

$\eta(1475)$

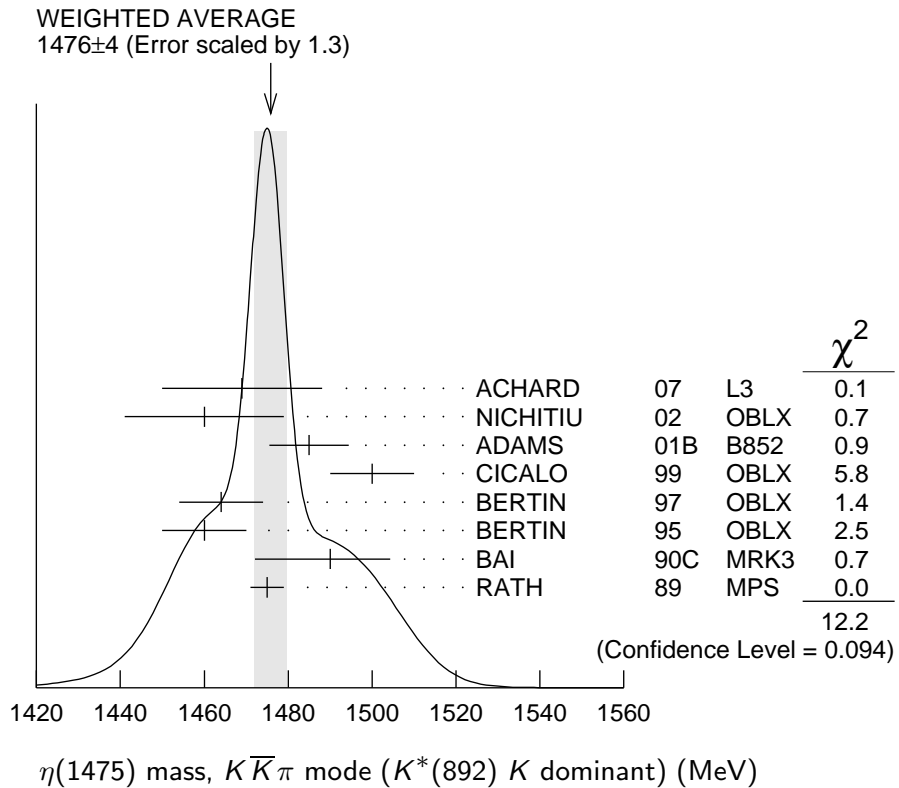
$$I^G(J^{PC}) = 0^+(0^{-+})$$

See also the $\eta(1405)$.

$\eta(1475)$ MASS

$K\bar{K}\pi$ MODE ($K^*(892)$ K dominant)

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
1476 ± 4 OUR AVERAGE Error includes scale factor of 1.3. See the ideogram below.				
1469 ± 14 ± 13	74	ACHARD	07 L3	183-209 $e^+e^- \rightarrow e^+e^- K_S^0 K^\pm \pi^\mp$
1460 ± 19	3651	NICHITIU	02 OBLX	
1485 ± 8 ± 5	20k	ADAMS	01B B852	18 GeV $\pi^- p \rightarrow K^+ K^- \pi^0 n$
1500 ± 10		CICALO	99 OBLX	$0 \bar{p} p \rightarrow K^\pm K_S^0 \pi^\mp \pi^+ \pi^-$
1464 ± 10		BERTIN	97 OBLX	$0 \bar{p} p \rightarrow K^\pm (K^0) \pi^\mp \pi^+ \pi^-$
1460 ± 10		BERTIN	95 OBLX	$0 \bar{p} p \rightarrow K\bar{K}\pi\pi\pi$
1490 ⁺¹⁴⁺³ ₋₈₋₁₆	1100	BAI	90C MRK3	$J/\psi \rightarrow \gamma K_S^0 K^\pm \pi^\mp$
1475 ± 4		RATH	89 MPS	21.4 $\pi^- p \rightarrow n K_S^0 K_S^0 \pi^0$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
1421 ± 14		AUGUSTIN	92 DM2	$J/\psi \rightarrow \gamma K\bar{K}\pi$

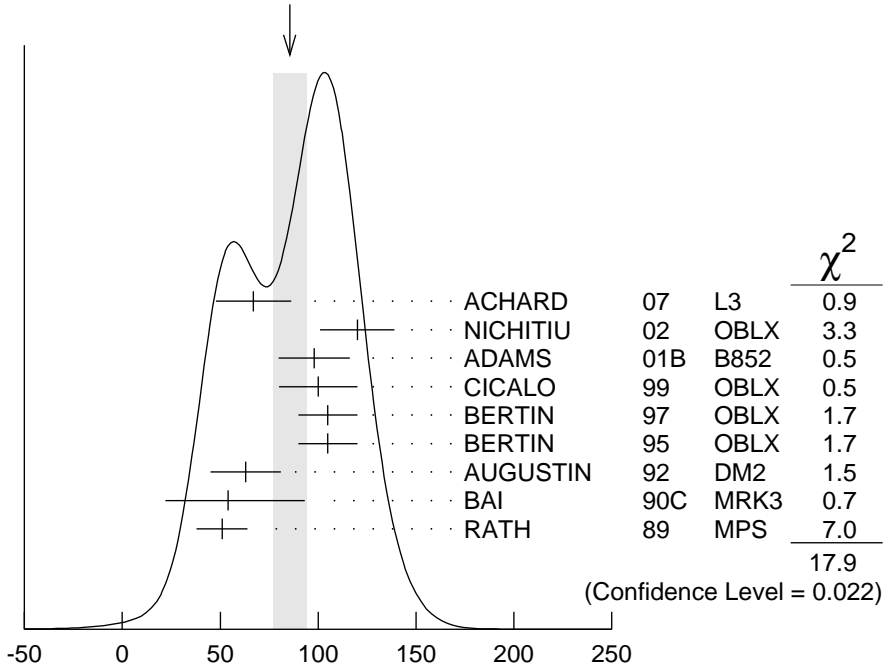


$\eta(1475)$ WIDTH

$K\bar{K}\pi$ MODE ($K^*(892)$ K dominant)

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
85 ± 9	OUR AVERAGE	Error includes scale factor of 1.5. See the ideogram below.		
$67 \pm 18 \pm 7$	74	ACHARD	07 L3	$183-209 e^+ e^- \rightarrow e^+ e^- K_S^0 K^\pm \pi^\mp$
120 ± 19	3651	NICHITIU	02 OBLX	
$98 \pm 18 \pm 3$	20k	ADAMS	01B B852	$18 \text{ GeV } \pi^- p \rightarrow K^+ K^- \pi^0 n$
100 ± 20		CICALO	99 OBLX	$0 \bar{p} p \rightarrow K^\pm K_S^0 \pi^\mp \pi^+ \pi^-$
105 ± 15		BERTIN	97 OBLX	$0.0 \bar{p} p \rightarrow K^\pm (K^0) \pi^\mp \pi^+ \pi^-$
105 ± 15		BERTIN	95 OBLX	$0 \bar{p} p \rightarrow K\bar{K}\pi\pi\pi$
63 ± 18		AUGUSTIN	92 DM2	$J/\psi \rightarrow \gamma K\bar{K}\pi$
$54^{+37}_{-21} +^{13}_{-24}$		BAI	90C MRK3	$J/\psi \rightarrow \gamma K_S^0 K^\pm \pi^\mp$
51 ± 13		RATH	89 MPS	$21.4 \pi^- p \rightarrow n K_S^0 K_S^0 \pi^0$

WEIGHTED AVERAGE
 85 ± 9 (Error scaled by 1.5)



$\eta(1475)$ width $K\bar{K}\pi$ mode ($K^*(892)$ K dominant)

$\eta(1475)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $K\bar{K}\pi$	dominant
Γ_2 $K\bar{K}^*(892) + \text{c.c.}$	seen
Γ_3 $a_0(980)\pi$	seen
Γ_4 $\gamma\gamma$	seen

$\eta(1475) \Gamma(i)\Gamma(\gamma\gamma)/\Gamma(\text{total})$

$\Gamma(K\bar{K}\pi) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$					$\Gamma_1\Gamma_4/\Gamma$
VALUE (keV)	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
0.23±0.05±0.05		74	¹ ACHARD	07 L3	183-209 $e^+e^- \rightarrow e^+e^-K_S^0 K^\pm \pi^\mp$

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

< 0.089	90		^{2,3} AHOHE	05 CLE2	10.6 $e^+e^- \rightarrow e^+e^-K_S^0 K^\pm \pi^\mp$
---------	----	--	----------------------	---------	---

¹ Supersedes ACCIARRI 01G. Compatible with $K^* K$ decay. Using $B(K_S^0 \rightarrow \pi^+ \pi^-) = 0.6895$.

² Using $\eta(1475)$ mass of 1481 MeV and width of 48 MeV. The upper limit increases to 0.140 keV if the world average value, 87 MeV, of the width is used.

³ Assuming three-body phase-space decay to $K_S^0 K^\pm \pi^\mp$.

$\eta(1475)$ BRANCHING RATIOS

$\Gamma(K\bar{K}^*(892) + \text{c.c.})/\Gamma(K\bar{K}\pi)$				Γ_2/Γ_1
VALUE		DOCUMENT ID	TECN	COMMENT

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

0.50±0.10		⁴ BAILLON	67 HBC	0.0 $\bar{p}p \rightarrow K\bar{K}\pi\pi\pi$
-----------	--	----------------------	--------	--

$\Gamma(K\bar{K}^*(892) + \text{c.c.})/[\Gamma(K\bar{K}^*(892) + \text{c.c.}) + \Gamma(a_0(980)\pi)]$				$\Gamma_2/(\Gamma_2+\Gamma_3)$
VALUE	CL%	DOCUMENT ID	TECN	COMMENT

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

<0.25	90	EDWARDS	82E CBAL	$J/\psi \rightarrow K^+ K^- \pi^0 \gamma$
-------	----	---------	----------	---

⁴ Data could also refer to $\eta(1405)$.

$\eta(1475)$ REFERENCES

ACHARD	07	JHEP 0703 018	P. Achard <i>et al.</i>	(L3 Collab.)
AHOHE	05	PR D71 072001	R. Ahohe <i>et al.</i>	(CLEO Collab.)
NICHITIU	02	PL B545 261	F. Nichitiu <i>et al.</i>	(OBELIX Collab.)
ACCIARRI	01G	PL B501 1	M. Acciarri <i>et al.</i>	(L3 Collab.)
ADAMS	01B	PL B516 264	G.S. Adams <i>et al.</i>	(BNL E852 Collab.)
CICALO	99	PL B462 453	C. Cicalo <i>et al.</i>	(OBELIX Collab.)
BERTIN	97	PL B400 226	A. Bertin <i>et al.</i>	(OBELIX Collab.)
BERTIN	95	PL B361 187	A. Bertin <i>et al.</i>	(OBELIX Collab.)
AUGUSTIN	92	PR D46 1951	J.E. Augustin, G. Cosme	(DM2 Collab.)
BAI	90C	PRL 65 2507	Z. Bai <i>et al.</i>	(Mark III Collab.)
RATH	89	PR D40 693	M.G. Rath <i>et al.</i>	(NDAM, BRAN, BNL, CUNY+)
EDWARDS	82E	PRL 49 259	C. Edwards <i>et al.</i>	(CIT, HARV, PRIN+)
BAILLON	67	NC 50A 393	P.H. Baillon <i>et al.</i>	(CERN, CDEF, IRAD)