NODE=M261

$\chi_{c1}(4685)$

$I^G(J^{PC}) = 0^+(1^{++})$

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." NODE=M261

Seen by AAIJ 21E in $B^+ \to \chi_{c1}(4685)K^+$ with $\chi_{c1}(4685) \to J/\psi\phi$ using an amplitude analysis of $B^+ \to J/\psi\phi K^+$ with a significance (accounting for systematic uncertainties) of 15 σ. The $J^P = 1^+$ assignment is favored with high significance.

$\chi_{c1}(4685)$ MASS

NODE=M261M

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
$4684 \pm 7^{+13}_{-16}$	24k	[1] AAIJ	21E	LHCB	$B^+ \to J/\psi\phi K^+$

NODE=M261M

[1] From an amplitude analysis of the decay $B^+ \to J/\psi\phi K^+$ with a significance of 15 σ. NODE=M261M;LINKAGE=A

$\chi_{c1}(4685)$ WIDTH

NODE=M261W

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
130 ± 40 OUR AVERAGE	[126 ± 40 MeV OUR 2023 AVERAGE]				NEW
$126 \pm 15^{+37}_{-41}$	24k	[1] AAIJ	21E	LHCB	$B^+ \to J/\psi\phi K^+$

NODE=M261W

NODE=M261W

[1] From an amplitude analysis of the decay $B^+ \to J/\psi\phi K^+$ with a significance of 15 σ. NODE=M261W;LINKAGE=A

$\chi_{c1}(4685)$ DECAY MODES

NODE=M261215;NODE=M261

	Mode	Fraction (Γ_i/Γ)	
Γ_1	$J/\psi\phi$	seen	DESIG=1

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

NODE=M261R01

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

NODE=M261R01

[1] From an amplitude analysis of the decay $B^+ \to J/\psi\phi K^+$ with a significance of 15 σ. NODE=M261R01;LINKAGE=A

$\chi_{c1}(4685)$ REFERENCES

NODE=M261

AAIJ 21E PRL 127 082001 R. Aaij *et al.* (LHCb Collab.) JP REFID=61150