

$T_{c\bar{s}0}^*(2900)$

$$I(J^P) = 1(0^+)$$

OMITTED FROM SUMMARY TABLE

Observed by LHCb in AAIJ 23B using a simultaneous amplitude analysis of $B^0 \rightarrow \bar{D}^0 D_s^+ \pi^-$ and $B^+ \rightarrow D^- D_s^+ \pi^+$. The $T_{c\bar{s}0}^*(2900)^0 \rightarrow D_s^+ \pi^-$ and $T_{c\bar{s}0}^*(2900)^{++} \rightarrow D_s^+ \pi^+$ decays are observed with 8.0 and 6.5 σ significance, respectively.

$T_{c\bar{s}0}^*(2900)^0$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
2892±14±15	¹ AAIJ	23C	LHCB $B^0 \rightarrow \bar{D}^0 D_s^+ \pi^-$

¹From an amplitude analysis of $B^0 \rightarrow \bar{D}^0 D_s^+ \pi^-$. A simultaneous fit to $B^0 \rightarrow \bar{D}^0 D_s^+ \pi^-$ and $B^- \rightarrow D^- D_s^+ \pi^+$ assuming isospin symmetry yields a mass of $2908 \pm 11 \pm 20$ MeV.

$T_{c\bar{s}0}^*(2900)^{++}$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
2921±17±20	² AAIJ	23C	LHCB $B^- \rightarrow D^- D_s^+ \pi^+$

²From an amplitude analysis of $B^- \rightarrow D^- D_s^+ \pi^+$. A simultaneous fit to $B^0 \rightarrow \bar{D}^0 D_s^+ \pi^-$ and $B^- \rightarrow D^- D_s^+ \pi^+$ assuming isospin symmetry yields a mass of $2908 \pm 11 \pm 20$ MeV.

$T_{c\bar{s}0}^*(2900)^0$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
119±26±13	³ AAIJ	23C	LHCB $B^0 \rightarrow \bar{D}^0 D_s^+ \pi^-$

³From an amplitude analysis of $B^0 \rightarrow \bar{D}^0 D_s^+ \pi^-$. A simultaneous fit to $B^0 \rightarrow \bar{D}^0 D_s^+ \pi^-$ and $B^- \rightarrow D^- D_s^+ \pi^+$ assuming isospin symmetry yields a width of $136 \pm 23 \pm 13$ MeV.

$T_{c\bar{s}0}^*(2900)^{++}$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
137±32±17	⁴ AAIJ	23C	LHCB $B^- \rightarrow D^- D_s^+ \pi^+$

⁴From an amplitude analysis of $B^- \rightarrow D^- D_s^+ \pi^+$. A simultaneous fit to $B^0 \rightarrow \bar{D}^0 D_s^+ \pi^-$ and $B^- \rightarrow D^- D_s^+ \pi^+$ assuming isospin symmetry yields a width of $136 \pm 23 \pm 13$ MeV.

$T_{c\bar{s}0}^*(2900)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad D_s^+ \pi^-$	seen
$\Gamma_2 \quad D_s^+ \pi^+$	seen

$T_{c\bar{s}0}^*(2900)$ BRANCHING RATIOS

$\Gamma(D_s^+ \pi^-)/\Gamma_{\text{total}}$	Γ_1/Γ			
VALUE	DOCUMENT ID	TECN	COMMENT	
seen	AAIJ	23C	LHCB	$B^0 \rightarrow \bar{D}^0 D_s^+ \pi^-$
$\Gamma(D_s^+ \pi^+)/\Gamma_{\text{total}}$	Γ_2/Γ			
VALUE	DOCUMENT ID	TECN	COMMENT	
seen	AAIJ	23C	LHCB	$B^- \rightarrow D^- D_s^+ \pi^+$

$T_{c\bar{s}0}^*(2900)$ REFERENCES

AAIJ	23B	PR D108 012017	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	23C	PRL 131 041902	R. Aaij <i>et al.</i>	(LHCb Collab.)