

$\chi_{c0}(4500)$

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

OMITTED FROM SUMMARY TABLE
was $X(4500)$

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

Seen by AAIJ 17C in $B^+ \rightarrow \chi_{c0} K^+$, $\chi_{c0} \rightarrow J/\psi\phi$ using an amplitude analysis of $B^+ \rightarrow J/\psi\phi K^+$ with a significance (accounting for systematic uncertainties) of 6.1σ .

$\chi_{c0}(4500)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
$4474 \pm 3 \pm 3$	24k	¹ AAIJ	21E	LHCB $B^+ \rightarrow J/\psi\phi K^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$4506 \pm 11^{+12}_{-15}$	4289	^{2,3} AAIJ	17C	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 20σ .

² From an amplitude analysis of the decay $B^+ \rightarrow J/\psi\phi K^+$ with a significance of 6.1σ .

³ Superseded by AAIJ 21E.

$\chi_{c0}(4500)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
$77 \pm 6^{+10}_{-8}$	24k	¹ AAIJ	21E	LHCB $B^+ \rightarrow J/\psi\phi K^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$92 \pm 21^{+21}_{-20}$	4289	^{2,3} AAIJ	17C	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 20σ .

² From an amplitude analysis of the decay $B^+ \rightarrow J/\psi\phi K^+$ with a significance of 6.1σ .

³ Superseded by AAIJ 21E.

$\chi_{c0}(4500)$ DECAY MODES

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

$\chi_{c0}(4500)$ BRANCHING RATIOS

$\Gamma(J/\psi\phi)/\Gamma_{\text{total}}$	Γ_1/Γ			
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
seen	24k	¹ AAIJ	21E	LHCB $B^+ \rightarrow J/\psi\phi K^+$

• • • We do not use the following data for averages, fits, limits, etc. • • •

seen 4289 2,³ AAIJ 17C 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 20σ .

² From an amplitude analysis of the decay $B^+ \rightarrow J/\psi \phi K^+$ with a significance of 6.1σ .

³ Superseded by AAIJ 21E.

$\chi_{c0}(4500)$ 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.) JP
Also		PR D95 012002	R. Aaij <i>et al.</i>	(LHCb Collab.)
