$\omega(1600)$

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

See also $\omega(1420)$.

$\omega(1600)$ MASS

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1649±24 OUR AVERAGE Error includes scale factor of 2.3.						
1609±20	315	[1] ANTONELLI	92	DM2		1.34–2.4$e^+ e^-$ → $\rho\pi$
1663±12	435	[2] ANTONELLI	92	DM2		1.34–2.4$e^+ e^-$ → $\omega\pi\pi$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
1600±30		[1] CLEGG	94	RVUE		$e^+ e^-$ → $\rho\pi$
1607±10		[2] CLEGG	94	RVUE		$e^+ e^-$ → $\omega\pi\pi$
1635±35		[3] CLEGG	94	RVUE		$e^+ e^-$ → $\rho\pi$
1625±21		[3] CLEGG	94	RVUE		$e^+ e^-$ → $\omega\pi\pi$
1670±20		ATKINSON	83B	OMEG		20–70 γp → 3πX
1657±13		CORDIER	81	DM1		$e^+ e^-$ → $\omega 2\pi$
1679±34	21	ESPOSITO	80	FRAM		$e^+ e^-$ → 3π
1652±17		COSME	79	OSPK	0	$e^+ e^-$ → 3π

[1] From a two Breit-Wigner fit.
[2] From a single Breit-Wigner plus background fit.
[3] From a single Breit-Wigner fit.

$\omega(1600)$ WIDTH

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
220±35 OUR AVERAGE Error includes scale factor of 1.6.						
159±43	315	[4] ANTONELLI	92	DM2		1.34–2.4$e^+ e^-$ → $\rho\pi$
240±25	435	[5] ANTONELLI	92	DM2		1.34–2.4$e^+ e^-$ → $\omega\pi\pi$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
140±50		[4] CLEGG	94	RVUE		$e^+ e^-$ → $\rho\pi$
86±20		[5] CLEGG	94	RVUE		$e^+ e^-$ → $\omega\pi\pi$
350±80		[6] CLEGG	94	RVUE		$e^+ e^-$ → $\rho\pi$
401±63		[6] CLEGG	94	RVUE		$e^+ e^-$ → $\omega\pi\pi$
160±20		ATKINSON	83B	OMEG		20–70 γp → 3πX
136±46		CORDIER	81	DM1		$e^+ e^-$ → $\omega 2\pi$
99±49	21	ESPOSITO	80	FRAM		$e^+ e^-$ → 3π
42±17		COSME	79	OSPK	0	$e^+ e^-$ → 3π

[4] From a two Breit-Wigner fit.
[5] From a single Breit-Wigner plus background fit.
[6] From a single Breit-Wigner fit.

$\omega(1600)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\rho\pi$	seen
Γ_2	$\omega\pi\pi$	seen
Γ_3	e^+e^-	seen

$\omega(1600)$ $\Gamma(i)\Gamma(e^+e^-)/\Gamma(total)$

$\Gamma(\rho\pi) \times \Gamma(e^+e^-)/\Gamma_{total}$ $\Gamma_1\Gamma_3/\Gamma$

VALUE (eV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
134±14	435	[7] ANTONELLI	92	DM2	1.34–2.4 e^+e^- → hadrons
• • • We do not use the following data for averages, fits, limits, etc. • • •					
93±27	315	ANTONELLI	92	DM2	1.34–2.4 e^+e^- → $\rho\pi$
96±35		DONNACHIE	89	RVUE	e^+e^- → $\rho\pi$

[7] From a coupled fit of $\rho\pi$ and $\omega\pi\pi$ channels.

$\Gamma(\omega\pi\pi) \times \Gamma(e^+e^-)/\Gamma_{total}$ $\Gamma_2\Gamma_3/\Gamma$

VALUE (keV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
170±17	435	[8] ANTONELLI	92	DM2	1.34–2.4 e^+e^- → hadrons
• • • We do not use the following data for averages, fits, limits, etc. • • •					
135±16	435	[9] ANTONELLI	92	DM2	1.34–2.4 e^+e^- → $\omega\pi\pi$
56±31		DONNACHIE	89	RVUE	e^+e^- → $\omega 2\pi$

[8] From a coupled fit of $\rho\pi$ and $\omega\pi\pi$ channels.
[9] From a single Breit-Wigner fit.

$\omega(1600)$ REFERENCES

CLEGG	94	ZPHY C62 455	+Donnachie	(LANC, MCHS)
ANTONELLI	92	ZPHY C56 15	+Baldini+	(DM2 Collab.)
DONNACHIE	89	ZPHY C42 663	+Clegg	(CERN, MCHS)
ATKINSON	83B	PL 127B 132	+	(BONN, CERN, GLAS, LANC, MCHS, CURIN+)
CORDIER	81	PL 106B 155	+Bisello, Bizot, Buon, Delcourt, Mane	(ORSAY)
ESPOSITO	80	LNC 28 195	+Marini, Patteri+	(FRAS, NAPL, PADO, ROMA)
COSME	79	NP B152 215	+Dudelzak, Grelaud, Jean-Marie, Jullian+	(IPN)

OTHER RELATED PAPERS

DOLINSKY	91	PRPL 202 99	+Druzhinin, Dubrovin+	(NOVO)
ATKINSON	87	ZPHY C34 157	+	(BONN, CERN, GLAS, LANC, MCHS, CURIN)
ATKINSON	84	NP B231 15	+	(BONN, CERN, GLAS, LANC, MCHS, CURIN+)