$\rho(1700)$

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

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$\rho(1700)$ MASS

$\eta\rho^0$ AND $\pi^+\pi^-$ MODES

VALUE (MeV)	DOCUMENT ID
1720±20 OUR ESTIMATE	

$\eta\rho^0$ MODE

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. • • •				
1740±20	ANTONELLI	88	DM2	$e^+e^- \rightarrow \eta\pi^+\pi^-$
1701±15	[1] FUKUI	88	SPEC	8.95 $\pi^- p \rightarrow \eta\pi^+\pi^- n$

[1] Assuming $\rho^+ f_0(1370)$ decay mode interferes with $a_1(1260)^+\pi$ background. From a two Breit-Wigner fit.

$\pi\pi$ MODE

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. • • •					
$1780 \pm 20 ^{+15}_{-20}$	63.5k	[1] ABRAMOWICZ	12	ZEUS	$e p \rightarrow e\pi^+\pi^- p$
1861 ± 17		[2] LEES	12G	BABR	$e^+e^- \rightarrow \pi^+\pi^-\gamma$
$1728 \pm 17 \pm 89$	5.4M	[3,4] FUJIKAWA	08	BELL	$\tau^- \rightarrow \pi^-\pi^0\nu_\tau$
$1780 ^{+37}_{-29}$		[5] ABELE	97	CBAR	$\overline{p} n \rightarrow \pi^-\pi^0\pi^0$
1719 ± 15		[5] BERTIN	97C	OBLX	0.0 $\overline{p} p \rightarrow \pi^+\pi^-\pi^0$
1730 ± 30		CLEGG	94	RVUE	$e^+e^- \rightarrow \pi^+\pi^-$
1768 ± 21		BISELLO	89	DM2	$e^+e^- \rightarrow \pi^+\pi^-$
1745.7 ± 91.9		DUBNICKA	89	RVUE	$e^+e^- \rightarrow \pi^+\pi^-$
1546 ± 26		GESHKEN...	89	RVUE	
1650		[6] ERKAL	85	RVUE	20–70 $\gamma p \rightarrow \gamma\pi$
1550 ± 70		ABE	84B	HYBR	20 $\gamma p \rightarrow \pi^+\pi^- p$
1590 ± 20		[7] ASTON	80	OMEG	20–70 $\gamma p \rightarrow p 2\pi$
1600 ± 10		[8] ATIYA	79B	SPEC	50 $\gamma C \rightarrow C 2\pi$
$1598 ^{+24}_{-22}$		BECKER	79	ASPK	17 $\pi^- p$ polarized
1659 ± 25		[6] LANG	79	RVUE	
1575		[6] MARTIN	78C	RVUE	17 $\pi^- p \rightarrow \pi^+\pi^- n$
1610 ± 30		[6] FROGGATT	77	RVUE	17 $\pi^- p \rightarrow \pi^+\pi^- n$
1590 ± 20		[9] HYAMS	73	ASPK	17 $\pi^- p \rightarrow \pi^+\pi^- n$

[1] Using the KUHN 90 parametrization of the pion form factor, neglecting $\rho-\omega$ interference.
[2] Using the GOUNARIS 68 parametrization of the pion form factor leaving the masses and widths of the $\rho(1450)$, $\rho(1700)$, and $\rho(2150)$ resonances as free parameters of the fit.
[3] $|F_\pi(0)|^2$ fixed to 1.

[4] From the GOUNARIS 68 parametrization of the pion form factor.
[5] T-matrix pole.
[6] From phase shift analysis of HYAMS 73 data.
[7] Simple relativistic Breit-Wigner fit with constant width.
[8] An additional 40 MeV uncertainty in both the mass and width is present due to the choice of the background shape.
[9] Included in BECKER 79 analysis.

$\pi\omega$ MODE

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1708±41	7815	[1] ACHASOV	13	SND	1.05–2.00 $e^+e^- \rightarrow \pi^0\pi^0\gamma$
1550 to 1620		[2] ACHASOV	00I	SND	$e^+e^- \rightarrow \pi^0\pi^0\gamma$
1580 to 1710		[3] ACHASOV	00I	SND	$e^+e^- \rightarrow \pi^0\pi^0\gamma$
1710±90		ACHASOV	97	RVUE	$e^+e^- \rightarrow \omega\pi^0$

[1] From a phenomenological model based on vector meson dominance with the interfering $\rho(1450)$ and $\rho(1700)$ and their widths fixed at 400 and 250 MeV, respectively. Systematic uncertainty not estimated.
[2] Taking into account both $\rho(1450)$ and $\rho(1700)$ contributions. Using the data of ACHASOV 00I on $e^+e^- \rightarrow \omega\pi^0$ and of EDWARDS 00A on $\tau^- \rightarrow \omega\pi^-\nu_\tau$. $\rho(1450)$ mass and width fixed at 1400 MeV and 500 MeV respectively.
[3] Taking into account the $\rho(1700)$ contribution only. Using the data of ACHASOV 00I on $e^+e^- \rightarrow \omega\pi^0$ and of EDWARDS 00A on $\tau^- \rightarrow \omega\pi^-\nu_\tau$.

$K\overline{K}$ MODE

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
1541 ±12 ±33	190k	[1] AAIJ	16N	LHCB		$D^0 \rightarrow K^0_S K^\pm \pi^\mp$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
1740.8±22.2	27k	[2] ABELE	99D	CBAR	±	0.0 $\overline{p}p \rightarrow K^+K^-\pi^0$
1582 ±36	1600	CLELAND	82B	SPEC	±	50 $\pi p \rightarrow K^0_S K^\pm p$

[1] Using the GOUNARIS 68 parameterization with a fixed width. Value is average using different $K\pi$ S-wave parametrizations in fit.
[2] K-matrix pole. Isospin not determined, could be $\omega(1650)$ or $\phi(1680)$.

$2(\pi^+\pi^-)$ MODE

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1851^{+27}_{-24}		ACHASOV	97	RVUE	$e^+e^- \rightarrow 2(\pi^+\pi^-)$
1570± 20		[1] CORDIER	82	DM1	$e^+e^- \rightarrow 2(\pi^+\pi^-)$
1520± 30		[2] ASTON	81E	OMEG	20–70 $\gamma p \rightarrow p4\pi$
1654± 25		[3] DIBIANCA	81	DBC	$\pi^+d \rightarrow pp2(\pi^+\pi^-)$
1666± 39		[1] BACCI	80	FRAG	$e^+e^- \rightarrow 2(\pi^+\pi^-)$
1780	34	KILLIAN	80	SPEC	11 $e^-p \rightarrow 2(\pi^+\pi^-)$
1500		[4] ATIYA	79B	SPEC	50 $\gamma C \rightarrow C4\pi^\pm$
1570± 60	65	[5] ALEXANDER	75	HBC	7.5 $\gamma p \rightarrow p4\pi$
1550± 60		[2] CONVERSI	74	OSPK	$e^+e^- \rightarrow 2(\pi^+\pi^-)$
1550± 50	160	SCHACHT	74	STRC	5.5–9 $\gamma p \rightarrow p4\pi$
1450±100	340	SCHACHT	74	STRC	9–18 $\gamma p \rightarrow p4\pi$
1430± 50	400	BINGHAM	72B	HBC	9.3 $\gamma p \rightarrow p4\pi$

[1] Simple relativistic Breit-Wigner fit with model dependent width.
[2] Simple relativistic Breit-Wigner fit with constant width.
[3] One peak fit result.
[4] Parameters roughly estimated, not from a fit.
[5] Skew mass distribution compensated by Ross-Stodolsky factor.

$\pi^+\pi^-\pi^0\pi^0$ MODE

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1660±30	ATKINSON	85B	OMEG	20–70 γp

3($\pi^+\pi^-$) AND 2($\pi^+\pi^-\pi^0$) MODES

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1730±34	[1] FRABETTI	04	E687	$\gamma p \rightarrow 3\pi^+ 3\pi^- p$
1783±15	CLEGG	90	RVUE	$e^+e^- \rightarrow 3(\pi^+\pi^-)2(\pi^+\pi^-\pi^0)$

[1] From a fit with two resonances with the JACOB 72 continuum.

ρ(1700) WIDTH

$\eta\rho^0$ AND $\pi^+\pi^-$ MODES

VALUE (MeV)	DOCUMENT ID
250±100 OUR ESTIMATE	

$\eta\rho^0$ MODE

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. • • •				
150±30	ANTONELLI	88	DM2	$e^+e^- \rightarrow \eta\pi^+\pi^-$
282±44	[1] FUKUI	88	SPEC	8.95 $\pi^- p \rightarrow \eta\pi^+\pi^- n$

[1] Assuming $\rho^+ f_0(1370)$ decay mode interferes with $a_1(1260)^+\pi$ background. From a two Breit-Wigner fit.

$\pi\pi$ MODE

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. • • •					
$310 \pm 30 {}^{+25}_{-35}$	63.5k	[1] ABRAMOWICZ	12	ZEUS	$e p \rightarrow e\pi^+\pi^- p$
316 ± 26		[2] LEES	12G	BABR	$e^+e^- \rightarrow \pi^+\pi^-\gamma$
$164 \pm 21 {}^{+89}_{-26}$	5.4M	[3,4] FUJIKAWA	08	BELL	$\tau^- \rightarrow \pi^-\pi^0\nu_\tau$
275 ± 45		[5] ABELE	97	CBAR	$\overline{p} n \rightarrow \pi^-\pi^0\pi^0$
310 ± 40		[5] BERTIN	97C	OBLX	0.0 $\overline{p} p \rightarrow \pi^+\pi^-\pi^0$
400 ± 100		CLEGG	94	RVUE	$e^+e^- \rightarrow \pi^+\pi^-$
224 ± 22		BISELLO	89	DM2	$e^+e^- \rightarrow \pi^+\pi^-$
242.5 ± 163.0		DUBNICKA	89	RVUE	$e^+e^- \rightarrow \pi^+\pi^-$
620 ± 60		GESHKEN...	89	RVUE	

<315		[6] ERKAL	85	RVUE	20–70 $\gamma p \rightarrow \gamma \pi$
$280 ^{+30}_{-80}$		ABE	84B	HYBR	20 $\gamma p \rightarrow \pi^+ \pi^- p$
230 ± 80		[7] ASTON	80	OMEG	20–70 $\gamma p \rightarrow p 2\pi$
283 ± 14		[8] ATIYA	79B	SPEC	50 γC $\rightarrow$ C2π
$175 ^{+98}_{-53}$		BECKER	79	ASPK	17 $\pi^- p$ polarized
232 ± 34		[6] LANG	79	RVUE	
340		[6] MARTIN	78C	RVUE	17 $\pi^- p \rightarrow \pi^+ \pi^- n$
300 ± 100		[6] FROGGATT	77	RVUE	17 $\pi^- p \rightarrow \pi^+ \pi^- n$
180 ± 50		[9] HYAMS	73	ASPK	17 $\pi^- p \rightarrow \pi^+ \pi^- n$

[1] Using the KUHN 90 parametrization of the pion form factor, neglecting ρ–ω interference.
[2] Using the GOUNARIS 68 parametrization of the pion form factor leaving the masses and widths of the $\rho(1450)$, $\rho(1700)$, and $\rho(2150)$ resonances as free parameters of the fit.
[3] $|F_\pi(0)|^2$ fixed to 1.
[4] From the GOUNARIS 68 parametrization of the pion form factor.
[5] T-matrix pole.
[6] From phase shift analysis of HYAMS 73 data.
[7] Simple relativistic Breit-Wigner fit with constant width.
[8] An additional 40 MeV uncertainty in both the mass and width is present due to the choice of the background shape.
[9] Included in BECKER 79 analysis.

$K\overline{K}$ MODE

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •						
187.2 ± 26.7	27k	[1] ABELE	99D	CBAR	$\pm$	0.0 $\overline{p} p \rightarrow K^+ K^- \pi^0$
265 ± 120	1600	CLELAND	82B	SPEC	$\pm$	50 $\pi p \rightarrow K^0_S K^\pm p$

[1] K-matrix pole. Isospin not determined, could be $\omega(1650)$ or $\phi(1680)$.

$2(\pi^+\pi^-)$ MODE

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
510 ± 40		[1] CORDIER	82	DM1	$e^+ e^- \rightarrow 2(\pi^+ \pi^-)$
400 ± 50		[2] ASTON	81E	OMEG	20–70 $\gamma p \rightarrow p 4\pi$
400 ± 146		[3] DIBIANCA	81	DBC	$\pi^+ d \rightarrow p p 2(\pi^+ \pi^-)$
700 ± 160		[1] BACCI	80	FRAG	$e^+ e^- \rightarrow 2(\pi^+ \pi^-)$
100	34	KILLIAN	80	SPEC	11 $e^- p \rightarrow 2(\pi^+ \pi^-)$
600		[4] ATIYA	79B	SPEC	50 γC $\rightarrow$ C$4\pi^\pm$
340 ± 160	65	[5] ALEXANDER	75	HBC	7.5 $\gamma p \rightarrow p 4\pi$
360 ± 100		[2] CONVERSI	74	OSPK	$e^+ e^- \rightarrow 2(\pi^+ \pi^-)$
400 ± 120	160	[6] SCHACHT	74	STRC	5.5–9 $\gamma p \rightarrow p 4\pi$
850 ± 200	340	[6] SCHACHT	74	STRC	9–18 $\gamma p \rightarrow p 4\pi$
650 ± 100	400	BINGHAM	72B	HBC	9.3 $\gamma p \rightarrow p 4\pi$

[1] Simple relativistic Breit-Wigner fit with model-dependent width.
[2] Simple relativistic Breit-Wigner fit with constant width.
[3] One peak fit result.
[4] Parameters roughly estimated, not from a fit.
[5] Skew mass distribution compensated by Ross-Stodolsky factor.
[6] Width errors enlarged by us to $4\Gamma/\sqrt{N}$; see the note with the $K^*(892)$ mass.

$\pi^+\pi^-\pi^0\pi^0$ MODE

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
300±50	ATKINSON	85B	OMEG	20–70 γp

$\omega\pi^0$ MODE

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
350 to 580	[1] ACHASOV	00I	SND	$e^+e^- \rightarrow \pi^0\pi^0\gamma$
490 to 1040	[2] ACHASOV	00I	SND	$e^+e^- \rightarrow \pi^0\pi^0\gamma$

[1] Taking into account both $\rho(1450)$ and $\rho(1700)$ contributions. Using the data of ACHASOV 00I on $e^+e^- \rightarrow \omega\pi^0$ and of EDWARDS 00A on $\tau^- \rightarrow \omega\pi^-\nu_\tau$. $\rho(1450)$ mass and width fixed at 1400 MeV and 500 MeV respectively.

[2] Taking into account the $\rho(1700)$ contribution only. Using the data of ACHASOV 00I on $e^+e^- \rightarrow \omega\pi^0$ and of EDWARDS 00A on $\tau^- \rightarrow \omega\pi^-\nu_\tau$.

$3(\pi^+\pi^-)$ AND $2(\pi^+\pi^-\pi^0)$ MODES

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
315±100	[1] FRABETTI	04	E687	$\gamma p \rightarrow 3\pi^+3\pi^- p$
285± 20	CLEGG	90	RVUE	$e^+e^- \rightarrow 3(\pi^+\pi^-)2(\pi^+\pi^-\pi^0)$

[1] From a fit with two resonances with the JACOB 72 continuum.

$\rho(1700)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	4π	
Γ_2	$2(\pi^+\pi^-)$	large
Γ_3	$\rho\pi\pi$	dominant
Γ_4	$\rho^0\pi^+\pi^-$	large
Γ_5	$\rho^0\pi^0\pi^0$	
Γ_6	$\rho^\pm\pi^\mp\pi^0$	large
Γ_7	$a_1(1260)\pi$	seen
Γ_8	$h_1(1170)\pi$	seen
Γ_9	$\pi(1300)\pi$	seen
Γ_{10}	$\rho\rho$	seen
Γ_{11}	$\pi^+\pi^-$	seen
Γ_{12}	$\pi\pi$	seen
Γ_{13}	$K\overline{K}^*(892)+$ c.c.	seen
Γ_{14}	$\eta\rho$	seen
Γ_{15}	$a_2(1320)\pi$	not seen
Γ_{16}	$K\overline{K}$	seen
Γ_{17}	e^+e^-	seen
Γ_{18}	$\pi^0\omega$	seen

$\rho(1700)$ $\Gamma(i)\Gamma(e^+e^-)/\Gamma(\text{total})$

This combination of a partial width with the partial width into e^+e^- and with the total width is obtained from the cross-section into channel$_I$ in e^+e^- annihilation.

$\Gamma(2(\pi^+\pi^-)) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ — $\Gamma_2\Gamma_{17}/\Gamma$

VALUE (keV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2.6 ±0.2	DELCOURT	81B	DM1	$e^+e^- \rightarrow 2(\pi^+\pi^-)$
2.83±0.42	BACCI	80	FRAG	$e^+e^- \rightarrow 2(\pi^+\pi^-)$

$\Gamma(\pi^+\pi^-) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ — $\Gamma_{11}\Gamma_{17}/\Gamma$

VALUE (keV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.13	[1] DIEKMAN	88	RVUE	$e^+e^- \rightarrow \pi^+\pi^-$
$0.029^{+0.016}_{-0.012}$	KURDADZE	83	OLYA	0.64–1.4 $e^+e^- \rightarrow \pi^+\pi^-$

[1] Using total width = 220 MeV.

$\Gamma(K\overline{K}^*(892)+\text{c.c.}) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ — $\Gamma_{13}\Gamma_{17}/\Gamma$

VALUE (keV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.305±0.071	[1] BIZOT	80	DM1	e^+e^-

[1] Model dependent.

$\Gamma(\eta\rho) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ — $\Gamma_{14}\Gamma_{17}/\Gamma$

VALUE (eV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
7±3	ANTONELLI	88	DM2	$e^+e^- \rightarrow \eta\pi^+\pi^-$

$\Gamma(K\overline{K}) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ — $\Gamma_{16}\Gamma_{17}/\Gamma$

VALUE (keV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.035±0.029	[1] BIZOT	80	DM1	e^+e^-

[1] Model dependent.

$\Gamma(\rho\pi\pi) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ — $\Gamma_3\Gamma_{17}/\Gamma$

VALUE (keV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
3.510±0.090	[1] BIZOT	80	DM1	e^+e^-

[1] Model dependent.

$\rho(1700)$ $\Gamma(i)/\Gamma(\text{total}) \times \Gamma(e^+e^-)/\Gamma(\text{total})$

$\Gamma(\pi^0\omega)/\Gamma_{\text{total}} \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ — $\Gamma_{18}/\Gamma \times \Gamma_{17}/\Gamma$

VALUE (units 10^{-6})	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.09 ± 0.05	10.2k	[1] ACHASOV	16D	SND	1.05–2.00 $e^+e^- \to \pi^0\pi^0\gamma$
1.7 ± 0.4	7815	[2] ACHASOV	13	SND	1.05–2.00 $e^+e^- \to \pi^0\pi^0\gamma$

[1] From a phenomenological model based on vector meson dominance with interfering $\rho(700)$, $\rho(1450)$, and $\rho(1700)$. The $\rho(1700)$ mass and width are fixed at 1720 MeV and 250 MeV, respectively. Systematic uncertainty not estimated. Supersedes ACHASOV 13.

[2] From a phenomenological model based on vector meson dominance with the interfering $\rho(1450)$ and $\rho(1700)$ and their widths fixed at 400 and 250 MeV, respectively. Systematic uncertainty not estimated.

$\rho(1700)$ BRANCHING RATIOS

$\Gamma(\rho\pi\pi)/\Gamma(4\pi)$ — Γ_3/Γ_1

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.28 ± 0.06	[1] ABELE	01B	CBAR	0.0 $\overline{p}n \to 5\pi$

[1] $\omega\pi$ not included.

$\Gamma(\rho^0\pi^+\pi^-)/\Gamma(2(\pi^+\pi^-))$ — Γ_4/Γ_2

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
~ 1.0		DELCOURT	81B	DM1	$e^+e^- \to 2(\pi^+\pi^-)$
0.7 ± 0.1	500	SCHACHT	74	STRC	5.5–18 $\gamma p \to p4\pi$
0.80		[1] BINGHAM	72B	HBC	9.3 $\gamma p \to p4\pi$

[1] The $\pi\pi$ system is in S-wave.

$\Gamma(\rho^0\pi^0\pi^0)/\Gamma(\rho^\pm\pi^\mp\pi^0)$ — Γ_5/Γ_6

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.10	ATKINSON	85B	OMEG		20–70 γp
<0.15	ATKINSON	82	OMEG	0	20–70 $\gamma p \to p4\pi$

$\Gamma(a_1(1260)\pi)/\Gamma(4\pi)$ — Γ_7/Γ_1

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.16 ± 0.05	[1] ABELE	01B	CBAR	0.0 $\overline{p}n \to 5\pi$

[1] $\omega\pi$ not included.

$\Gamma(h_1(1170)\pi)/\Gamma(4\pi)$ — Γ_8/Γ_1

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.17 ± 0.06	[1] ABELE	01B	CBAR	0.0 $\overline{p}n \to 5\pi$

[1] $\omega\pi$ not included.

$\Gamma(\pi(1300)\pi)/\Gamma(4\pi)$ — Γ_9/Γ_1

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.30 ± 0.10	[1] ABELE	01B	CBAR	$0.0\ \overline{p}n \rightarrow 5\pi$

[1] $\omega\pi$ not included.

$\Gamma(\rho\rho)/\Gamma(4\pi)$ — Γ_{10}/Γ_1

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.09 ± 0.03	[1] ABELE	01B	CBAR	$0.0\ \overline{p}n \rightarrow 5\pi$

[1] $\omega\pi$ not included.

$\Gamma(\pi^+\pi^-)/\Gamma_{total}$ — Γ_{11}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.287^{+0.043}_{-0.042}$	BECKER	79	ASPK	17 $\pi^- p$ polarized
0.15 to 0.30	[1] MARTIN	78C	RVUE	17 $\pi^- p \rightarrow \pi^+\pi^- n$
<0.20	[2] COSTA...	77B	RVUE	$e^+e^- \rightarrow 2\pi, 4\pi$
0.30 ± 0.05	[1] FROGGATT	77	RVUE	17 $\pi^- p \rightarrow \pi^+\pi^- n$
<0.15	[3] EISENBERG	73	HBC	5 $\pi^+ p \rightarrow \Delta^{++} 2\pi$
0.25 ± 0.05	[4] HYAMS	73	ASPK	17 $\pi^- p \rightarrow \pi^+\pi^- n$

[1] From phase shift analysis of HYAMS 73 data.
[2] Estimate using unitarity, time reversal invariance, Breit-Wigner.
[3] Estimated using one-pion-exchange model.
[4] Included in BECKER 79 analysis.

$\Gamma(\pi^+\pi^-)/\Gamma(2(\pi^+\pi^-))$ — Γ_{11}/Γ_2

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.13 ± 0.05	ASTON	80	OMEG	20–70 $\gamma p \rightarrow p 2\pi$
<0.14	[1] DAVIER	73	STRC	6–18 $\gamma p \rightarrow p 4\pi$
<0.2	[2] BINGHAM	72B	HBC	9.3 $\gamma p \rightarrow p 2\pi$

[1] Upper limit is estimate.
[2] 2σ upper limit.

$\Gamma(\pi\pi)/\Gamma(4\pi)$ — Γ_{12}/Γ_1

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.16 ± 0.04	[1,2] ABELE	01B	CBAR	$0.0\ \overline{p}n \rightarrow 5\pi$

[1] Using ABELE 97.
[2] $\omega\pi$ not included.

$\Gamma(K\overline{K}^*(892)+\text{c.c.})/\Gamma_{total}$ — Γ_{13}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
possibly seen	COAN	04	CLEO	$\tau^- \rightarrow K^-\pi^-K^+\nu_\tau$

$\Gamma(K\overline{K}^*(892)+\text{c.c.})/\Gamma(2(\pi^+\pi^-))$ — Γ_{13}/Γ_2

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.15 ± 0.03	[1] DELCOURT	81B	DM1	$e^+e^-\to\overline{K}K\pi$

[1] Assuming $\rho(1700)$ and ω radial excitations to be degenerate in mass.

$\Gamma(\eta\rho)/\Gamma_{\text{total}}$ — Γ_{14}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
possibly seen		AKHMETSHIN	00D	CMD2	$e^+e^-\to\eta\pi^+\pi^-$
<0.04		DONNACHIE	87B	RVUE	
<0.02	58	ATKINSON	86B	OMEG	20–70 γp

$\Gamma(\eta\rho)/\Gamma(2(\pi^+\pi^-))$ — Γ_{14}/Γ_2

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.123 ± 0.027	DELCOURT	82	DM1	$e^+e^-\to\pi^+\pi^-$ MM
~ 0.1	ASTON	80	OMEG	20–70 γp

$\Gamma(\pi^+\pi^-\text{ neutrals})/\Gamma(2(\pi^+\pi^-))$ — $(\Gamma_5+\Gamma_6+0.714\Gamma_{14})/\Gamma_2$

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2.6 ± 0.4	[1] BALLAM	74	HBC	9.3 γp

[1] Upper limit. Background not subtracted.

$\Gamma(a_2(1320)\pi)/\Gamma_{\text{total}}$ — Γ_{15}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
not seen	AMELIN	00	VES	37 $\pi^-p\to\eta\pi^+\pi^-n$

$\Gamma(K\overline{K})/\Gamma(2(\pi^+\pi^-))$ — Γ_{16}/Γ_2

VALUE	CL%	DOCUMENT ID		TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •						
0.015 ± 0.010		[1] DELCOURT	81B	DM1		$e^+e^-\to\overline{K}K$
<0.04	95	BINGHAM	72B	HBC	0	9.3 γp

[1] Assuming $\rho(1700)$ and ω radial excitations to be degenerate in mass.

$\Gamma(K\overline{K})/\Gamma(K\overline{K}^*(892)+\text{c.c.})$ — Γ_{16}/Γ_{13}

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.052 ± 0.026	BUON	82	DM1	$e^+e^-\to$ hadrons

$\Gamma(\pi^0\omega)/\Gamma_{total}$ Γ_{18}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
not seen		MATVIENKO	15	BELL	$\overline{B}^0 \to D^{*+}\omega\pi^-$
seen	1.6k	ACHASOV	12	SND	$e^+e^- \to \pi^0\pi^0\gamma$
not seen	2382	AKHMETSHIN	03B	CMD2	$e^+e \to \pi^0\pi^0\gamma$
seen		ACHASOV	97	RVUE	$e^+e^- \to \omega\pi^0$

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