

$T_{c\bar{c}}(4100)^+$

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

OMITTED FROM SUMMARY TABLE
was $X(4100)^\pm$

Properties incompatible with a $q\bar{q}$ structure (exotic state). See the review on non- $q\bar{q}$ states.

Reported by AAIJ 18AN in the $\eta_c(1S)\pi^+$ invariant mass distribution in $\bar{B}^0 \rightarrow \eta_c(1S)K^-\pi^+$ decays with a significance of 3.4σ . $J^P = 0^+$ or 1^- assignment consistent with data.

$T_{c\bar{c}}(4100)^+$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$4096 \pm 20^{+18}_{-22}$	AAIJ	18AN LHCB	$B^0 \rightarrow \eta_c(1S)K^+\pi^-$

$T_{c\bar{c}}(4100)^+$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$152 \pm 58^{+60}_{-35}$	AAIJ	18AN LHCB	$B^0 \rightarrow \eta_c(1S)K^+\pi^-$

$T_{c\bar{c}}(4100)^+$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad \pi^+\eta_c(1S)$	seen
$\Gamma_2 \quad \pi^+\psi(3770)$	not seen

$T_{c\bar{c}}(4100)^+$ BRANCHING RATIOS

$\Gamma(\pi^+\eta_c(1S))/\Gamma_{\text{total}}$	Γ_1/Γ		
VALUE	DOCUMENT ID	TECN	COMMENT
seen	¹ AAIJ	18AN LHCB	$B^0 \rightarrow \eta_c(1S) K^+ \pi^-$
¹ AAIJ 18AN quotes a fit fraction for $B^0 \rightarrow T_{c\bar{c}}(4100)^- K^+ \rightarrow \eta_c(1S) \pi^- K^+$ of $(3.3 \pm 1.1^{+1.2}_{-1.1})\%$ from an amplitude analysis.			

$\Gamma(\pi^+\psi(3770))/\Gamma_{\text{total}}$	Γ_2/Γ		
VALUE	DOCUMENT ID	TECN	COMMENT
not seen	¹ ABLIKIM	19AR BES3	$e^+ e^- \rightarrow \pi^+ \pi^- D \bar{D}$
¹ From a measurement of $\sigma(e^+ e^- \rightarrow \pi^+ \pi^- D \bar{D})$ between $\sqrt{s} = 4.08$ and 4.6 GeV.			

$T_{c\bar{c}}(4100)^+$ REFERENCES

ABLIKIM	19AR PR D100 032005	M. Ablikim <i>et al.</i>	(BESIII Collab.)
AAIJ	18AN EPJ C78 1019	R. Aaij <i>et al.</i>	(LHCb Collab.)