$a_0(1450)$

$I^G(J^{PC}) = 1^-(0^{++})$

See minireview on scalar mesons under $f_0(1370)$.

$a_0(1450)$ MASS

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
1474±19 OUR AVERAGE				
1480±30	ABELE	98	CBAR	0.0 $\overline{p}p \to K^0_L K^\pm \pi^\mp$
1470±25	[1] AMSLER	95D	CBAR	0.0 $\overline{p}p \to \pi^0\pi^0\pi^0$, $\pi^0\eta\eta$, $\pi^0\pi^0\eta$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1296±10	[2] AMSLER	02	CBAR	0.9 $\overline{p}p \to \pi^0\pi^0\eta$
1565±30	[2] ANISOVICH	98B	RVUE	Compilation
1290±10	BERTIN	98B	OBLX	0.0 $\overline{p}p \to K^\pm K_S \pi^\mp$
1450±40	AMSLER	94D	CBAR	0.0 $\overline{p}p \to \pi^0\pi^0\eta$
1435±40	BUGG	94	RVUE	$\overline{p}p \to \eta 2\pi^0$
1410±25	ETKIN	82C	MPS	23 $\pi^- p \to n 2K^0_S$
∼ 1300	MARTIN	78	SPEC	10 $K^\pm p \to K^0_S \pi p$
1255± 5	[3] CASON	76		

[1] Coupled-channel analysis of AMSLER 95B, AMSLER 95C, and AMSLER 94D.
[2] T-matrix pole.
[3] Isospin 0 not excluded.

$a_0(1450)$ WIDTH

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
265±13 OUR AVERAGE				
265±15	ABELE	98	CBAR	0.0 $\overline{p}p \to K^0_L K^\pm \pi^\mp$
265±30	[4] AMSLER	95D	CBAR	0.0 $\overline{p}p \to \pi^0\pi^0\pi^0$, $\pi^0\eta\eta$, $\pi^0\pi^0\eta$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
81±21	[5] AMSLER	02	CBAR	0.9 $\overline{p}p \to \pi^0\pi^0\eta$
292±40	[5] ANISOVICH	98B	RVUE	Compilation
80± 5	BERTIN	98B	OBLX	0.0 $\overline{p}p \to K^\pm K_S \pi^\mp$
270±40	AMSLER	94D	CBAR	0.0 $\overline{p}p \to \pi^0\pi^0\eta$
270±40	BUGG	94	RVUE	$\overline{p}p \to \eta 2\pi^0$
230±30	ETKIN	82C	MPS	23 $\pi^- p \to n 2K^0_S$
∼ 250	MARTIN	78	SPEC	10 $K^\pm p \to K^0_S \pi p$
79±10	[6] CASON	76		

[4] Coupled-channel analysis of AMSLER 95B, AMSLER 95C, and AMSLER 94D.
[5] T-matrix pole.
[6] Isospin 0 not excluded.

$a_0(1450)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\pi\eta$	seen
Γ_2	$\pi\eta'(958)$	seen
Γ_3	$K\overline{K}$	seen

$\Gamma(\pi\eta'(958))/\Gamma(\pi\eta)$ Γ_2/Γ_1

VALUE	DOCUMENT ID		TECN	COMMENT
0.35±0.16	[7] ABELE	98	CBAR	0.0 $\overline{p}p \rightarrow K^0_L K^{\pm}\pi^{\mp}$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.43±0.19	ABELE	97C	CBAR	0.0 $\overline{p}p \rightarrow \pi^0\pi^0\eta'$

[7] Using $\pi^0\eta$ from AMSLER 94D.

$\Gamma(K\overline{K})/\Gamma(\pi\eta)$ Γ_3/Γ_1

VALUE	DOCUMENT ID		TECN	COMMENT
0.88±0.23	[7] ABELE	98	CBAR	0.0 $\overline{p}p \rightarrow K^0_L K^{\pm}\pi^{\mp}$

$a_0(1450)$ REFERENCES

AMSLER	02	EPJ C23 29	C. Amsler *et al.*	
ABELE	98	PR D57 3860	A. Abele *et al.*	(Crystal Barrel Collab.)
ANISOVICH	98B	UFN 41 419	V.V. Anisovich *et al.*	
BERTIN	98B	PL B434 180	A. Bertin *et al.*	(OBELIX Collab.)
ABELE	97C	PL B404 179	A. Abele *et al.*	(Crystal Barrel Collab.)
AMSLER	95B	PL B342 433	C. Amsler *et al.*	(Crystal Barrel Collab.)
AMSLER	95C	PL B353 571	C. Amsler *et al.*	(Crystal Barrel Collab.)
AMSLER	95D	PL B355 425	C. Amsler *et al.*	(Crystal Barrel Collab.)
AMSLER	94D	PL B333 277	C. Amsler *et al.*	(Crystal Barrel Collab.) IGJPC
BUGG	94	PR D50 4412	D.V. Bugg *et al.*	(LOQM)
ETKIN	82C	PR D25 2446	A. Etkin *et al.*	(BNL, CUNY, TUFTS, VAND)
MARTIN	78	NP B134 392	A.D. Martin *et al.*	(DURH, GEVA)
CASON	76	PRL 36 1485	N.M. Cason *et al.*	(NDAM, ANL)

OTHER RELATED PAPERS

BARBERIS	00H	PL B488 225	D. Barberis *et al.*	(WA 102 Collab.)
MASONI	99	EPJ C8 385	A. Masoni	
AMSLER	98	RMP 70 1293	C. Amsler	