$\chi_{c1}(4274)$

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

was $X(4274)$

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

Seen by AAIJ 17C in $B^+ \to \chi_{c1}K^+$, $\chi_{c1} \to J/\psi\phi$ using an amplitude analysis of $B^+ \to J/\psi\phi K^+$ with a significance (accounting for systematic uncertainties) of 6.0 σ.

$\chi_{c1}(4274)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
4286 $^{+8}_{-9}$ **OUR AVERAGE**					Error includes scale factor of 1.7.
4294 ± 4 $^{+3}_{-6}$	24k	[1] AAIJ		21E LHCB	$B^+ \to J/\psi\phi K^+$
4274.4 $^{+8.4}_{-6.7} \pm 1.9$	22	[2] AALTONEN		17 CDF	$B^+ \to J/\psi\phi K^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
4273.3 ± 8.3 $^{+17.2}_{-3.6}$	4289	[3,4] AAIJ		17C 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 18 σ.
[2] From a fit to the invariant mass spectrum with a significance of 3.1 σ.
[3] From an amplitude analysis of the decay $B^+ \to J/\psi\phi K^+$ with a significance of 6.0 σ.
[4] Superseded by AAIJ 21E.

$\chi_{c1}(4274)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
51 ± 7 OUR AVERAGE					
53 ± 5 ± 5	24k	[1] AAIJ		21E LHCB	$B^+ \to J/\psi\phi K^+$
32.3 $^{+21.9}_{-15.3} \pm 7.6$	22	[2] AALTONEN		17 CDF	$B^+ \to J/\psi\phi K^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
56 ± 11 $^{+8}_{-11}$	4289	[3,4] AAIJ		17C 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 18 σ.
[2] From a fit to the invariant mass spectrum with a significance of 3.1 σ.
[3] From an amplitude analysis of the decay $B^+ \to J/\psi\phi K^+$ with a significance of 6.0 σ.
[4] Superseded by AAIJ 21E.

$\chi_{c1}(4274)$ DECAY MODES

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

$\chi_{c1}(4274)$ BRANCHING RATIOS

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

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

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

seen	4289	[2,3] AAIJ	17C	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 18 σ.
[2] From an amplitude analysis of the decay $B^+ \to J/\psi\phi K^+$ with a significance of 6.0 σ.
[3] Superseded by AAIJ 21E.

$\chi_{c1}(4274)$ REFERENCES

AAIJ	21E	PRL 127 082001	R. Aaij *et al.*	(LHCb Collab.)	
AAIJ	17C	PRL 118 022003	R. Aaij *et al.*	(LHCb Collab.)	JP
Also		PR D95 012002	R. Aaij *et al.*	(LHCb Collab.)	
AALTONEN	17	MPL A32 1750139	T. Altonen *et al.*	(CDF Collab.)	