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Production of Tcc via photon-photon fusion at CEPC

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Within a phenomenological diquark fragmentation model, we study the production of doubly charmed tetraquark Tcc via photon-photon fusion at electron-positron colliders. The production of Tcc is divided into two steps: the perturbative production of heavy (cc)-diquark and its nonperturbative hadronization. It is found that it is promising to observe the tetraquark Tcc via photon-photon fusion process both at CEPC and ILC. We find that the cross sections are sensitive to constituent charm quark mass of diquark, and they also have strong dependence on the hadronization models.

Primary authors: JIANG, Jun (山东大学); LI, SHI-YUAN (Shandong University); Dr LIANG, Xiao (Shandong University); LIU, Ruiyan (山东大学); SI, Zongguo (ShanDong University); YANG, Zhongjuan (济南大学)

Presenter: JIANG, Jun (山东大学)

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