# $X(4630)$

$$I^G(J^{PC}) = 0^+(?^{?+})$$

OMITTED FROM SUMMARY TABLE

This state shows properties different from a conventional $q\overline{q}$ state. A candidate for an exotic structure. See the review on "Heavy Non-$q\overline{q}$ Mesons."

Seen by AAIJ 21E in $B^+ \to X(4630)K^+$ with $X(4630) \to J/\psi\phi$ using an amplitude analysis of $B^+ \to J/\psi\phi K^+$ with a significance (accounting for systematic uncertainties) of 5.5 $\sigma$. The $J^P = 1^-$ assignment is favored over $2^-$ with a significance of 3 $\sigma$ and other assignments are disfavored by more than 5 $\sigma$.

## $X(4630)$ MASS

| VALUE (MeV) | EVTS | DOCUMENT ID | TECN | COMMENT |
|---|---|---|---|---|
| $4626\pm16^{+18}_{-110}$ | 24k | [1] AAIJ 21E | LHCB | $B^+ \to J/\psi\phi K^+$ |

[1] From an amplitude analysis of the decay $B^+ \to J/\psi\phi K^+$ with a significance of 5.5 $\sigma$.

## $X(4630)$ WIDTH

| VALUE (MeV) | EVTS | DOCUMENT ID | TECN | COMMENT |
|---|---|---|---|---|
| $174\pm27^{+134}_{-73}$ | 24k | [1] AAIJ 21E | LHCB | $B^+ \to J/\psi\phi K^+$ |

[1] From an amplitude analysis of the decay $B^+ \to J/\psi\phi K^+$ with a significance of 5.5 $\sigma$.

## $X(4630)$ DECAY MODES

| | Mode | Fraction $(\Gamma_i/\Gamma)$ |
|---|---|---|
| $\Gamma_1$ | $J/\psi\phi$ | seen |

### $\Gamma(J/\psi\phi)/\Gamma_{total}$                                                                     $\Gamma_1/\Gamma$

| VALUE | EVTS | DOCUMENT ID | TECN | COMMENT |
|---|---|---|---|---|
| **seen** | 24k | [1] AAIJ 21E | LHCB | $B^+ \to J/\psi\phi K^+$ |

[1] From an amplitude analysis of the decay $B^+ \to J/\psi\phi K^+$ with a significance of 5.5 $\sigma$.

## $X(4630)$ REFERENCES

| AAIJ | 21E | PRL 127 082001 | R. Aaij *et al.* | (LHCb Collab.) |
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