$\chi_{c0}(4700)$

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

OMITTED FROM SUMMARY TABLE
was $X(4700)$

See the review on the "Spectroscopy of Mesons Containing two Heavy Quarks."

$\chi_{c0}(4700)$ MASS

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
$4708^{+\ 6}_{-\ 4}$ OUR AVERAGE					
$4710 \pm 4 \pm 5$		AAIJ	25Q	LHCB	$B^+ \to \psi(2S) K^+ \pi^+ \pi^-$
$4694 \pm 4^{+16}_{-\ 3}$	24k	[1] AAIJ	21E	LHCB	$B^+ \to J/\psi\phi K^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$4741 \pm 6 \pm 6$	175	[2] AAIJ	21C	LHCB	$B_s^0 \to J/\psi\phi\pi^+\pi^-$
$4704 \pm 10^{+14}_{-24}$	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 17 σ.
[2] From a 1D fit to the $J/\psi\phi$ mass distribution with a significance of 5.3 σ. The identification of this structure as the $\chi_{c0}(4700)$ needs confirmation.
[3] From an amplitude analysis of the decay $B^+ \to J/\psi\phi K^+$ with a significance of 5.6 σ.
[4] Superseded by AAIJ 21E.

$\chi_{c0}(4700)$ WIDTH

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
78^{+15}_{-11} OUR AVERAGE Error includes scale factor of 1.4.					
$64 \pm 9 \pm 10$		AAIJ	25Q	LHCB	$B^+ \to \psi(2S) K^+ \pi^+ \pi^-$
$87 \pm 8^{+16}_{-\ 6}$	24k	[1] AAIJ	21E	LHCB	$B^+ \to J/\psi\phi K^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$53 \pm 15 \pm 11$	175	[2] AAIJ	21C	LHCB	$B_s^0 \to J/\psi\phi\pi^+\pi^-$
$120 \pm 31^{+42}_{-33}$	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 17 σ.
[2] From a 1D fit to the $J/\psi\phi$ mass distribution with a significance of 5.3 σ. The identification of this structure as the $\chi_{c0}(4700)$ needs confirmation.
[3] From an amplitude analysis of the decay $B^+ \to J/\psi\phi K^+$ with a significance of 5.6 σ.
[4] Superseded by AAIJ 21E.

$\chi_{c0}(4700)$ DECAY MODES

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

$\chi_{c0}(4700)$ BRANCHING RATIOS

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

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
seen	24k	[1] AAIJ	21E	LHCB	$B^+ \to J/\psi\phi K^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
seen	175	[2] AAIJ	21C	LHCB	$B_s^0 \to J/\psi\phi\pi^+\pi^-$
seen	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 17 σ.
[2] From a 1D fit to the $J/\psi\phi$ mass distribution with a significance of 5.3 σ. The identification of this structure as the $\chi_{c0}(4700)$ needs confirmation.
[3] From an amplitude analysis of the decay $B^+ \to J/\psi\phi K^+$ with a significance of 5.6 σ.
[4] Superseded by AAIJ 21E.

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

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

$\chi_{c0}(4700)$ REFERENCES

AAIJ	25Q	JHEP 2501 054	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	21C	JHEP 2102 024	R. Aaij *et al.*	(LHCb Collab.)
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.)