_S^0 K_S^0$
0.10 <sup>+0.04</sup> / <sub>-0.03</sub> <sup>+0.03</sup> / <sub>-0.02</sub>		BERGER	88 PLUT	$e^+e^- \rightarrow e^+e^- K_S^0 K_S^0$
0.12 ± 0.07 ± 0.04		<sup>21</sup> AIHARA	86B TPC	$e^+e^- \rightarrow e^+e^- K^+ K^-$
0.11 ± 0.02 ± 0.04		<sup>21</sup> 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		<sup>21</sup> ACCIARRI	95J L3	Repl. by ACCIARRI 01H
0.0314 ± 0.0050 ± 0.0077		<sup>22</sup> ALBRECHT	90G ARG	$e^+e^- \rightarrow e^+e^- K^+ K^-$

<sup>21</sup> Using an incoherent background.

<sup>22</sup> Using a coherent background.

<sup>23</sup> Supersedes ACCIARRI 95J.

$f'_2(1525)$  BRANCHING RATIOS $\Gamma(\eta\eta)/\Gamma(K\bar{K})$   $\Gamma_2/\Gamma_1$ 

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
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**0.12±0.04 OUR FIT****0.11±0.04**<sup>24</sup> PROKOSHKIN 91 GAM4 300  $\pi^- p \rightarrow \pi^- p \eta \eta$ 

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

&lt;0.14

90

BARBERIS

00E

450  $p p \rightarrow p_f \eta \eta p_S$ 

&lt;0.50

BARNES

67

HBC

4.6,5.0  $K^- p$ <sup>24</sup> Combining results of GAM4 with those of WA76 on  $K\bar{K}$  central production and results of CBAL, MRK3 and DM2 on  $J/\psi \rightarrow \gamma \eta \eta$ . $\Gamma(\pi\pi)/\Gamma_{\text{total}}$   $\Gamma_3/\Gamma$ 

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
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**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  $\begin{matrix} +0.071 \\ -0.013 \end{matrix}$ <sup>25</sup> GORLICH

80

ASPK

17,18  $\pi^- p$ 

0.0075±0.0025

<sup>25,26</sup> MARTIN

79

RVUE

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

&lt;0.06

95

AGUILAR-...

81B

HBC

4.2  $K^- p \rightarrow \Lambda K^+ K^-$ 

0.19 ±0.03

CORDEN

79

OMEG

12-15  $\pi^- p \rightarrow$ 

&lt;0.045

95

BARREIRO

77

HBC

4.15  $K^- p \rightarrow \Lambda K_S^0 K_S^0$ 

0.012 ±0.004

<sup>25</sup> PAWLICKI

77

SPEC

6  $\pi N \rightarrow K^+ K^- N$ 

&lt;0.063

90

BRANDENB...

76C

ASPK

13  $K^- p \rightarrow$ 

&lt;0.0086

<sup>25</sup> BEUSCH

75B

OSPK

8.9  $\pi^- p \rightarrow K^0 \bar{K}^0 n$ <sup>25</sup> Assuming that the  $f'_2(1525)$  is produced by an one-pion exchange production mechanism.<sup>26</sup> MARTIN 79 uses the PAWLICKI 77 data with different input value of the  $f'_2(1525) \rightarrow K\bar{K}$  branching ratio. $\Gamma(\pi\pi)/\Gamma(K\bar{K})$   $\Gamma_3/\Gamma_1$ 

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
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**0.0092±0.0018 OUR FIT****0.075 ±0.035**

AUGUSTIN

87

DM2

 $J/\psi \rightarrow \gamma \pi^+ \pi^-$  $\Gamma(\pi\pi\eta)/\Gamma(K\bar{K})$   $\Gamma_6/\Gamma_1$ 

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

&lt;0.41

95

AGUILAR-...

72B

HBC

3.9,4.6  $K^- p$ 

&lt;0.3

67

AMMAR

67

HBC

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

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

&lt;0.35

95

AGUILAR-...

72B

HBC

3.9,4.6  $K^- p$ 

&lt;0.4

67

AMMAR

67

HBC

$\Gamma(\pi^+\pi^+\pi^-\pi^-)/\Gamma(K\bar{K})$  $\Gamma_7/\Gamma_1$ 

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

<0.32	95	AGUILAR-...	72B HBC	3.9,4.6 $K^- p$
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 $\Gamma(\eta\eta)/\Gamma_{\text{total}}$  $\Gamma_2/\Gamma$ 

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

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

ABLIKIM	05	PL B607 243	M. Ablikim <i>et al.</i>	(BES Collab.)
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+)
BALTRUSAIT...	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 $\gamma$ 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) IJPC
CRENNELL	66	PRL 16 1025	D.J. Crennell <i>et al.</i>	(BNL) I



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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)

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