

**$K_1(1650)$** 

$$I(J^P) = \frac{1}{2}(1^+)$$

This entry contains various peaks in strange meson systems ( $K^+ \phi$ ,  $K \pi \pi$ ) reported in partial-wave analysis in the 1600–1900 mass region.

 **$K_1(1650)$  MASS**

| VALUE (MeV)   | EVTS | DOCUMENT ID         | TECN | CHG    | COMMENT                           |
|---|------|---------------------|------|--------|-----------------------------------|
| <b><math>1650 \pm 50</math></b>   |      | FRAME               | 86   | OMEG + | 13 $K^+ p \rightarrow \phi K^+ p$ |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● |      |                     |      |        |                                   |
| $1861 \pm 10^{+16}_{-46}$   | 24k  | <sup>1</sup> AAIJ   | 21E  | LHCB   | $B^+ \rightarrow J/\psi \phi K^+$ |
| $1911 \pm 37^{+124}_{-48}$  | 24k  | <sup>1</sup> AAIJ   | 21E  | LHCB   | $B^+ \rightarrow J/\psi \phi K^+$ |
| $1793 \pm 59^{+153}_{-101}$   | 4289 | <sup>2,3</sup> AAIJ | 17C  | LHCB   | $B^+ \rightarrow J/\psi \phi K^+$ |
| ~ 1840  |      | ARMSTRONG           | 83   | OMEG - | 18.5 $K^- p \rightarrow 3K p$     |
| ~ 1800  |      | DAUM                | 81C  | CNTR - | 63 $K^- p \rightarrow K^- 2\pi p$ |

<sup>1</sup>One of two  $K_1$  states reported by AAIJ 21E. From an amplitude analysis of the decay

$B^+ \rightarrow J/\psi \phi K^+$  with a significance of 4.5  $\sigma$ .

<sup>2</sup>From an amplitude analysis of the decay  $B^+ \rightarrow J/\psi \phi K^+$  with a significance of 7.6  $\sigma$ .

<sup>3</sup>Superseded by AAIJ 21E.

 **$K_1(1650)$  WIDTH**

| VALUE (MeV)   | EVTS | DOCUMENT ID         | TECN | CHG    | COMMENT                           |
|---|------|---------------------|------|--------|-----------------------------------|
| <b><math>150 \pm 50</math></b>  |      | FRAME               | 86   | OMEG + | 13 $K^+ p \rightarrow \phi K^+ p$ |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● |      |                     |      |        |                                   |
| $149 \pm 41^{+231}_{-23}$   | 24k  | <sup>1</sup> AAIJ   | 21E  | LHCB   | $B^+ \rightarrow J/\psi \phi K^+$ |
| $276 \pm 50^{+319}_{-159}$  | 24k  | <sup>1</sup> AAIJ   | 21E  | LHCB   | $B^+ \rightarrow J/\psi \phi K^+$ |
| $365 \pm 157^{+138}_{-215}$   | 4289 | <sup>2,3</sup> AAIJ | 17C  | LHCB   | $B^+ \rightarrow J/\psi \phi K^+$ |
| ~ 250   |      | DAUM                | 81C  | CNTR - | 63 $K^- p \rightarrow K^- 2\pi p$ |

<sup>1</sup>One of two  $K_1$  states reported by AAIJ 21E. From an amplitude analysis of the decay

$B^+ \rightarrow J/\psi \phi K^+$  with a significance of 4.5  $\sigma$ .

<sup>2</sup>From an amplitude analysis of the decay  $B^+ \rightarrow J/\psi \phi K^+$  with a significance of 7.6  $\sigma$ .

<sup>3</sup>Superseded by AAIJ 21E.

 **$K_1(1650)$  DECAY MODES**

| Mode                   |
|------------------------|
| $\Gamma_1$ $K \pi \pi$ |
| $\Gamma_2$ $K \phi$    |

## $K_1(1650)$ REFERENCES

|           |     |                |                              |                           |
|-----------|-----|----------------|------------------------------|---------------------------|
| AAIJ      | 21E | PRL 127 082001 | R. Aaij <i>et al.</i>        | (LHCb Collab.)            |
| AAIJ      | 17C | PRL 118 022003 | R. Aaij <i>et al.</i>        | (LHCb Collab.)            |
| Also      |     | PR D95 012002  | R. Aaij <i>et al.</i>        | (LHCb Collab.)            |
| FRAME     | 86  | NP B276 667    | D. Frame <i>et al.</i>       | (GLAS)                    |
| ARMSTRONG | 83  | NP B221 1      | T.A. Armstrong <i>et al.</i> | (BARI, BIRM, CERN+)       |
| DAUM      | 81C | NP B187 1      | C. Daum <i>et al.</i>        | (AMST, CERN, CRAC, MPIM+) |

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