

$\pi_1(1400)$
was $\hat{\rho}(1405)$

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

OMITTED FROM SUMMARY TABLE

See also the mini-review under non- $q\bar{q}$ candidates. (See the index for the page number.)

$\pi_1(1400)$ MASS

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>
1376 ±17 OUR AVERAGE				
1360 ±25	ABELE	99	CBAR	0.0 $\bar{p}p \rightarrow \pi^0\pi^0\eta$
1400 ±20 ±20	ABELE	98B	CBAR	0.0 $\bar{p}n \rightarrow \pi^-\pi^0\eta$
1370 ±16 $\begin{smallmatrix} +50 \\ -30 \end{smallmatrix}$	¹ THOMPSON	97	MPS	18 $\pi^-p \rightarrow \eta\pi^-p$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
1323.1 ± 4.6	² AOYAGI	93	BKEI	$\pi^-p \rightarrow \eta\pi^-p$
1406 ±20	³ ALDE	88B	GAM4 0	100 $\pi^-p \rightarrow \eta\pi^0n$

¹ Natural parity exchange.

² Unnatural parity exchange.

³ Seen in the P_0 -wave intensity of the $\eta\pi^0$ system, unnatural parity exchange.

$\pi_1(1400)$ WIDTH

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>
300 ±40 OUR AVERAGE				
220 ±90	ABELE	99	CBAR	0.0 $\bar{p}p \rightarrow \pi^0\pi^0\eta$
310 ±50 $\begin{smallmatrix} +50 \\ -30 \end{smallmatrix}$	ABELE	98B	CBAR	0.0 $\bar{p}n \rightarrow \pi^-\pi^0\eta$
385 ±40 $\begin{smallmatrix} +65 \\ -105 \end{smallmatrix}$	⁴ THOMPSON	97	MPS	18 $\pi^-p \rightarrow \eta\pi^-p$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
143.2 ±12.5	⁵ AOYAGI	93	BKEI	$\pi^-p \rightarrow \eta\pi^-p$
180 ±20	⁶ ALDE	88B	GAM4 0	100 $\pi^-p \rightarrow \eta\pi^0n$

⁴ Resolution is not unfolded, natural parity exchange.

⁵ Unnatural parity exchange.

⁶ Seen in the P_0 -wave intensity of the $\eta\pi^0$ system, unnatural parity exchange.

$\pi_1(1400)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad \eta\pi^0$	seen
$\Gamma_2 \quad \eta\pi^-$	seen
$\Gamma_3 \quad \eta'\pi$	possibly seen

$\pi_1(1400)$ BRANCHING RATIOS

$\Gamma(\eta\pi^0)/\Gamma_{\text{total}} \qquad \qquad \qquad \Gamma_1/\Gamma$

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
not seen	PROKOSHKIN 95B	GAM4		100 $\pi^- p \rightarrow \eta\pi^0 n$
not seen	⁷ BUGG	94	RVUE	$\bar{p}p \rightarrow \eta 2\pi^0$
not seen	⁸ APEL	81	NICE 0	40 $\pi^- p \rightarrow \eta\pi^0 n$

⁷ Using Crystal Barrel data.

⁸ A general fit allowing *S*, *D*, and *P* waves (including *m*=0) is not done because of limited statistics.

$\Gamma(\eta\pi^-)/\Gamma_{\text{total}} \qquad \qquad \qquad \Gamma_2/\Gamma$

<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. ● ● ●			
possibly seen	BELADIDZE 93	VES	$37\pi^- N \rightarrow \eta\pi^- N$

$\Gamma(\eta'\pi)/\Gamma_{\text{total}} \qquad \qquad \qquad \Gamma_3/\Gamma$

<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. ● ● ●			
possibly seen	BELADIDZE 93	VES	$37\pi^- N \rightarrow \eta\pi^- N$

$\Gamma(\eta'\pi)/\Gamma(\eta\pi^0) \qquad \qquad \qquad \Gamma_3/\Gamma_1$

<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. ● ● ●				
<0.80	95	BOUTEMEUR 90	GAM4	100 $\pi^- p \rightarrow 4\gamma n$

$\pi_1(1400)$ REFERENCES

ABELE	99	PL B446 349	A. Abele <i>et al.</i>	(Crystal Barrel Collab.)
ABELE	98B	PL B423 175	A. Abele <i>et al.</i>	(Crystal Barrel Collab.)
THOMPSON	97	PRL 79 1630	D.R. Thompson <i>et al.</i>	(E852 Collab.)
PROKOSHKIN	95B	PAN 58 606	Y.D. Prokoshkin, S.A. Sadovsky	(SERP)
		Translated from YAF 58 662.		
BUGG	94	PR D50 4412	D.V. Bugg <i>et al.</i>	(LOQM)
AOYAGI	93	PL B314 246	H. Aoyagi <i>et al.</i>	(BKEI Collab.)
BELADIDZE	93	PL 313 276	G.M. Beladidze <i>et al.</i>	(VES Collab.)
BOUTEMEUR	90	Hadron 89 Conf. p 119	M. Boutemeur, M. Poulet	(SERP, BELG, LANL+)
ALDE	88B	PL B205 397	D.M. Alde <i>et al.</i>	(SERP, BELG, LANL, LAPP) IGJPC
APEL	81	NP B193 269	W.D. Apel <i>et al.</i>	(SERP, CERN)

OTHER RELATED PAPERS

SADOVSKY	00	NP A655 131c	S.A. Sadovsky	
ALDE	99B	PAN 62 421	D. Alde <i>et al.</i>	(GAMS Collab.)
		Translated from YAF 62	462.	
CHUNG	99	PR D60 092001	S.U. Chung <i>et al.</i>	(BNL E852 Collab.)
GODFREY	99	RMP 71 1411	S. Godfrey, J. Napolitano	
DONNACHIE	98	PR D58 114012	A. Donnachie <i>et al.</i>	
LACOCK	97	PL B401 308	P. Lacock <i>et al.</i>	(EDIN, LIVP)
SVEC	97C	PR D56 4355	M. Svec	(MCGI)
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		Translated from YAF 58	921.	
KALASHNIK...	94	ZPHY C62 323	Y.S. Kalashnikova	(ITEP)
IDDIR	88	PL B205 564	F. Iddir <i>et al.</i>	(ORSAY, TOKY)
TUAN	88	PL B213 537	S.F. Tuan, T. Ferbel, R.H. Dalitz	(HAWA, ROCH+)
ZIELINSKI	87	ZPHY C34 255	M. Zielinski	(ROCH)
