

$T_{c\bar{c}}(4250)^+$

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

I, G, C need confirmation.

OMITTED FROM SUMMARY TABLE
was $X(4250)^\pm$

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

Observed by MIZUK 08 in the $\pi^+ \chi_{c1}(1P)$ invariant mass distribution in $\bar{B}^0 \rightarrow K^- \pi^+ \chi_{c1}(1P)$ decays. Not seen by LEES 12B in this same mode after accounting for $K\pi$ resonant mass and angular structure.

$T_{c\bar{c}}(4250)^+$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$4248^{+44+180}_{-29-35}$	¹ MIZUK	08 BELL	$\bar{B}^0 \rightarrow K^- \pi^+ \chi_{c1}(1P)$

¹ From a Dalitz plot analysis with two Breit-Wigner amplitudes.

$T_{c\bar{c}}(4250)^+$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$177^{+54+316}_{-39-61}$	¹ MIZUK	08 BELL	$\bar{B}^0 \rightarrow K^- \pi^+ \chi_{c1}(1P)$

¹ From a Dalitz plot analysis with two Breit-Wigner amplitudes.

$T_{c\bar{c}}(4250)^+$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad \pi^+ \chi_{c1}(1P)$	seen

$T_{c\bar{c}}(4250)^+$ BRANCHING RATIOS

$\Gamma(\pi^+ \chi_{c1}(1P))/\Gamma_{\text{total}} \qquad \Gamma_1/\Gamma$

VALUE	DOCUMENT ID	TECN	COMMENT
seen	¹ MIZUK	08 BELL	$\bar{B}^0 \rightarrow K^- \pi^+ \chi_{c1}(1P)$

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

not seen ² LEES 12B BABR $B \rightarrow K\pi \chi_{c1}(1P)$

¹ With a product branching fraction measurement of $B(\bar{B}^0 \rightarrow K^- T_{c\bar{c}}(4250)^+) \times B(T_{c\bar{c}}(4250)^+ \rightarrow \pi^+ \chi_{c1}(1P)) = (4.0^{+2.3+19.7}_{-0.9-0.5}) \times 10^{-5}$.

² With a product branching fraction limit of $B(\bar{B}^0 \rightarrow T_{c\bar{c}}(4250)^+ K^-) \times B(T_{c\bar{c}}(4250)^+ \rightarrow \chi_{c1} \pi^+) < 4.0 \times 10^{-5}$ at 90% CL.

$T_{c\bar{c}}(4250)^+$ REFERENCES

LEES	12B PR D85 052003	J.P. Lees <i>et al.</i>	(BABAR Collab.)
MIZUK	08 PR D78 072004	R. Mizuk <i>et al.</i>	(BELLE Collab.)