

$T_{c\bar{c}}(4250)^+$ 
 $I^G(J^{PC}) = 1^-(?^?+)$   
 $I, G, C$  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
$4248^{+44+180}_{-29-35}$	<sup>1</sup> MIZUK	08	BELL $\bar{B}^0 \rightarrow K^- \pi^+ \chi_{c1}(1P)$

<sup>1</sup> From a Dalitz plot analysis with two Breit-Wigner amplitudes.

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

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

<sup>1</sup> From a Dalitz plot analysis with two Breit-Wigner amplitudes.

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

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

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

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

VALUE	DOCUMENT ID	TECN	COMMENT
<b>seen</b>	<sup>1</sup> 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 <sup>2</sup> LEES 12B BABR  $B \rightarrow K\pi \chi_{c1}(1P)$

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

<sup>2</sup> 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.)