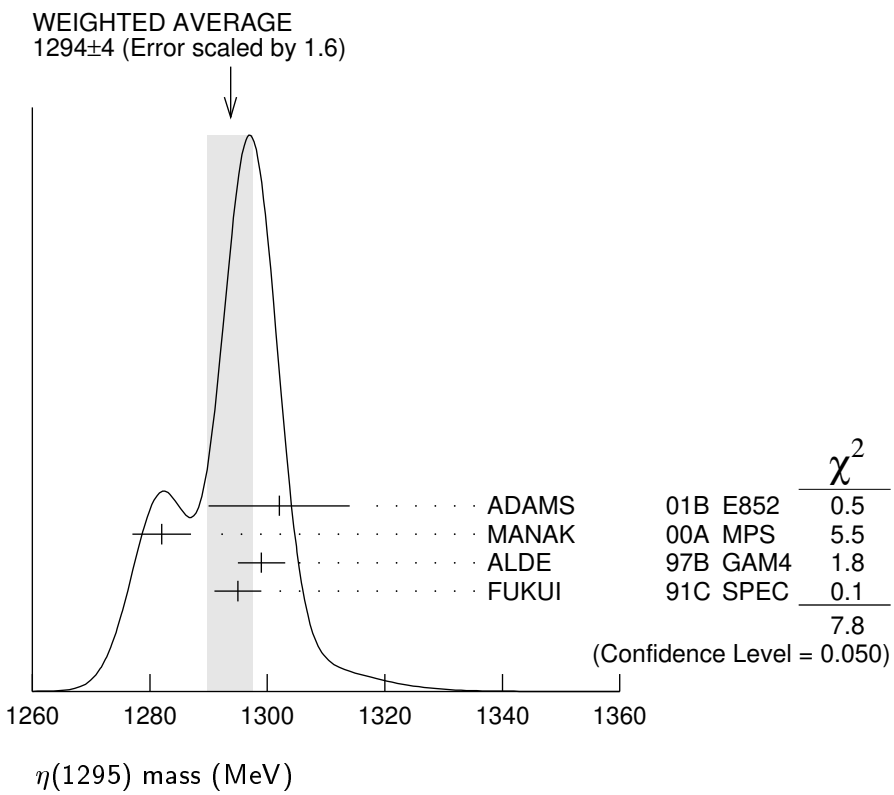
$\eta(1295)$

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

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

$\eta(1295)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
1294±4 OUR AVERAGE	Error includes scale factor of 1.6. See the ideogram below.				
1302±9±8	20k	ADAMS	01B	E852	18 GeV $\pi^- p \to K^+ K^- \pi^0 n$
1282±5	9082	MANAK	00A	MPS	18 $\pi^- p \to \eta \pi^+ \pi^- n$
1299±4	2100	ALDE	97B	GAM4	100 $\pi^- p \to \eta \pi^0 \pi^0 n$
1295±4		FUKUI	91C	SPEC	8.95 $\pi^- p \to \eta \pi^+ \pi^- n$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
∼ 1275		STANTON	79	CNTR	8.4 $\pi^- p \to n \eta 2\pi$



$\eta(1295)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
55± 5 OUR AVERAGE					
57±23±21	20k	ADAMS	01B	E852	18 GeV $\pi^- p \to K^+ K^- \pi^0 n$
66±13	9082	MANAK	00A	MPS	18 $\pi^- p \to \eta \pi^+ \pi^- n$
53± 6		FUKUI	91C	SPEC	8.95 $\pi^- p \to \eta \pi^+ \pi^- n$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<40	2100	ALDE	97B	GAM4	100 $\pi^- p \to \eta \pi^0 \pi^0 n$
∼ 70		STANTON	79	CNTR	8.4 $\pi^- p \to n \eta 2\pi$

$\eta(1295)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\eta \pi^+ \pi^-$	seen
Γ_2	$a_0(980)\pi$	seen
Γ_3	$\gamma\gamma$	
Γ_4	$\eta \pi^0 \pi^0$	seen
Γ_5	$\eta(\pi\pi)_{S\text{-wave}}$	seen
Γ_6	$\sigma \eta$	

$\eta(1295)$ $\Gamma(i)\Gamma(\gamma\gamma)/\Gamma(\text{total})$

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

VALUE (keV)	CL%	DOCUMENT ID		TECN	COMMENT
<0.066	95	ACCIARRI	01G	L3	183–202 $e^+ e^- \to e^+ e^- \eta \pi^+ \pi^-$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.6	90	AIHARA	88C	TPC	$e^+ e^- \to e^+ e^- \eta \pi^+ \pi^-$
<0.3		ANTREASYAN	87	CBAL	$e^+ e^- \to e^+ e^- \eta \pi \pi$

$\eta(1295)$ BRANCHING RATIOS

$\Gamma(a_0(980)\pi)/\Gamma_{\text{total}}$ — Γ_2/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
not seen	BERTIN	97	OBLX	0.0 $\overline{p}p \to K^\pm (K^0) \pi^\mp \pi^+ \pi^-$
seen	BIRMAN	88	MPS	8 $\pi^- p \to K^+ \overline{K}^0 \pi^- n$
large	ANDO	86	SPEC	8 $\pi^- p \to \eta \pi^+ \pi^- n$
large	STANTON	79	CNTR	8.4 $\pi^- p \to n \eta 2\pi$

$\Gamma(a_0(980)\pi)/\Gamma(\eta\pi^0\pi^0)$ — Γ_2/Γ_4

VALUE	DOCUMENT ID		TECN	COMMENT
0.65±0.10	[1] ALDE	97B	GAM4	100 $\pi^- p \to \eta \pi^0 \pi^0 n$

[1] Assuming that $a_0(980)$ decays only to $\eta\pi$.

$\Gamma(\eta(\pi\pi)_{S\text{-wave}})/\Gamma(\eta\pi^0\pi^0)$ — Γ_5/Γ_4

VALUE	DOCUMENT ID		TECN	COMMENT
0.35 ± 0.10	ALDE	97B	GAM4	100 $\pi^- p \to \eta\pi^0\pi^0 n$

$\Gamma(a_0(980)\pi)/\Gamma(\sigma\eta)$ — Γ_2/Γ_6

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.48 ± 0.22	9082	MANAK	00A	MPS	18 $\pi^- p \to \eta\pi^+\pi^- n$

$\eta(1295)$ REFERENCES

ACCIARRI	01G	PL B501 1	M. Acciarri et al.	(L3 Collab.)
ADAMS	01B	PL B516 264	G.S. Adams et al.	(BNL E852 Collab.)
MANAK	00A	PR D62 012003	J.J. Manak et al.	(BNL E852 Collab.)
ALDE	97B	PAN 60 386	D. Alde et al.	(GAMS Collab.)
		Translated from YAF 60 458.		
BERTIN	97	PL B400 226	A. Bertin et al.	(OBELIX Collab.)
FUKUI	91C	PL B267 293	S. Fukui et al.	(SUGI, NAGO, KEK, KYOT+)
AIHARA	88C	PR D38 1	H. Aihara et al.	(TPC-2γ Collab.)
BIRMAN	88	PRL 61 1557	A. Birman et al.	(BNL, FSU, IND, MASD) JP
ANTREASYAN	87	PR D36 2633	D. Antreasyan et al.	(Crystal Ball Collab.)
ANDO	86	PRL 57 1296	A. Ando et al.	(KEK, KYOT, NIRS, SAGA+) IJP
STANTON	79	PRL 42 346	N.R. Stanton et al.	(OSU, CARL, MCGI+) JP

OTHER RELATED PAPERS

ANISOVICH	00F	EPJ A6 247	A.V. Anisovich et al.