NODE=M045

# $\omega_3(1670)$

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

## $\omega_3(1670)$ MASS

NODE=M045M

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

[1] Phase rotation seen for $J^P = 3^-$ $\rho\pi$ wave. NODE=M045M;LINKAGE=E

[2] From a fit to $I(J^P) = 0(3^-)$ $\rho\pi$ partial wave. NODE=M045M;LINKAGE=P

## $\omega_3(1670)$ WIDTH

NODE=M045W

NODE=M045W

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

[3] Width errors enlarged by us to $4\Gamma/\sqrt{N}$; see the note with the $K^*(892)$ mass. NODE=M045W;LINKAGE=S

[4] Phase rotation seen for $J^P = 3^-$ $\rho\pi$ wave. NODE=M045W;LINKAGE=E

[5] From a fit to $I(J^P) = 0(3^-)$ $\rho\pi$ partial wave. NODE=M045W;LINKAGE=P

## $\omega_3(1670)$ DECAY MODES

NODE=M045215;NODE=M045

| | Mode | Fraction ($\Gamma_i/\Gamma$) | |
|---|---|---|---|
| $\Gamma_1$ | $\rho\pi$ | seen | DESIG=1;OUR EST;→ UNCHECKED ← |
| $\Gamma_2$ | $\omega\pi\pi$ | seen | DESIG=2;OUR EST;→ UNCHECKED ← |
| $\Gamma_3$ | $b_1(1235)\pi$ | possibly seen | DESIG=3;OUR EST;→ UNCHECKED ← |

## $\omega_3(1670)$ BRANCHING RATIOS

NODE=M045220

### $\Gamma(\omega\pi\pi)/\Gamma(\rho\pi)$ — $\Gamma_2/\Gamma_1$

NODE=M045R3

NODE=M045R3

| 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 $\pi^+ n \to p 5\pi^0$ |

### $\Gamma(b_1(1235)\pi)/\Gamma(\rho\pi)$ — $\Gamma_3/\Gamma_1$

NODE=M045R4

NODE=M045R4

| VALUE | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| possibly seen | DIAZ | 74 | DBC | 6 $\pi^+ n \to p 5\pi^0$ |

### $\Gamma(b_1(1235)\pi)/\Gamma(\omega\pi\pi)$ $\Gamma_3/\Gamma_2$

NODE=M045R5
NODE=M045R5

| 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

NODE=M045


| | | | | | |
|---|---|---|---|---|---|
| AMELIN | 96 | ZPHY C70 71 | D.V. Amelin *et al.* | (SERP, TBIL) | REFID=44649 |
| BAUBILLIER | 79 | PL 89B 131 | M. Baubillier *et al.* | (BIRM, CERN, GLAS+) | REFID=21522 |
| BALTAY | 78E | PRL 40 87 | C. Baltay, C.V. Cautis, M. Kalelkar | (COLU) JP | REFID=21520 |
| CORDEN | 78B | NP B138 235 | M.J. Corden *et al.* | (BIRM, RHEL, TELA+) | REFID=21269 |
| CERRADA | 77B | NP B126 241 | M. Cerrada *et al.* | (AMST, CERN, NIJM+) JP | REFID=20537 |
| WAGNER | 75 | PL 58B 201 | F. Wagner, M. Tabak, D.M. Chew | (LBL) JP | REFID=20843 |
| DIAZ | 74 | PRL 32 260 | J. Diaz *et al.* | (CASE, CMU) | REFID=21248 |
| MATTHEWS | 71D | PR D3 2561 | J.A.J. Matthews *et al.* | (TNTO, WISC) | REFID=21515 |
| KENYON | 69 | PRL 23 146 | I.R. Kenyon *et al.* | (BNL, UCND, ORNL) | REFID=20800 |
| ARMENISE | 68B | PL 26B 336 | N. Armenise *et al.* | (BARI, BGNA, FIRZ+) | REFID=20783 |