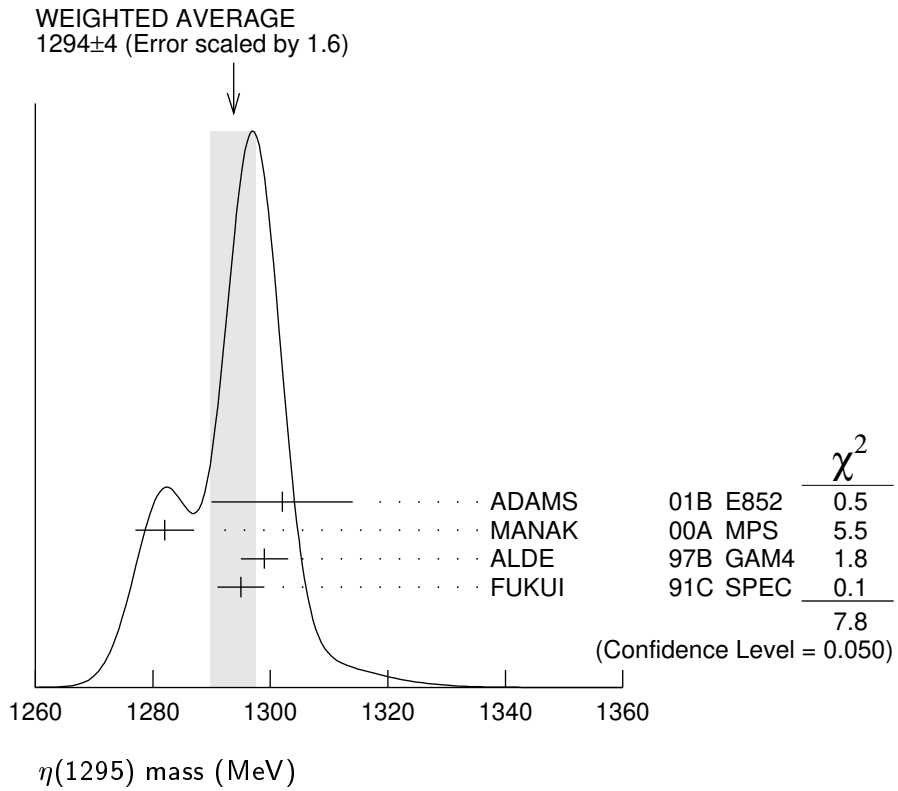
$\eta(1295)$

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

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	$\sigma\eta$	
Γ_7	$K\overline{K}\pi$	

$\eta(1295)$ Γ(i)Γ($\gamma\gamma$)/Γ(total)

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

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	$e^+e^- \to e^+e^-\eta\pi\pi$

$\Gamma(K\overline{K}\pi) \times \Gamma(\gamma\gamma)/\Gamma_{total}$ — $\Gamma_7\Gamma_3/\Gamma$

VALUE (keV)	*CL%*	*DOCUMENT ID*		*TECN*	*COMMENT*
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.014	90	[1,2] AHOHE	05	CLE2	10.6 $e^+e^- \to e^+e^- K^0_S K^\pm\pi^\mp$

[1] Using $\eta(1295)$ mass and width 1294 MeV and 55 MeV, respectively.
[2] Assuming three-body phase-space decay to $K^0_S K^\pm\pi^\mp$.

$\eta(1295)$ BRANCHING RATIOS

$\Gamma(a_0(980)\pi)/\Gamma_{total}$ 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	[3] ALDE	97B	GAM4	100 $\pi^- p \to \eta\pi^0\pi^0 n$

[3] 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

AHOHE	05	PR D71 072001	R. Ahohe *et al.*	(CLEO Collab.)
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

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