

Progress of the Super Tau Charm Facility in China

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The Super Tau Charm Facility (STCF), a planned symmetric electron-positron collider in China, aims to facilitate e^+e^- collisions across a center-of-mass energy range of 2 to 7 GeV, targeting a peak luminosity of $0.5 \times 10^{35} \text{ cm}^{-2} \text{ s}^{-1}$. With an anticipated annual integrated luminosity exceeding 1 ab^{-1} , the STCF is poised to generate vast datasets. These will enable precision measurements of XYZ particles' properties, exploration of new CP violation sources within strange-hyperon and tau-lepton sectors, and accurate Cabibbo angle (θ_c) measurements to test the unitarity of the CKM matrix; search for anomalous decays with sensitivities extending down to the level of SM-model expectations, among other objectives. This talk will cover the STCF's physics goals and outline the latest advancements in the project's R&D.

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