$\omega_3(1670)$

$I^G(J^{PC}) = 0^-(3^{--})$

$\omega_3(1670)$ MASS

VALUE (MeV)	*EVTS*		*DOCUMENT ID*		*TECN*	*COMMENT*
1667 ± 4 OUR AVERAGE						
1665.3± 5.2±4.5	23400		AMELIN	96	VES	36 $\pi^- p \rightarrow \pi^+\pi^-\pi^0 n$
1685 ±20	60		BAUBILLIER	79	HBC	8.2 $K^- p$ backward
1673 ±12	430	[1,2]	BALTAY	78E	HBC	15 $\pi^+ p \rightarrow \Delta 3\pi$
1650 ±12			CORDEN	78B	OMEG	8–12 $\pi^- p \rightarrow N 3\pi$
1669 ±11	600	[2]	WAGNER	75	HBC	7 $\pi^+ p \rightarrow \Delta^{++} 3\pi$
1678 ±14	500		DIAZ	74	DBC	6 $\pi^+ n \rightarrow p 3\pi^0$
1660 ±13	200		DIAZ	74	DBC	6 $\pi^+ n \rightarrow p \omega \pi^0 \pi^0$
1679 ±17	200		MATTHEWS	71D	DBC	7.0 $\pi^+ n \rightarrow p 3\pi^0$
1670 ±20			KENYON	69	DBC	8 $\pi^+ n \rightarrow p 3\pi^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
~ 1700	110	[1]	CERRADA	77B	HBC	4.2 $K^- p \rightarrow \Lambda 3\pi$
1695 ±20			BARNES	69B	HBC	4.6 $K^- p \rightarrow \omega 2\pi X$
1636 ±20			ARMENISE	68B	DBC	5.1 $\pi^+ n \rightarrow p 3\pi^0$

[1] Phase rotation seen for $J^P = 3^-$ $\rho\pi$ wave.
[2] From a fit to $I(J^P) = 0(3^-)$ $\rho\pi$ partial wave.

$\omega_3(1670)$ WIDTH

VALUE (MeV)	*EVTS*		*DOCUMENT ID*		*TECN*	*COMMENT*
168±10 OUR AVERAGE						
149±19±7	23400		AMELIN	96	VES	36 $\pi^- p \rightarrow \pi^+\pi^-\pi^0 n$
160±80	60	[3]	BAUBILLIER	79	HBC	8.2 $K^- p$ backward
173±16	430	[4,5]	BALTAY	78E	HBC	15 $\pi^+ p \rightarrow \Delta 3\pi$
253±39			CORDEN	78B	OMEG	8–12 $\pi^- p \rightarrow N 3\pi$
173±28	600	[3,5]	WAGNER	75	HBC	7 $\pi^+ p \rightarrow \Delta^{++} 3\pi$
167±40	500		DIAZ	74	DBC	6 $\pi^+ n \rightarrow p 3\pi^0$
122±39	200		DIAZ	74	DBC	6 $\pi^+ n \rightarrow p \omega \pi^0 \pi^0$
155±40	200	[3]	MATTHEWS	71D	DBC	7.0 $\pi^+ n \rightarrow p 3\pi^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
90±20			BARNES	69B	HBC	4.6 $K^- p \rightarrow \omega 2\pi$
100±40			KENYON	69	DBC	8 $\pi^+ n \rightarrow p 3\pi^0$
112±60			ARMENISE	68B	DBC	5.1 $\pi^+ n \rightarrow p 3\pi^0$

[3] Width errors enlarged by us to $4\Gamma/\sqrt{N}$; see the note with the $K^*(892)$ mass.
[4] Phase rotation seen for $J^P = 3^-$ $\rho\pi$ wave.
[5] From a fit to $I(J^P) = 0(3^-)$ $\rho\pi$ partial wave.

$\omega_3(1670)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\rho\pi$	seen
Γ_2	$\omega\pi\pi$	seen
Γ_3	$b_1(1235)\pi$	possibly seen

$\omega_3(1670)$ BRANCHING RATIOS

$\Gamma(\omega\pi\pi)/\Gamma(\rho\pi)$ Γ_2/Γ_1

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.71 ± 0.27	100	DIAZ	74	DBC	6 $\pi^+ n \rightarrow p5\pi^0$

$\Gamma(b_1(1235)\pi)/\Gamma(\rho\pi)$ Γ_3/Γ_1

VALUE	DOCUMENT ID		TECN	COMMENT
possibly seen	DIAZ	74	DBC	6 $\pi^+ n \rightarrow p5\pi^0$

$\Gamma(b_1(1235)\pi)/\Gamma(\omega\pi\pi)$ Γ_3/Γ_2

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
>0.75	68	BAUBILLIER	79	HBC	8.2 $K^- p$ backward

$\omega_3(1670)$ REFERENCES

AMELIN	96	ZPHY C70 71	D.V. Amelin *et al.*	(SERP, TBIL)
BAUBILLIER	79	PL 89B 131	M. Baubillier *et al.*	(BIRM, CERN, GLAS+)
BALTAY	78E	PRL 40 87	C. Baltay, C.V. Cautis, M. Kalelkar	(COLU) JP
CORDEN	78B	NP B138 235	M.J. Corden *et al.*	(BIRM, RHEL, TELA+)
CERRADA	77B	NP B126 241	M. Cerrada *et al.*	(AMST, CERN, NIJM+) JP
WAGNER	75	PL 58B 201	F. Wagner, M. Tabak, D.M. Chew	(LBL) JP
DIAZ	74	PRL 32 260	J. Diaz *et al.*	(CASE, CMU)
MATTHEWS	71D	PR D3 2561	J.A.J. Matthews *et al.*	(TNTO, WISC)
BARNES	69B	PRL 23 142	V.E. Barnes *et al.*	(BNL)
KENYON	69	PRL 23 146	I.R. Kenyon *et al.*	(BNL, UCND, ORNL)
ARMENISE	68B	PL 26B 336	N. Armenise *et al.*	(BARI, BGNA, FIRZ+)

OTHER RELATED PAPERS

MATTHEWS	71	LNC 1 361	J.A.J. Matthews *et al.*	(TNTO, WISC)
ARMENISE	70	LNC 4 199	N. Armenise *et al.*	(BARI, BGNA, FIRZ)