

Triangle singularities in the production of $X(3872)$ and $T_{cc}^+(3875)$

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If the $X(3872)$ or $T_{cc}^+(3875)$ is a weakly bound charm-meson molecule, it can be produced by the creation of $D^*\bar{D}^*$ or D^*D^* at short distances followed by the rescattering of the charm mesons into $X(3872)$ or $T_{cc}^+(3875)$ and a pion or a photon through a triangle loop. A triangle singularity produces narrow peak in the reaction rate in production of $X(3872)$ or $T_{cc}^+(3875)$. The observation of this peak would provide strong evidence in support of the identification of the $X(3872)$ or $T_{cc}^+(3875)$ as a charm-meson molecule.

Category

talk

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