

Decays of the fully open flavor state $T_{c\bar{s}0}^0$ in a D^*K^* molecule scenario

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Inspired by the recent observations of $T_{c\bar{s}0}^{0/+}$ in the processes $B^0 \rightarrow \bar{D}^0 D_s^+ \pi^-$ and $B^+ \rightarrow D^- D_s^+ \pi^+$ by LHCb Collaboration, we investigate the decay properties of the $T_{c\bar{s}0}^0$ in a D^*K^* molecule scenario, and the widths of $T_{c\bar{s}0}^0 \rightarrow D^0 K^0$, $D_s^+ \pi^-$, $D_s^{*+} \rho^-$, $D_{s1}^{(\prime)+} \pi^-$, and $D^{*0}(D\pi)^0$ are estimated. Our estimations indicate that the width of $T_{c\bar{s}0}^0 \rightarrow D_s^+ \pi^-$ is sizable to be observed and the dominant decay mode of $T_{c\bar{s}0}^0$ is $D^0 K^0$. Considering the isospin symmetry, we proposed to search $T_{c\bar{s}0}(2900)^{++}$ in the $D^+ K^+$ invariant mass distributions of the process $B^+ \rightarrow D^+ D^- K^+$, where some preliminary experimental hints have been observed by LHCb Collaboration.

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