$X(4630)$

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

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 σ. The $J^P = 1^-$ assignment is favored over 2^- with a significance of 3 σ and other assignments are disfavored by more than 5 σ.

$X(4630)$ MASS

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
4636^{+29}_{-100} OUR AVERAGE	Error includes scale factor of 1.2.				
$4785 \pm 37 \pm 119$		[1] AAIJ	25Q	LHCB	$B^+ \to \psi(2S)K^+\pi^+\pi^-$
$4626 \pm 16^{+18}_{-110}$	24k	[2] AAIJ	21E	LHCB	$B^+ \to J/\psi\phi K^+$

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

$X(4630)$ WIDTH

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
350^{+140}_{-100} OUR AVERAGE	Error includes scale factor of 1.6.				
$457 \pm 93 \pm 57$		[1] AAIJ	25Q	LHCB	$B^+ \to \psi(2S)K^+\pi^+\pi^-$
$174 \pm 27^{+134}_{-73}$	24k	[2] AAIJ	21E	LHCB	$B^+ \to J/\psi\phi K^+$

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

$X(4630)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$J/\psi\phi$	seen
Γ_2	$\psi(2S)\pi^+\pi^-$	seen

$X(4630)$ BRANCHING RATIOS

$\Gamma(J/\psi\phi)/\Gamma_{\text{total}}$ Γ_1/Γ

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 σ.

$\Gamma(\psi(2S)\pi^+\pi^-)/\Gamma_{\text{total}}$ **Γ_2/Γ**

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
seen	AAIJ	25Q	LHCB	$B^+ \to \psi(2S) K^+ \pi^+ \pi^-$

X(4630) REFERENCES

AAIJ	25Q	JHEP 2501 054	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	21E	PRL 127 082001	R. Aaij *et al.*	(LHCb Collab.)