

NODE=M235

$\chi_{c0}(4700)$

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

OMITTED FROM SUMMARY TABLE
was $X(4700)$

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

NODE=M235

$\chi_{c0}(4700)$ MASS

NODE=M235M

NODE=M235M

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
$4694 \pm 4^{+16}_{-3}$	24k	¹ AAIJ	21E LHCb	$B^+ \rightarrow J/\psi \phi K^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$4741 \pm 6 \pm 6$	175	² AAIJ	21C LHCb	$B^0_s \rightarrow J/\psi \phi \pi^+ \pi^-$
$4704 \pm 10^{+14}_{-24}$	4289	^{3,4} 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 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 $B^+ \rightarrow J/\psi \phi K^+$ with a significance of 5.6 σ .				
⁴ Superseded by AAIJ 21E.				

NODE=M235M;LINKAGE=C
NODE=M235M;LINKAGE=B

NODE=M235M;LINKAGE=A
NODE=M235M;LINKAGE=D

$\chi_{c0}(4700)$ WIDTH

NODE=M235W

NODE=M235W

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
$87 \pm 8^{+16}_{-6}$	24k	¹ AAIJ	21E LHCb	$B^+ \rightarrow J/\psi \phi K^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$53 \pm 15 \pm 11$	175	² AAIJ	21C LHCb	$B^0_s \rightarrow J/\psi \phi \pi^+ \pi^-$
$120 \pm 31^{+42}_{-33}$	4289	^{3,4} 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 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 $B^+ \rightarrow J/\psi \phi K^+$ with a significance of 5.6 σ .				
⁴ Superseded by AAIJ 21E.				

NODE=M235W;LINKAGE=C
NODE=M235W;LINKAGE=B

NODE=M235W;LINKAGE=A
NODE=M235W;LINKAGE=D

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

NODE=M235215;NODE=M235

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad J/\psi \phi$	seen

DESIG=1

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

NODE=M235220

NODE=M235R01
NODE=M235R01

$\Gamma(J/\psi \phi)/\Gamma_{\text{total}}$	VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	Γ_1/Γ
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		175	² AAIJ	21C LHCb	$B^0_s \rightarrow J/\psi \phi \pi^+ \pi^-$	
seen		4289	^{3,4} 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 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 $B^+ \rightarrow J/\psi \phi K^+$ with a significance of 5.6 σ .						
⁴ Superseded by AAIJ 21E.						

NODE=M235R01;LINKAGE=C
NODE=M235R01;LINKAGE=B

NODE=M235R01;LINKAGE=A
NODE=M235R01;LINKAGE=D

$\chi_{c0}(4700)$ REFERENCES

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AAIJ	21C	JHEP 2102 024	R. Aaij <i>et al.</i>	(LHCb Collab.)
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.)

REFID=61124
REFID=61150
REFID=57657
REFID=57636