

$\eta_2(1870)$ 

$$I^G(J^{PC}) = 0^+(2^{-+})$$

OMITTED FROM SUMMARY TABLE

Needs confirmation.

 **$\eta_2(1870)$  MASS**

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>1842± 8 OUR AVERAGE</b>				
1835±12		BARBERIS	00B	450 $pp \rightarrow p_f \eta \pi^+ \pi^- p_s$
1844±13		BARBERIS	00C	450 $pp \rightarrow p_f 4\pi p_s$
1840±25		BARBERIS	97B OMEG	450 $pp \rightarrow p p 2(\pi^+ \pi^-)$
1875±20±35		ADOMEIT	96 CBAR	1.94 $\bar{p}p \rightarrow \eta 3\pi^0$
1881±32±40	26	KARCH	92 CBAL	$e^+ e^- \rightarrow e^+ e^- \eta \pi^0 \pi^0$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
1860± 5±15		ANISOVICH	00E SPEC	0.9–1.94 $\bar{p}p \rightarrow \eta 3\pi^0$
1840±15		BAI	99 BES	$J/\psi \rightarrow \gamma \eta \pi^+ \pi^-$

 **$\eta_2(1870)$  WIDTH**

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>225±14 OUR AVERAGE</b>				
235±22		BARBERIS	00B	450 $pp \rightarrow p_f \eta \pi^+ \pi^- p_s$
228±23		BARBERIS	00C	450 $pp \rightarrow p_f 4\pi p_s$
200±40		BARBERIS	97B OMEG	450 $pp \rightarrow p p 2(\pi^+ \pi^-)$
200±25±45		ADOMEIT	96 CBAR	1.94 $\bar{p}p \rightarrow \eta 3\pi^0$
221±92±44	26	KARCH	92 CBAL	$e^+ e^- \rightarrow e^+ e^- \eta \pi^0 \pi^0$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
250±25 <sup>+50</sup> <sub>-35</sub>		ANISOVICH	00E SPEC	0.9–1.94 $\bar{p}p \rightarrow \eta 3\pi^0$
170±40		BAI	99 BES	$J/\psi \rightarrow \gamma \eta \pi^+ \pi^-$

 **$\eta_2(1870)$  DECAY MODES**

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1$ $\eta \pi \pi$	
$\Gamma_2$ $a_2(1320) \pi$	
$\Gamma_3$ $f_2(1270) \eta$	
$\Gamma_4$ $a_0(980) \pi$	
$\Gamma_5$ $\gamma \gamma$	seen

$\eta_2(1870)$  BRANCHING RATIOS $\Gamma(a_2(1320)\pi)/\Gamma(f_2(1270)\eta)$   $\Gamma_2/\Gamma_3$ 

VALUE	DOCUMENT ID	TECN	COMMENT
<b>1.7 ± 0.4 OUR AVERAGE</b>			
1.60 ± 0.40	<sup>1</sup> ANISOVICH 11	SPEC	0.9–1.94 $p\bar{p}$
20.4 ± 6.6	BARBERIS 00B		450 $pp \rightarrow p_f \eta \pi^+ \pi^- p_s$
4.1 ± 2.3	ADOMEIT 96	CBAR	1.94 $\bar{p}p \rightarrow \eta 3\pi^0$

<sup>1</sup> Reanalysis of ADOMEIT 96 and ANISOVICH 00E. $\Gamma(a_2(1320)\pi)/\Gamma(a_0(980)\pi)$   $\Gamma_2/\Gamma_4$ 

VALUE	DOCUMENT ID	COMMENT
<b>32.6 ± 12.6</b>	BARBERIS 00B	450 $pp \rightarrow p_f \eta \pi^+ \pi^- p_s$

 $\Gamma(a_0(980)\pi)/\Gamma(f_2(1270)\eta)$   $\Gamma_4/\Gamma_3$ 

VALUE	DOCUMENT ID	TECN	COMMENT
<b>0.48 ± 0.45</b>	<sup>2</sup> ANISOVICH 11	SPEC	0.9–1.94 $p\bar{p}$

<sup>2</sup> Reanalysis of ADOMEIT 96 and ANISOVICH 00E. $\Gamma(\gamma\gamma)/\Gamma_{\text{total}}$   $\Gamma_5/\Gamma$ 

VALUE	DOCUMENT ID	TECN	COMMENT
<b>seen</b>	KARCH 92	CBAL	$e^+e^- \rightarrow e^+e^-\eta\pi^0\pi^0$

 $\eta_2(1870)$  REFERENCES

ANISOVICH 11	EPJ C71 1511	A.V. Anisovich <i>et al.</i>	(LOQM, RAL, PNPI)
ANISOVICH 00E	PL B477 19	A.V. Anisovich <i>et al.</i>	
BARBERIS 00B	PL B471 435	D. Barberis <i>et al.</i>	(WA 102 Collab.)
BARBERIS 00C	PL B471 440	D. Barberis <i>et al.</i>	(WA 102 Collab.)
BAI 99	PL B446 356	J.Z. Bai <i>et al.</i>	(BES Collab.)
BARBERIS 97B	PL B413 217	D. Barberis <i>et al.</i>	(WA 102 Collab.)
ADOMEIT 96	ZPHY C71 227	J. Adomeit <i>et al.</i>	(Crystal Barrel Collab.)
KARCH 92	ZPHY C54 33	K. Karch <i>et al.</i>	(Crystal Ball Collab.)