OTHER RELATED PAPERS

AHMAD	89	NP B (PROC.)8 50	+Amsler, Auld+ (ASTERIX Collab.)
ARMSTRONG	89	PL B221 216	+Benayoun+(CERN, CDEF, BIRM, BARI, ATHU, CURIN+)
ZIEMINSKA	88	AIP Conf.	(IND)
ARMSTRONG	87	ZPHY C34 23	+Bloodworth+ (CERN, BIRM, BARI, ATHU, CURIN+)
ASTON	87	NP B292 693	+Awaji, D'Amore+ (SLAC, NAGO, CINC, INUS)
PROTOPOP...	87B	Hadron 87 Conf.	Protopopescu, Chung (BNL)
TOKI	87	Hadron 87 Conf.	(SLAC)
ARMSTRONG	84	PL 146B 273	+Bloodworth, Burns+ (ATHU, BARI, BIRM, CERN)
DIONISI	80	NP B169 1	+Gavillet+ (CERN, MADR, CDEF, STOH)
DEFOIX	72	NP B44 125	+Nascimento, Bizzarri+ (CDEF, CERN)
DUBOC	72	NP B46 429	+Goldberg, Makowski, Donald+ (PARIS, LIVP)
LORSTAD	69	NP B14 63	+D'Andlau, Astier+ (CDEF, CERN)

$\rho(1450)$

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

See the mini-review under the $\rho(1700)$.

$\rho(1450)$ MASS

VALUE (MeV)	DOCUMENT ID
1465±25 OUR ESTIMATE	This is only an educated guess; the error given is larger than the error on the average of the published values.
1451± 8 OUR AVERAGE	Includes data from the 4 datablocks that follow this one.

MIXED MODES

VALUE (MeV)	DOCUMENT ID	TECN
The data in this block is included in the average printed for a previous datablock.		
1465±25	DONNACHIE 87	RVUE

$\eta\rho^0$ MODE

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
The data in this block is included in the average printed for a previous datablock.			
1470±20	ANTONELLI 88	DM2	$e^+e^- \to \eta\pi^+\pi^-$
1446±10	FUKUI 88	SPEC	8.95 $\pi^- p \to \eta\pi^+\pi^- n$

$\pi^+\pi^-$ MODE

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
The data in this block is included in the average printed for a previous datablock.			
1424±25	BISELLO 89	DM2	$e^+e^- \to \pi^+\pi^-$

$\omega\pi$ MODE

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
The data in this block is included in the average printed for a previous datablock.			
1463±25	[1] DONNACHIE 91	RVUE	
• • • We do not use the following data for averages, fits, limits, etc. • • •			
1250	[2] ASTON 80C	OMEG	20–70 $\gamma p \to \omega\pi^0 p$
1290±40	[2] BARBER 80C	SPEC	3–5 $\gamma p \to \omega\pi^0 p$

[1] Using data from BISELLO 91B, DOLINSKY 86 and ALBRECHT 87L.
[2] Not separated from $b_1(1235)$, not pure $J^P = 1^-$ effect.

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

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
1449±4	[3] ARMSTRONG 89E	OMEG	300 $pp \to pp2(\pi^+\pi^-)$

[3] Not clear whether this observation has I=1 or 0.

$\phi\pi$ MODE

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1480±40	[4] BITYUKOV 87	SPEC	0	32.5 $\pi^- p \to \phi\pi^0 n$

[4] See the minireview for $\rho(1700)$ and ACHASOV 88 for a non-exotic interpretation. DONNACHIE 91 suggests this is a different particle.

$\rho(1450)$ WIDTH

VALUE (MeV)	DOCUMENT ID
310±60 OUR ESTIMATE	This is only an educated guess; the error given is larger than the error on the average of the published values.

$\omega\pi$ MODE

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
The data in this block is included in the average printed for a previous datablock.			
311± 62	[5] DONNACHIE 91	RVUE	
• • • We do not use the following data for averages, fits, limits, etc. • • •			
300	[6] ASTON 80C	OMEG	20–70 $\gamma p \to \omega\pi^0 p$
320±100	[6] BARBER 80C	SPEC	3–5 $\gamma p \to \omega\pi^0 p$

[5] Using data from BISELLO 91B, DOLINSKY 86 and ALBRECHT 87L.
[6] Not separated from $b_1(1235)$, not pure $J^P = 1^-$ effect.

MIXED MODES

VALUE (MeV)	DOCUMENT ID	TECN
• • • We do not use the following data for averages, fits, limits, etc. • • •		
220±25	DONNACHIE 87	RVUE

$\eta\rho^0$ MODE

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
230±30	ANTONELLI 88	DM2	$e^+e^- \to \eta\pi^+\pi^-$
60±15	FUKUI 88	SPEC	8.95 $\pi^- p \to \eta\pi^+\pi^- n$

$\pi^+\pi^-$ MODE

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
269±31	BISELLO 89	DM2	$e^+e^- \to \pi^+\pi^-$

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

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
78±18	[7] ARMSTRONG 89E	OMEG	300 $pp \to pp2(\pi^+\pi^-)$

[7] Not clear whether this observation has I=1 or 0.

$\phi\pi$ MODE

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
130±60	[8] BITYUKOV 87	SPEC	0	32.5 $\pi^- p \to \phi\pi^0 n$

[8] See the minireview for $\rho(1700)$ and ACHASOV 88 for a non-exotic interpretation. DONNACHIE 91 suggests this is a different particle.

$\rho(1450)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)	Confidence level
Γ_1	$\pi\pi$	seen	
Γ_2	4π	seen	
Γ_3	e^+e^-	seen	
Γ_4	$\eta\rho$	<4 %	
Γ_5	$\omega\pi$	<2.0 %	95%
Γ_6	$\phi\pi$	<1 %	
Γ_7	$K\overline{K}$	$<1.6\times10^{-3}$	95%

$\rho(1450)$ $\Gamma(i)\Gamma(e^+e^-)/\Gamma(\text{total})$

$\Gamma(\pi\pi) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ $\Gamma_1\Gamma_3/\Gamma$

VALUE (keV)	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
0.12	[9] DIEKMAN 88	RVUE	$e^+e^- \to \pi^+\pi^-$

[9] Using total width = 235 MeV.

$\Gamma(\eta\rho) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ $\Gamma_4\Gamma_3/\Gamma$

VALUE (eV)	DOCUMENT ID	TECN	COMMENT
91±19	ANTONELLI 88	DM2	$e^+e^- \to \eta\pi^+\pi^-$

$\Gamma(\phi\pi) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ $\Gamma_6\Gamma_3/\Gamma$

VALUE (eV)	CL%	DOCUMENT ID	TECN	COMMENT
<70	90	[10] AULCHENKO 87B	ND	$e^+e^- \to K^0_S K^0_L \pi^0$

[10] Using mass 1480 ± 40 MeV and total width 130 ± 60 MeV of BITYUKOV 87.

$\rho(1450)$ BRANCHING RATIOS

$\Gamma(\eta\rho)/\Gamma_{\text{total}}$ Γ_4/Γ

VALUE	DOCUMENT ID	TECN
<0.04	DONNACHIE 87B	RVUE

$\Gamma(\phi\pi)/\Gamma(\omega\pi)$ Γ_6/Γ_5

VALUE	CL%	DOCUMENT ID	TECN	CHG	COMMENT
>0.5	95	BITYUKOV 87	SPEC	0	32.5 $\pi^- p \to \phi\pi^0 n$

$\Gamma(\omega\pi)/\Gamma(4\pi)$ Γ_5/Γ_2

VALUE	DOCUMENT ID	TECN
<0.14	CLEGG 88	RVUE

$\Gamma(\eta\rho)/\Gamma(\omega\pi)$ Γ_4/Γ_5

VALUE	DOCUMENT ID	TECN	COMMENT
~ 0.24	[11] DONNACHIE 91	RVUE	
• • • We do not use the following data for averages, fits, limits, etc. • • •			
>2	FUKUI 91	SPEC	8.95 $\pi^- p \to \omega\pi^0 n$