$\eta_2(1645)$

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

$\eta_2(1645)$ MASS

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1617± 5 OUR AVERAGE					
1613± 8	BARBERIS	00B			450 $pp \to p_f \eta\pi^+\pi^- p_s$
1617± 8	BARBERIS	00C			450 $pp \to p_f 4\pi p_s$
1620±20	BARBERIS	97B	OMEG		450 $pp \to pp2(\pi^+\pi^-)$
1645±14±15	ADOMEIT	96	CBAR	0	1.94 $\overline{p}p \to \eta 3\pi^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1645± 6±20	ANISOVICH	00E	SPEC		0.9–1.94 $\overline{p}p \to \eta 3\pi^0$

$\eta_2(1645)$ WIDTH

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
181±11 OUR AVERAGE					
185±17	BARBERIS	00B			450 $pp \to p_f \eta\pi^+\pi^- p_s$
177±18	BARBERIS	00C			450 $pp \to p_f 4\pi p_s$
180±25	BARBERIS	97B	OMEG		450 $pp \to pp2(\pi^+\pi^-)$
$180^{+40}_{-21}\pm25$	ADOMEIT	96	CBAR	0	1.94 $\overline{p}p \to \eta 3\pi^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
200±25	ANISOVICH	00E	SPEC		0.9–1.94 $\overline{p}p \to \eta 3\pi^0$

$\eta_2(1645)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$a_2(1320)\pi$	seen
Γ_2	$K\overline{K}\pi$	seen
Γ_3	$K^*\overline{K}$	seen
Γ_4	$\eta\pi^+\pi^-$	seen
Γ_5	$a_0(980)\pi$	seen
Γ_6	$f_2(1270)\eta$	not seen

$\eta_2(1645)$ BRANCHING RATIOS

$\Gamma(K\overline{K}\pi)/\Gamma(a_2(1320)\pi)$ Γ_2/Γ_1

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
0.07±0.03	[1] BARBERIS	97C	OMEG	450 $pp \to pp K\overline{K}\pi$

[1] Using $2(\pi^+\pi^-)$ data from BARBERIS 97B.

$\Gamma(a_2(1320)\pi)/\Gamma(a_0(980)\pi)$ Γ_1/Γ_5

VALUE	DOCUMENT ID		TECN	COMMENT
13.1±2.3 OUR AVERAGE				
13.5±4.6	[2] ANISOVICH	11	SPEC	0.9–1.94 $p\overline{p}$
13.0±2.7	BARBERIS	00B		450 $pp \rightarrow p_f \eta\pi^+\pi^- p_s$

[2] Reanalysis of ADOMEIT 96 and ANISOVICH 00E.

$\Gamma(f_2(1270)\eta)/\Gamma_{total}$ Γ_6/Γ

VALUE	DOCUMENT ID		COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
not seen	BARBERIS	00B	450 $pp \rightarrow p_f \eta\pi^+\pi^- p_s$

$\eta_2(1645)$ REFERENCES

ANISOVICH	11	EPJ C71 1511	A.V. Anisovich *et al.*	(LOQM, RAL, PNPI)
ANISOVICH	00E	PL B477 19	A.V. Anisovich *et al.*	
BARBERIS	00B	PL B471 435	D. Barberis *et al.*	(WA 102 Collab.)
BARBERIS	00C	PL B471 440	D. Barberis *et al.*	(WA 102 Collab.)
BARBERIS	97B	PL B413 217	D. Barberis *et al.*	(WA 102 Collab.)
BARBERIS	97C	PL B413 225	D. Barberis *et al.*	(WA 102 Collab.)
ADOMEIT	96	ZPHY C71 227	J. Adomeit *et al.*	(Crystal Barrel Collab.)