

X(4630)

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

OMITTED FROM SUMMARY TABLE

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

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

X(4630) MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
$4626 \pm 16^{+18}_{-110}$	24k	¹ AAIJ	21E LHCb	$B^+ \rightarrow J/\psi\phi K^+$

¹ From an amplitude analysis of the decay $B^+ \rightarrow J/\psi\phi K^+$ with a significance of 5.5σ .

X(4630) WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
$174 \pm 27^{+134}_{-73}$	24k	¹ AAIJ	21E LHCb	$B^+ \rightarrow J/\psi\phi K^+$

¹ From an amplitude analysis of the decay $B^+ \rightarrow J/\psi\phi K^+$ with a significance of 5.5σ .

X(4630) DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $J/\psi\phi$	seen

$\Gamma(J/\psi\phi)/\Gamma_{\text{total}}$	Γ_1/Γ
VALUE	COMMENT
seen	¹ AAIJ 21E LHCb $B^+ \rightarrow J/\psi\phi K^+$

¹ From an amplitude analysis of the decay $B^+ \rightarrow J/\psi\phi K^+$ with a significance of 5.5σ .

X(4630) REFERENCES

AAIJ	21E	PRL 127 082001	R. Aaij <i>et al.</i>	(LHCb Collab.)
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