$a_2(1700)$

\[ j^{G}(j^{PC}) = 1^{-(2++)} \]

OMITTED FROM SUMMARY TABLE

$\mathbf{a_2(1700) MASS}$

<table>
<thead>
<tr>
<th>VALUE (MeV)</th>
<th>EVTS</th>
<th>DOCUMENT ID</th>
<th>TECN</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1732±16 OUR AVERAGE</td>
<td></td>
<td></td>
<td></td>
<td>Error includes scale factor of 1.9. See the ideogram below.</td>
</tr>
<tr>
<td>1737 ± 5 ± 7</td>
<td></td>
<td></td>
<td>ABE</td>
<td>04 BELL</td>
</tr>
<tr>
<td>1698 ± 44</td>
<td></td>
<td></td>
<td>AMSLER</td>
<td>02 CBAR</td>
</tr>
<tr>
<td>1660 ± 40</td>
<td></td>
<td></td>
<td>ABELE</td>
<td>99b CBAR</td>
</tr>
</tbody>
</table>

- ⋆ ⋆ ⋆ We do not use the following data for averages, fits, limits, etc. ⋆ ⋆ ⋆

1721 ± 13 ± 44 145k LU 05 E852
~ 1775 2

1752 ± 21 ± 4

1 T-matrix pole.
2 Possibly two $j^P = 2^+$ resonances with isospins 0 and 1.

WEIGHTED AVERAGE
1732±16 (Error scaled by 1.9)

\[ \chi^2 \]

(Confidence Level = 0.124)

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**$a_2(1700)$ WIDTH**

<table>
<thead>
<tr>
<th>VALUE (MeV)</th>
<th>EVTS</th>
<th>DOCUMENT ID</th>
<th>TECN</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>194 ± 40 OUR AVERAGE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>151 ± 22 ± 24</td>
<td></td>
<td>ABE</td>
<td>04</td>
<td>BELL</td>
</tr>
<tr>
<td>265 ± 55</td>
<td></td>
<td>3 AMSLER</td>
<td>02</td>
<td>CBAR</td>
</tr>
<tr>
<td>280 ± 70</td>
<td></td>
<td>ABELE</td>
<td>99b</td>
<td>CBAR</td>
</tr>
</tbody>
</table>

- We do not use the following data for averages, fits, limits, etc. • • •

$279 ± 49 ± 66$ | 145k | LU | 05 | E852 | $18 \pi^- p \rightarrow \omega \pi^- \pi^0 p$ |

$150 ± 110 ± 34$ | | ACCIARRI | 97 | L3 | $\gamma \gamma \rightarrow \pi^+ \pi^- \pi^0$ |

$^3$ T-matrix pole.

**WEIGHTED AVERAGE**

$194 \pm 40$ (Error scaled by 1.6)

\[
\chi^2 = 4.9 \quad \text{(Confidence Level = 0.085)}
\]

**$a_2(1700)$ DECAY MODES**

<table>
<thead>
<tr>
<th>Mode</th>
<th>Fraction ($\Gamma_i / \Gamma$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\Gamma_1$</td>
<td>$\eta \pi$</td>
</tr>
<tr>
<td>$\Gamma_2$</td>
<td>$\gamma \gamma$</td>
</tr>
<tr>
<td>$\Gamma_3$</td>
<td>$\rho \pi$</td>
</tr>
<tr>
<td>$\Gamma_4$</td>
<td>$f_2(1270) \pi$</td>
</tr>
<tr>
<td>$\Gamma_5$</td>
<td>$K \bar{K}$</td>
</tr>
<tr>
<td>$\Gamma_6$</td>
<td>$\omega \pi^- \pi^0$</td>
</tr>
<tr>
<td>$\Gamma_7$</td>
<td>$\omega \rho$</td>
</tr>
</tbody>
</table>

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\( a_2(1700) \ \Gamma(i)\Gamma(\gamma\gamma)/\Gamma(\text{total}) \)

\[
\left[ \Gamma(\rho\pi) + \Gamma(f_2(1270)\pi) \right] \times \Gamma(\gamma\gamma)/\Gamma(\text{total}) \quad \frac{\Gamma_3 + \Gamma_4}{\Gamma_2} / \Gamma \]

<table>
<thead>
<tr>
<th>VALUE (keV)</th>
<th>DOCUMENT ID</th>
<th>TECN</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.29 ± 0.04 ± 0.02</td>
<td>ACCIARRI 97T L3</td>
<td></td>
<td>( \gamma\gamma \rightarrow \pi^+\pi^-\pi^0 )</td>
</tr>
</tbody>
</table>

\( \Gamma(K\bar{K}) \times \Gamma(\gamma\gamma)/\Gamma(\text{total}) \quad \Gamma_5 \Gamma_2 / \Gamma \)

<table>
<thead>
<tr>
<th>VALUE (eV)</th>
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<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.6 ± 4.2 ± 4.6</td>
<td>ABE 04 BELL</td>
<td></td>
<td>( 10.6 \ e^+ e^- \rightarrow e^+ e^- K^+ K^- )</td>
</tr>
</tbody>
</table>

4 Assuming spin 2.

### a_2(1700) REFERENCES

- **LU** 05  PRL 94 032002  M. Lu et al. (BNL E852 Collab.)
- **ABE** 04  EPJ C32 323  K. Abe et al. (BELLE Collab.)
- **AMSLER** 02  EPJ C23 29  C. Amsler et al.
- **ABELE** 99B  EPJ C8 67  A. Abele et al. (Crystal Barrel Collab.)
- **ACCIARRI** 97T  PL B413 147  M. Acciarri et al. (L3 Collab.)

### OTHER RELATED PAPERS

- **BAKER** 03  PL B563 140  C.A. Baker et al. (WA 102 Collab.)
- **BARBERIS** 00H  PL B488 225  D. Barberis et al.