

# eeFACT 2025 - 70th ICFA Advanced Beam Dynamics Workshop on High Luminosity Circular e<sup>+</sup>e<sup>-</sup> Colliders



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## Project status and R&D efforts for Super Tau-Charm Facility

Super Tau-Charm Facility (STCF) was proposed as a third-generation circular electron-positron collider in the energy range of 2-7 GeV (CoM) and with a luminosity greater than  $5 \times 10^{34} \text{ cm}^{-2} \text{s}^{-1}$  @4 GeV, aiming to explore charm physics and tau physics in the next decades. This presentation will introduce the facility design and R&D efforts for STCF, including the design goal, accelerator and detector schemes, and key technological R&D efforts, with focus on the accelerator. Under the financial support of the key technology R&D project by the local provincial government and other national funding agencies, the STCF accelerator team is working on the conceptual design of the accelerator, which will be followed by the technical design, while the detector team is working on the technical design. The accelerator consists of a full-energy injector consisting of multi-section linacs and a positron accumulator ring and a double-ring collider with the crab-waist collision scheme. Key physics and technological challenges will be addressed. Ongoing R&D efforts and progresses will be summarized. The project planning will also be given.

### Footnotes

### Funding Agency

### I have read and accept the Privacy Policy Statement

Yes

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