$a_2(1320)$

$I^G(J^{PC}) = 1^-(2^{++})$

$a_2(1320)$ MASS

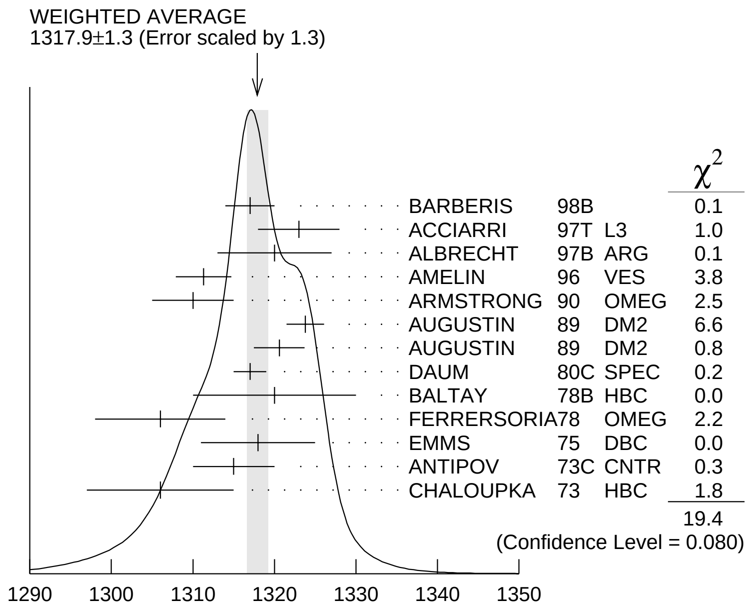
VALUE (MeV)	DOCUMENT ID

1318.0±0.6 OUR AVERAGE Includes data from the 4 datablocks that follow this one. Error includes scale factor of 1.1.

3π MODE

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
The data in this block is included in the average printed for a previous datablock.						
1317.9± 1.3 OUR AVERAGE		Error includes scale factor of 1.3. See the ideogram below.				
1317 ± 3		BARBERIS	98B			450 $p p \rightarrow p_f \pi^+ \pi^- \pi^0 p_s$
1323 ± 4 ±3		ACCIARRI	97T	L3		$e^+ e^- \rightarrow e^+ e^- \pi^+ \pi^- \pi^0$
1320 ± 7		ALBRECHT	97B	ARG		$e^+ e^- \rightarrow e^+ e^- \pi^+ \pi^- \pi^0$
1311.3± 1.6±3.0	72400	AMELIN	96	VES		36 $\pi^- p \rightarrow \pi^+ \pi^- \pi^0 n$
1310 ± 5		ARMSTRONG	90	OMEG	0	300.0$p p \rightarrow p p \pi^+ \pi^- \pi^0$
1323.8± 2.3	4022	AUGUSTIN	89	DM2	±	$J/\psi \rightarrow \rho^\pm a_2^\mp$
1320.6± 3.1	3562	AUGUSTIN	89	DM2	0	$J/\psi \rightarrow \rho^0 a_2^0$
1317 ± 2	25000	[1] DAUM	80C	SPEC	−	63,94 $\pi^- p \rightarrow 3\pi p$
1320 ±10	1097	[1] BALTAY	78B	HBC	+0	15 $\pi^+ p \rightarrow p 4\pi$
1306 ± 8		FERRERSORIA	78	OMEG	−	9 $\pi^- p \rightarrow p 3\pi$
1318 ± 7	1600	[1] EMMS	75	DBC	0	4 $\pi^+ n \rightarrow p (3\pi)^0$
1315 ± 5		[1] ANTIPOV	73C	CNTR	−	25,40 $\pi^- p \rightarrow p \eta \pi^-$
1306 ± 9	1580	CHALOUPKA	73	HBC	−	3.9 $\pi^- p$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
1305 ±14		CONDO	93	SHF		$\gamma p \rightarrow \eta \pi^+ \pi^+ \pi^-$
1310 ± 2		[1] EVANGELISTA	81	OMEG	−	12 $\pi^- p \rightarrow 3\pi p$
1343 ±11	490	BALTAY	78B	HBC	0	15 $\pi^+ p \rightarrow \Delta 3\pi$
1309 ± 5	5000	BINNIE	71	MMS	−	$\pi^- p$ near a_2 threshold
1299 ± 6	28000	BOWEN	71	MMS	−	5 $\pi^- p$
1300 ± 6	24000	BOWEN	71	MMS	+	5 $\pi^+ p$
1309 ± 4	17000	BOWEN	71	MMS	−	7 $\pi^- p$
1306 ± 4	941	ALSTON-...	70	HBC	+	7.0 $\pi^+ p \rightarrow 3\pi p$

[1] From a fit to $J^P = 2^+$ $\rho\pi$ partial wave.



a_2(1320) mass, 3π mode (MeV)

$K^{\pm} K^0_S$ MODE

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
The data in this block is included in the average printed for a previous datablock.					
1318.1± 0.7 OUR AVERAGE					
1319 ± 5	4700	[2,3] CLELAND 82B	SPEC	+	50 $\pi^+ p \rightarrow K^0_S K^+ p$
1324 ± 6	5200	[2,3] CLELAND 82B	SPEC	−	50 $\pi^- p \rightarrow K^0_S K^- p$
1320 ± 2	4000	CHABAUD 80	SPEC	−	17 $\pi^- A \rightarrow K^0_S K^- A$
1312 ± 4	11000	CHABAUD 78	SPEC	−	9.8 $\pi^- p \rightarrow K^- K^0_S p$
1316 ± 2	4730	CHABAUD 78	SPEC	−	18.8 $\pi^- p \rightarrow K^- K^0_S p$
1318 ± 1		[2,4] MARTIN 78D	SPEC	−	10 $\pi^- p \rightarrow K^0_S K^- p$
1320 ± 2	2724	MARGULIE 76	SPEC	−	23 $\pi^- p \rightarrow K^- K^0_S p$
1313 ± 4	730	FOLEY 72	CNTR	−	20.3 $\pi^- p \rightarrow K^- K^0_S p$
1319 ± 3	1500	[4] GRAYER 71	ASPK	−	17.2 $\pi^- p \rightarrow K^- K^0_S p$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1330 ±11	1000	[2,3] CLELAND 82B	SPEC	+	30 $\pi^+ p \rightarrow K^0_S K^+ p$
1324 ± 5	350	HYAMS 78	ASPK	+	12.7 $\pi^+ p \rightarrow K^+ K^0_S p$

[2] From a fit to $J^P = 2^+$ partial wave.
[3] Number of events evaluated by us.
[4] Systematic error in mass scale subtracted.

$\eta\pi$ MODE

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
The data in this block is included in the average printed for a previous datablock.						
1317.7±1.4 OUR AVERAGE						
1308 ±9		BARBERIS	00H			450 $pp \to p_f \eta\pi^0 p_s$
1316 ±9		BARBERIS	00H			450 $pp \to \Delta_f^{++} \eta\pi^- p_s$
1317 ±1 ±2		THOMPSON	97	MPS		18 $\pi^- p \to \eta\pi^- p$
1315 ±5 ±2		[5] AMSLER	94D	CBAR		0.0 $\overline{p}p \to \pi^0\pi^0\eta$
1325.1±5.1		AOYAGI	93	BKEI		$\pi^- p \to \eta\pi^- p$
1317.7±1.4±2.0		BELADIDZE	93	VES		37$\pi^- N \to \eta\pi^- N$
1323 ±8	1000	[6] KEY	73	OSPK	−	6 $\pi^- p \to p\pi^-\eta$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
1324 ±5		ARMSTRONG	93C	E760	0	$\overline{p}p \to \pi^0\eta\eta \to 6\gamma$
1336.2±1.7	2561	DELFOSSE	81	SPEC	+	$\pi^\pm p \to p\pi^\pm\eta$
1330.7±2.4	1653	DELFOSSE	81	SPEC	−	$\pi^\pm p \to p\pi^\pm\eta$
1324 ±8	6200	[6,7] CONFORTO	73	OSPK	−	6 $\pi^- p \to p\text{MM}^-$

[5] The systematic error of 2 MeV corresponds to the spread of solutions.
[6] Error includes 5 MeV systematic mass-scale error.
[7] Missing mass with enriched MMS $= \eta\pi^-$, $\eta = 2\gamma$.

$\eta'\pi$ MODE

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
The data in this block is included in the average printed for a previous datablock.				
1322 ± 7 OUR AVERAGE				
1318 ± 8 $^{+3}_{-5}$	IVANOV	01		18 $\pi^- p \to \eta'\pi^- p$
1327.0±10.7	BELADIDZE	93	VES	37$\pi^- N \to \eta'\pi^- N$

$a_2(1320)$ WIDTH

3π MODE

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
104.7± 1.9 OUR AVERAGE						
120 ±10		BARBERIS	98B			450 $pp \to p_f\pi^+\pi^-\pi^0 p_s$
105 ±10 ±11		ACCIARRI	97T	L3		$e^+e^- \to e^+e^-\pi^+\pi^-\pi^0$
120 ±10		ALBRECHT	97B	ARG		$e^+e^- \to e^+e^-\pi^+\pi^-\pi^0$
103.0± 6.0± 3.3	72400	AMELIN	96	VES		36 $\pi^- p \to \pi^+\pi^-\pi^0 n$
120 ±10		ARMSTRONG	90	OMEG	0	300.0$pp \to pp\pi^+\pi^-\pi^0$
107.0± 9.7	4022	AUGUSTIN	89	DM2	±	$J/\psi \to \rho^\pm a_2^\mp$
118.5±12.5	3562	AUGUSTIN	89	DM2	0	$J/\psi \to \rho^0 a_2^0$

97 ±5		[8] EVANGELISTA	81	OMEG	−	12 $\pi^- p \to 3\pi p$
96 ±9	25000	[8] DAUM	80C	SPEC	−	63,94 $\pi^- p \to 3\pi p$
110 ±15	1097	[8] BALTAY	78B	HBC	+0	15 $\pi^+ p \to p 4\pi$
112 ±18	1600	[8] EMMS	75	DBC	0	4 $\pi^+ n \to p(3\pi)^0$
122 ±14	1200	[8,9] WAGNER	75	HBC	0	7 $\pi^+ p \to \Delta^{++}(3\pi)^0$
115 ±15		[8] ANTIPOV	73C	CNTR	−	25,40 $\pi^- p \to p\eta\pi^-$
99 ±15	1580	CHALOUPKA	73	HBC	−	3.9 $\pi^- p$
105 ±5	28000	BOWEN	71	MMS	−	5 $\pi^- p$
99 ±5	24000	BOWEN	71	MMS	+	5 $\pi^+ p$
103 ±5	17000	BOWEN	71	MMS	−	7 $\pi^- p$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
120 ±40		CONDO	93	SHF		$\gamma p \to \eta\pi^+\pi^+\pi^-$
115 ±14	490	BALTAY	78B	HBC	0	15 $\pi^+ p \to \Delta 3\pi$
72 ±16	5000	BINNIE	71	MMS	−	$\pi^- p$ near a_2 threshold
79 ±12	941	ALSTON-...	70	HBC	+	7.0 $\pi^+ p \to 3\pi p$

[8] From a fit to $J^P = 2^+$ $\rho\pi$ partial wave.

[9] Width errors enlarged by us to $4\Gamma/\sqrt{N}$; see the note with the $K^*(892)$ mass.

$K^\pm K^0_S$ AND $\eta\pi$ MODES

VALUE (MeV)	*DOCUMENT ID*
107 ±5 OUR ESTIMATE	
110.4±1.7 OUR AVERAGE Includes data from the 2 datablocks that follow this one.	

$K^\pm K^0_S$ MODE

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
The data in this block is included in the average printed for a previous datablock.						
109.8± 2.4 OUR AVERAGE						
112 ±20	4700	[10,11] CLELAND	82B	SPEC	+	50 $\pi^+ p \to K^0_S K^+ p$
120 ±25	5200	[10,11] CLELAND	82B	SPEC	−	50 $\pi^- p \to K^0_S K^- p$
106 ±4	4000	CHABAUD	80	SPEC	−	17 π^- A $\to K^0_S K^-$ A
126 ±11	11000	CHABAUD	78	SPEC	−	9.8 $\pi^- p \to K^- K^0_S p$
101 ±8	4730	CHABAUD	78	SPEC	−	18.8 $\pi^- p \to K^- K^0_S p$
113 ±4		[10,12] MARTIN	78D	SPEC	−	10 $\pi^- p \to K^0_S K^- p$
105 ±8	2724	[12] MARGULIE	76	SPEC	−	23 $\pi^- p \to K^- K^0_S p$
113 ±19	730	FOLEY	72	CNTR	−	20.3 $\pi^- p \to K^- K^0_S p$
123 ±13	1500	[12] GRAYER	71	ASPK	−	17.2 $\pi^- p \to K^- K^0_S p$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
121 ±51	1000	[10,11] CLELAND	82B	SPEC	+	30 $\pi^+ p \to K^0_S K^+ p$
110 ±18	350	HYAMS	78	ASPK	+	12.7 $\pi^+ p \to K^+ K^0_S p$

[10] From a fit to $J^P = 2^+$ partial wave.
[11] Number of events evaluated by us.
[12] Width errors enlarged by us to $4\Gamma/\sqrt{N}$; see the note with the $K^*(892)$ mass.

$\eta\pi$ MODE

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
The data in this block is included in the average printed for a previous datablock.						
111.1± 2.4 OUR AVERAGE						
115 ±20		BARBERIS	00H			450 $pp \to p_f \eta\pi^0 p_s$
112 ±14		BARBERIS	00H			450 $pp \to \Delta_f^{++} \eta\pi^- p_s$
112 ± 3 ±2		[13] AMSLER	94D	CBAR		0.0 $\overline{p}p \to \pi^0\pi^0\eta$
103 ± 6 ±3		BELADIDZE	93	VES		$37\pi^- N \to \eta\pi^- N$
112.2± 5.7	2561	DELFOSSE	81	SPEC	+	$\pi^\pm p \to p\pi^\pm\eta$
116.6± 7.7	1653	DELFOSSE	81	SPEC	−	$\pi^\pm p \to p\pi^\pm\eta$
108 ± 9	1000	KEY	73	OSPK	−	6 $\pi^- p \to p\pi^-\eta$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
127 ± 2 ±2		[14] THOMPSON	97	MPS		18 $\pi^- p \to \eta\pi^- p$
118 ±10		ARMSTRONG	93C	E760	0	$\overline{p}p \to \pi^0\eta\eta \to 6\gamma$
104 ± 9	6200	[15] CONFORTO	73	OSPK	−	6 $\pi^- p \to p\text{MM}^-$

[13] The systematic error of 2 MeV corresponds to the spread of solutions.
[14] Resolution is not unfolded.
[15] Missing mass with enriched MMS $= \eta\pi^-$, $\eta = 2\gamma$.

$\eta'\pi$ MODE

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
119±25 OUR AVERAGE				
140±35±20	IVANOV	01		18 $\pi^- p \to \eta'\pi^- p$
106±32	BELADIDZE	93	VES	$37\pi^- N \to \eta'\pi^- N$

$a_2(1320)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)	Scale factor/ Confidence level
Γ_1	$\rho\pi$	(70.1 ±2.7) %	S=1.2
Γ_2	$\eta\pi$	(14.5 ±1.2) %	
Γ_3	$\omega\pi\pi$	(10.6 ±3.2) %	S=1.3
Γ_4	$K\overline{K}$	(4.9 ±0.8) %	
Γ_5	$\eta'(958)\pi$	(5.3 ±0.9) $\times 10^{-3}$	
Γ_6	$\pi^\pm\gamma$	(2.68±0.31) $\times 10^{-3}$	
Γ_7	$\gamma\gamma$	(9.4 ±0.7) $\times 10^{-6}$	
Γ_8	$\pi^+\pi^-\pi^-$	< 8 %	CL=90%
Γ_9	e^+e^-	< 6 $\times 10^{-9}$	CL=90%

CONSTRAINED FIT INFORMATION

An overall fit to 5 branching ratios uses 18 measurements and one constraint to determine 4 parameters. The overall fit has a $\chi^2 =$ 9.3 for 15 degrees of freedom.

The following *off-diagonal* array elements are the correlation coefficients $\left\langle \delta x_i \delta x_j \right\rangle / (\delta x_i \cdot \delta x_j)$, 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	10		
x_3	−89	−46	
x_4	−1	−2	−24
	x_1	x_2	x_3

$a_2(1320)$ PARTIAL WIDTHS

$\Gamma(\pi^\pm\gamma)$ — Γ_6

VALUE (keV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
287± 30 OUR AVERAGE						
284± 25±25	7100	MOLCHANOV	01	SELX		600 $\pi^- A \to \pi^+\pi^-\pi^- A$
295± 60		CIHANGIR	82	SPEC	+	200 π^+ A
• • • We do not use the following data for averages, fits, limits, etc. • • •						
461±110		[18] MAY	77	SPEC	±	9.7 γA

$\Gamma(\gamma\gamma)$ — Γ_7

VALUE (keV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
1.00±0.06 OUR AVERAGE						
0.98±0.05±0.09		ACCIARRI	97T	L3		$e^+e^- \to e^+e^-\pi^+\pi^-\pi^0$
0.96±0.03±0.13		ALBRECHT	97B	ARG		$e^+e^- \to e^+e^-\pi^+\pi^-\pi^0$
1.26±0.26±0.18	36	BARU	90	MD1		$e^+e^- \to e^+e^-\pi^+\pi^-\pi^0$
1.00±0.07±0.15	415	BEHREND	90C	CELL	0	$e^+e^- \to e^+e^-\pi^+\pi^-\pi^0$
1.03±0.13±0.21		BUTLER	90	MRK2		$e^+e^- \to e^+e^-\pi^+\pi^-\pi^0$
1.01±0.14±0.22	85	OEST	90	JADE		$e^+e^- \to e^+e^-\pi^0\eta$
0.90±0.27±0.15	56	[16] ALTHOFF	86	TASS	0	$e^+e^- \to e^+e^-3\pi$
1.14±0.20±0.26		[17] ANTREASYAN	86	CBAL	0	$e^+e^- \to e^+e^-\pi^0\eta$
1.06±0.18±0.19		BERGER	84C	PLUT	0	$e^+e^- \to e^+e^-3\pi$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
$0.81\pm0.19^{+0.42}_{-0.11}$	35	[16] BEHREND	83B	CELL	0	$e^+e^- \to e^+e^-3\pi$
0.77±0.18±0.27	22	[17] EDWARDS	82F	CBAL	0	$e^+e^- \to e^+e^-\pi^0\eta$

[16] From $\rho\pi$ decay mode.
[17] From $\eta\pi^0$ decay mode.

$\Gamma(e^+e^-)$ — Γ_9

VALUE (eV)	CL%	DOCUMENT ID		TECN	COMMENT
< 0.56	90	ACHASOV	00K	SND	$e^+e^- \to \pi^0\pi^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<25	90	VOROBYEV	88	ND	$e^+e^- \to \pi^0\eta$

[18] Assuming one-pion exchange.

$a_2(1320)$ $\Gamma(i)\Gamma(\gamma\gamma)/\Gamma(\text{total})$

$\Gamma(K\overline{K}) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$ — $\Gamma_4\Gamma_7/\Gamma$

VALUE (keV)	DOCUMENT ID		TECN	COMMENT
0.126±0.007±0.028	[19] ALBRECHT	90G	ARG	$e^+e^- \to e^+e^-K^+K^-$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.081±0.006±0.027	[20] ALBRECHT	90G	ARG	$e^+e^- \to e^+e^-K^+K^-$

[19] Using an incoherent background.
[20] Using a coherent background.

$a_2(1320)$ BRANCHING RATIOS

$\Gamma(K\overline{K})/\Gamma(\rho\pi)$ — Γ_4/Γ_1

VALUE	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
0.070±0.012 OUR FIT						
0.078±0.017		CHABAUD	78	RVUE		
• • • We do not use the following data for averages, fits, limits, etc. • • •						
0.011±0.003		[21] BERTIN	98B	OBLX		0.0 $\overline{p}p \to K^\pm K_S \pi^\mp$
0.056±0.014	50	[22] CHALOUPKA	73	HBC	−	3.9 $\pi^- p$
0.097±0.018	113	[22] ALSTON-...	71	HBC	+	7.0 $\pi^+ p$
0.06 ±0.03		[22] ABRAMOVI...	70B	HBC	−	3.93 $\pi^- p$
0.054±0.022		[22] CHUNG	68	HBC	−	3.2 $\pi^- p$

[21] Using 4π data from BERTIN 97D.
[22] Included in CHABAUD 78 review.

$\Gamma(\eta\pi)/[\Gamma(\rho\pi)+\Gamma(\eta\pi)+\Gamma(K\overline{K})]$ — $\Gamma_2/(\Gamma_1+\Gamma_2+\Gamma_4)$

VALUE	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
0.162±0.012 OUR FIT						
0.140±0.028 OUR AVERAGE						
0.13 ±0.04		ESPIGAT	72	HBC	±	0.0 $\overline{p}p$
0.15 ±0.04	34	BARNHAM	71	HBC	+	3.7 $\pi^+ p$

$\Gamma(\eta\pi)/\Gamma(\rho\pi)$ — Γ_2/Γ_1

VALUE	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
0.207±0.018 OUR FIT						
0.213±0.020 OUR AVERAGE						
0.18 ±0.05		FORINO	76	HBC		11 $\pi^- p$
0.22 ±0.05	52	ANTIPOV	73	CNTR	−	40 $\pi^- p$
0.211±0.044	149	CHALOUPKA	73	HBC	−	3.9 $\pi^- p$
0.246±0.042	167	ALSTON-...	71	HBC	+	7.0 $\pi^+ p$
0.25 ±0.09	15	BOECKMANN	70	HBC	+	5.0 $\pi^+ p$
0.23 ±0.08	22	ASCOLI	68	HBC	−	5 $\pi^- p$
0.12 ±0.08		CHUNG	68	HBC	−	3.2 $\pi^- p$
0.22 ±0.09		CONTE	67	HBC	−	11.0 $\pi^- p$

$\Gamma(\eta'(958)\pi)/\Gamma_{total}$ — Γ_5/Γ

VALUE	CL%	DOCUMENT ID		TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<0.006	95	ALDE	92B	GAM2		38,100 $\pi^- p \to \eta' \pi^0 n$
<0.02	97	BARNHAM	71	HBC	+	3.7 $\pi^+ p$
0.004±0.004		BOESEBECK	68	HBC	+	8 $\pi^+ p$

$\Gamma(\eta'(958)\pi)/\Gamma(\rho\pi)$ — Γ_5/Γ_1

VALUE	CL%	DOCUMENT ID		TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<0.011	90	EISENSTEIN	73	HBC	−	5 $\pi^- p$
<0.04		ALSTON-...	71	HBC	+	7.0 $\pi^+ p$
$0.04\ ^{+0.03}_{-0.04}$		BOECKMANN	70	HBC	0	5.0 $\pi^+ p$

$\Gamma(K\overline{K})/[\Gamma(\rho\pi)+\Gamma(\eta\pi)+\Gamma(K\overline{K})]$ — $\Gamma_4/(\Gamma_1+\Gamma_2+\Gamma_4)$

VALUE	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
0.054±0.009 OUR FIT						
0.048±0.012 OUR AVERAGE						
0.05 ±0.02		TOET	73	HBC	+	5 $\pi^+ p$
0.09 ±0.04		TOET	73	HBC	0	5 $\pi^+ p$
0.03 ±0.02	8	DAMERI	72	HBC	−	11 $\pi^- p$
0.06 ±0.03	17	BARNHAM	71	HBC	+	3.7 $\pi^+ p$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
0.020±0.004		[23] ESPIGAT	72	HBC	±	0.0 $\overline{p}p$

[23] Not averaged because of discrepancy between masses from $K\overline{K}$ and $\rho\pi$ modes.

$\Gamma(\pi^+\pi^-\pi^-)/\Gamma(\rho\pi)$ — Γ_8/Γ_1

VALUE	CL%	DOCUMENT ID		TECN	CHG	COMMENT
<0.12	90	ABRAMOVI...	70B	HBC	−	3.93 $\pi^- p$

$\Gamma(\pi^{\pm}\gamma)/\Gamma_{\text{total}}$ — Γ_6/Γ

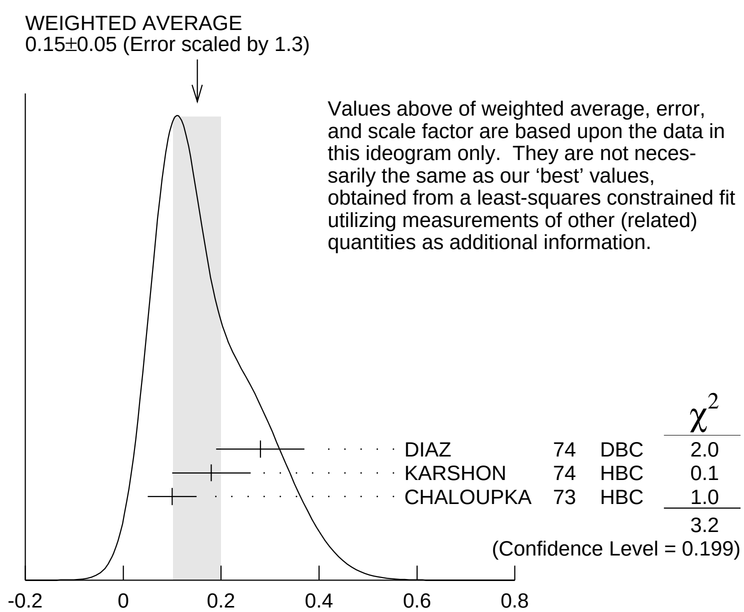
VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.005^{+0.005}_{-0.003}$	[24] EISENBERG	72	HBC	4.3,5.25,7.5 γp

[24] Pion-exchange model used in this estimation.

$\Gamma(\omega\pi\pi)/\Gamma(\rho\pi)$ — Γ_3/Γ_1

VALUE	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
0.15±0.05 OUR FIT Error includes scale factor of 1.3.						
0.15±0.05 OUR AVERAGE Error includes scale factor of 1.3. See the ideogram below.						
0.28±0.09	60	DIAZ	74	DBC	0	6 $\pi^+ n$
0.18±0.08		[25] KARSHON	74	HBC		Avg. of above two
0.10±0.05	279	CHALOUPKA	73	HBC	−	3.9 $\pi^- p$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
0.29±0.08	140	[25] KARSHON	74	HBC	0	4.9 $\pi^+ p$
0.10±0.04	60	[25] KARSHON	74	HBC	+	4.9 $\pi^+ p$
0.19±0.08		DEFOIX	73	HBC	0	0.7 $\overline{p}p$

[25] KARSHON 74 suggest an additional $I = 0$ state strongly coupled to $\omega\pi\pi$ which could explain discrepancies in branching ratios and masses. We use a central value and a systematic spread.



$\Gamma(\omega\pi\pi)/\Gamma(\rho\pi)$

$\Gamma(\eta'(958)\pi)/\Gamma(\eta\pi)$ — Γ_5/Γ_2

VALUE	DOCUMENT ID		TECN	COMMENT
0.037±0.006 OUR AVERAGE				
0.032±0.009	ABELE	97C	CBAR	0.0 $\overline{p}p \rightarrow \pi^0\pi^0\eta'$
0.047±0.010±0.004	[26] BELADIDZE	93	VES	$37\pi^- N \rightarrow a_2^- N$
0.034±0.008±0.005	BELADIDZE	92	VES	$36\pi^- C \rightarrow a_2^- C$

[26] Using B($\eta' \rightarrow \pi^+\pi^-\eta$) = 0.441, B($\eta \rightarrow \gamma\gamma$) = 0.389 and B($\eta \rightarrow \pi^+\pi^-\pi^0$) = 0.236.

$\Gamma(K\overline{K})/\Gamma(\eta\pi)$ — Γ_4/Γ_2

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.08±0.02	[27] BERTIN	98B	OBLX	0.0 $\overline{p}p \rightarrow K^\pm K_S \pi^\mp$

[27] Using $\eta\pi\pi$ data from AMSLER 94D.

$\Gamma(e^+e^-)/\Gamma_{total}$ — Γ_9/Γ

VALUE (units 10^{-9})	CL%	DOCUMENT ID		TECN	COMMENT
<6	90	ACHASOV	00K	SND	$e^+e^- \rightarrow \pi^0\pi^0$

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CLELAND	82B	NP B208 228	W.E. Cleland et al.	(DURH, GEVA, LAUS+)
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