

**$a_0(1450)$** 

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

See minireview on scalar mesons under  $f_0(1370)$ . **$a_0(1450)$  MASS**

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>1474 ± 19 OUR AVERAGE</b>			
1480 ± 30	ABELE	98	CBAR 0.0 $\bar{p}p \rightarrow K_L^0 K^\pm \pi^\mp$
1470 ± 25	<sup>1</sup> AMSLER	95D	CBAR 0.0 $\bar{p}p \rightarrow \pi^0 \pi^0 \pi^0, \pi^0 \eta \eta, \pi^0 \pi^0 \eta$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
1303 ± 16	<sup>4</sup> BARGIOTTI	03	OBLX $\bar{p}p$
1296 ± 10	<sup>2</sup> AMSLER	02	CBAR 0.9 $\bar{p}p \rightarrow \pi^0 \pi^0 \eta$
1565 ± 30	<sup>2</sup> ANISOVICH	98B	RVUE Compilation
1290 ± 10	BERTIN	98B	OBLX 0.0 $\bar{p}p \rightarrow K^\pm K_S \pi^\mp$
1450 ± 40	AMSLER	94D	CBAR 0.0 $\bar{p}p \rightarrow \pi^0 \pi^0 \eta$
1435 ± 40	BUGG	94	RVUE $\bar{p}p \rightarrow \eta 2\pi^0$
1410 ± 25	ETKIN	82C	MPS 23 $\pi^- p \rightarrow n 2K_S^0$
~ 1300	MARTIN	78	SPEC 10 $K^\pm p \rightarrow K_S^0 \pi p$
1255 ± 5	<sup>3</sup> CASON	76	

<sup>1</sup> Coupled-channel analysis of AMSLER 95B, AMSLER 95C, and AMSLER 94D.<sup>2</sup> T-matrix pole.<sup>3</sup> Isospin 0 not excluded.<sup>4</sup> Coupled channel analysis of  $\pi^+ \pi^- \pi^0$ ,  $K^+ K^- \pi^0$ , and  $K^\pm K_S^0 \pi^\mp$ . **$a_0(1450)$  WIDTH**

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>265 ± 13 OUR AVERAGE</b>			
265 ± 15	ABELE	98	CBAR 0.0 $\bar{p}p \rightarrow K_L^0 K^\pm \pi^\mp$
265 ± 30	<sup>5</sup> AMSLER	95D	CBAR 0.0 $\bar{p}p \rightarrow \pi^0 \pi^0 \pi^0, \pi^0 \eta \eta, \pi^0 \pi^0 \eta$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
92 ± 16	<sup>8</sup> BARGIOTTI	03	OBLX $\bar{p}p$
81 ± 21	<sup>6</sup> AMSLER	02	CBAR 0.9 $\bar{p}p \rightarrow \pi^0 \pi^0 \eta$
292 ± 40	<sup>6</sup> ANISOVICH	98B	RVUE Compilation
80 ± 5	BERTIN	98B	OBLX 0.0 $\bar{p}p \rightarrow K^\pm K_S \pi^\mp$
270 ± 40	AMSLER	94D	CBAR 0.0 $\bar{p}p \rightarrow \pi^0 \pi^0 \eta$
270 ± 40	BUGG	94	RVUE $\bar{p}p \rightarrow \eta 2\pi^0$
230 ± 30	ETKIN	82C	MPS 23 $\pi^- p \rightarrow n 2K_S^0$
~ 250	MARTIN	78	SPEC 10 $K^\pm p \rightarrow K_S^0 \pi p$
79 ± 10	<sup>7</sup> CASON	76	

<sup>5</sup> Coupled-channel analysis of AMSLER 95B, AMSLER 95C, and AMSLER 94D.<sup>6</sup> T-matrix pole.<sup>7</sup> Isospin 0 not excluded.<sup>8</sup> Coupled channel analysis of  $\pi^+ \pi^- \pi^0$ ,  $K^+ K^- \pi^0$ , and  $K^\pm K_S^0 \pi^\mp$ .

## $a_0(1450)$ DECAY MODES

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1 \quad \pi \eta$	seen
$\Gamma_2 \quad \pi \eta'(958)$	seen
$\Gamma_3 \quad K \bar{K}$	seen

### $\Gamma(\pi \eta'(958))/\Gamma(\pi \eta)$ $\Gamma_2/\Gamma_1$

VALUE	DOCUMENT ID	TECN	COMMENT
<b><math>0.35 \pm 0.16</math></b>	<sup>9</sup> ABELE	98 CBAR	0.0 $\bar{p}p \rightarrow K_L^0 K^\pm \pi^\mp$
$0.43 \pm 0.19$	ABELE	97C CBAR	0.0 $\bar{p}p \rightarrow \pi^0 \pi^0 \eta'$

• • • We do not use the following data for averages, fits, limits, etc. • • •

<sup>9</sup> Using  $\pi^0 \eta$  from AMSLER 94D.

### $\Gamma(K \bar{K})/\Gamma(\pi \eta)$ $\Gamma_3/\Gamma_1$

VALUE	DOCUMENT ID	TECN	COMMENT
<b><math>0.88 \pm 0.23</math></b>	<sup>9</sup> ABELE	98 CBAR	0.0 $\bar{p}p \rightarrow K_L^0 K^\pm \pi^\mp$

## $a_0(1450)$ REFERENCES

BARGIOTTI	03	EPJ C26 371	M. Bargiotti <i>et al.</i>	(OBELIX Collab.)
AMSLER	02	EPJ C23 29	C. Amsler <i>et al.</i>	
ABELE	98	PR D57 3860	A. Abele <i>et al.</i>	(Crystal Barrel Collab.)
ANISOVICH	98B	UFN 41 419	V.V. Anisovich <i>et al.</i>	
BERTIN	98B	PL B434 180	A. Bertin <i>et al.</i>	(OBELIX Collab.)
ABELE	97C	PL B404 179	A. Abele <i>et al.</i>	(Crystal Barrel Collab.)
AMSLER	95B	PL B342 433	C. Amsler <i>et al.</i>	(Crystal Barrel Collab.)
AMSLER	95C	PL B353 571	C. Amsler <i>et al.</i>	(Crystal Barrel Collab.)
AMSLER	95D	PL B355 425	C. Amsler <i>et al.</i>	(Crystal Barrel Collab.)
AMSLER	94D	PL B333 277	C. Amsler <i>et al.</i>	(Crystal Barrel Collab.) IGJPC
BUGG	94	PR D50 4412	D.V. Bugg <i>et al.</i>	(LOQM)
ETKIN	82C	PR D25 2446	A. Etkin <i>et al.</i>	(BNL, CUNY, TUFTS, VAND)
MARTIN	78	NP B134 392	A.D. Martin <i>et al.</i>	(DURH, GEVA)
CASON	76	PRL 36 1485	N.M. Cason <i>et al.</i>	(NDAM, ANL)

## OTHER RELATED PAPERS

FURMAN	02	PL B538 266	A. Furman, L. Lesniak	
BARBERIS	00H	PL B488 225	D. Barberis <i>et al.</i>	(WA 102 Collab.)
MASONI	99	EPJ C8 385	A. Masoni	
AMSLER	98	RMP 70 1293	C. Amsler	