

# $\omega(1420)$

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

## $\omega(1420)$ MASS

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>1419 ± 31</b>	315	<sup>1</sup> ANTONELLI 92	DM2	1.34–2.4e <sup>+</sup> e <sup>-</sup> → ρπ
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
1370 ± 25	5095	ANISOVICH 00H	SPEC	0.0 p $\bar{p}$ → ωπ <sup>0</sup> π <sup>0</sup> π <sup>0</sup>
1170 ± 10		<sup>2</sup> ACHASOV 99E	RVUE	0.75–1.80 e <sup>+</sup> e <sup>-</sup> → π <sup>+</sup> π <sup>-</sup> π <sup>0</sup>
1400 <sup>+100</sup> <sub>-200</sub>		<sup>3</sup> ACHASOV 98H	RVUE	e <sup>+</sup> e <sup>-</sup> → π <sup>+</sup> π <sup>-</sup> π <sup>0</sup>
~ 1400		<sup>4</sup> ACHASOV 98H	RVUE	e <sup>+</sup> e <sup>-</sup> → ωπ <sup>+</sup> π <sup>-</sup>
~ 1460		<sup>5</sup> ACHASOV 98H	RVUE	e <sup>+</sup> e <sup>-</sup> → K <sup>+</sup> K <sup>-</sup>
1440 ± 70		<sup>6</sup> CLEGG 94	RVUE	

<sup>1</sup> From a fit to two Breit-Wigner functions interfering between them and with the ω,φ tails with fixed (+,-,+) phases.

<sup>2</sup> Using the data of DOLINSKY 91, ANTONELLI 92, AKHMETSHIN 98, and ACHASOV 99E. From a fit to two Breit-Wigner functions interfering between them and with the ω,φ tails with fixed (+,-,+) phases.

<sup>3</sup> Using data from BARKOV 87, DOLINSKY 91, and ANTONELLI 92.

<sup>4</sup> Using the data from ANTONELLI 92.

<sup>5</sup> Using the data from IVANOV 81 and BISELLO 88B.

<sup>6</sup> Using data published by ANTONELLI 92.

## $\omega(1420)$ WIDTH

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>174 ± 59</b>	315	<sup>7</sup> ANTONELLI 92	DM2	1.34–2.4e <sup>+</sup> e <sup>-</sup> → ρπ
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
360 <sup>+100</sup> <sub>-60</sub>	5095	ANISOVICH 00H	SPEC	0.0 p $\bar{p}$ → ωπ <sup>0</sup> π <sup>0</sup> π <sup>0</sup>
187 ± 15		<sup>8</sup> ACHASOV 99E	RVUE	0.75–1.80 e <sup>+</sup> e <sup>-</sup> → π <sup>+</sup> π <sup>-</sup> π <sup>0</sup>
240 ± 70		<sup>9</sup> CLEGG 94	RVUE	

<sup>7</sup> From a fit to two Breit-Wigner functions interfering between them and with the ω,φ tails with fixed (+,-,+) phases.

<sup>8</sup> Using the data of DOLINSKY 91, ANTONELLI 92, AKHMETSHIN 98, and ACHASOV 99E. From a fit to two Breit-Wigner functions interfering between them and with the ω,φ tails with fixed (+,-,+) phases.

<sup>9</sup> Using data published by ANTONELLI 92.

## $\omega(1420)$ DECAY MODES

Mode	Fraction (Γ <sub><i>i</i></sub> /Γ)
Γ <sub>1</sub> ρπ	dominant
Γ <sub>2</sub> e <sup>+</sup> e <sup>-</sup>	
Γ <sub>3</sub> ωππ	possibly seen
Γ <sub>4</sub> b <sub>1</sub> (1235)π	seen

### $\omega(1420) \Gamma(i)\Gamma(e^+e^-)/\Gamma(\text{total})$

$\Gamma(\rho\pi) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$   $\Gamma_1\Gamma_2/\Gamma$

VALUE (eV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>81±31</b>	315	<sup>10</sup> ANTONELLI 92	DM2	1.34–2.4e <sup>+</sup> e <sup>-</sup> → ρπ
••• We do not use the following data for averages, fits, limits, etc. •••				
137± 3±15		<sup>11</sup> ACHASOV 99E	RVUE	0.75–1.80 e <sup>+</sup> e <sup>-</sup> → π <sup>+</sup> π <sup>-</sup> π <sup>0</sup>

<sup>10</sup> From a fit to two Breit-Wigner functions interfering between them and with the ω,φ tails with fixed (+,-,+) phases.

<sup>11</sup> Using the data of DOLINSKY 91, ANTONELLI 92, AKHMETSHIN 98, and ACHASOV 99E. From a fit to two Breit-Wigner functions interfering between them and with the ω,φ tails with fixed (+,-,+) phases.

### $\omega(1420) \text{ BRANCHING RATIOS}$

$\Gamma(\omega\pi\pi)/\Gamma_{\text{total}}$   $\Gamma_3/\Gamma$

VALUE	DOCUMENT ID	TECN	COMMENT
••• We do not use the following data for averages, fits, limits, etc. •••			
possibly seen	AKHMETSHIN 00D	CMD2	e <sup>+</sup> e <sup>-</sup> → ωπ <sup>+</sup> π <sup>-</sup>

$\Gamma(\omega\pi\pi)/\Gamma(b_1(1235)\pi)$   $\Gamma_3/\Gamma_4$

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
••• We do not use the following data for averages, fits, limits, etc. •••				
0.60±0.16	5095	ANISOVICH 00H	SPEC	0.0 p $\bar{p}$ → ωπ <sup>0</sup> π <sup>0</sup> π <sup>0</sup>

### $\omega(1420) \text{ REFERENCES}$

AKHMETSHIN 00D	PL B489 125	R.R. Akhmetshin <i>et al.</i>	(CMD-2 Collab.)
ANISOVICH 00H	PL B485 341	A.V. Anisovich <i>et al.</i>	
ACHASOV 99E	PL B462 365	M.N. Achasov <i>et al.</i>	(Novosibirsk SND Collab.)
ACHASOV 98H	PR D57 4334	N.N. Achasov, A.A. Kozhevnikov	
AKHMETSHIN 98	PL B434 426	R.R. Akhmetshin <i>et al.</i>	
CLEGG 94	ZPHY C62 455	A.B. Clegg, A. Donnachie	(LANC, MCHS)
ANTONELLI 92	ZPHY C56 15	A. Antonelli <i>et al.</i>	(DM2 Collab.)
DOLINSKY 91	PRPL 202 99	S.I. Dolinsky <i>et al.</i>	(NOVO)
BISELLO 88B	ZPHY C39 13	D. Bisello <i>et al.</i>	(PADO, CLER, FRAS+)
BARKOV 87	JETPL 46 164	L.M. Barkov <i>et al.</i>	(NOVO)
IVANOV 81	PL 107B 297	P.M. Ivanov <i>et al.</i>	(NOVO)
		Translated from ZETFP 46 132.	

### OTHER RELATED PAPERS

ACHASOV 00J	PR D62 117503	N.N. Achasov, A.A. Kozhevnikov	
ABELE 99D	PL B468 178	A. Abele <i>et al.</i>	(Crystal Barrel Collab.)
BELOZEROVA 98	PPN 29 63	T.S. Belozerova, V.K. Henner	
		Translated from FECAY 29 148.	
ACHASOV 97F	PAN 60 2029	N.N. Achasov, A.A. Kozhevnikov	(NOVM)
		Translated from YAF 60 2212.	
ATKINSON 87	ZPHY C34 157	M. Atkinson <i>et al.</i>	(BONN, CERN, GLAS+)
ATKINSON 84	NP B231 15	M. Atkinson <i>et al.</i>	(BONN, CERN, GLAS+)
ATKINSON 83B	PL 127B 132	M. Atkinson <i>et al.</i>	(BONN, CERN, GLAS+)