

eeFACT 2025 - 70th ICFA Advanced Beam Dynamics Workshop on High Luminosity Circular e⁺e⁻ Colliders



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Progress of the IR superconducting magnets at STCF

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Super Tau Charm Facility (STCF), a factory producing massive tau lepton and hadrons, to unravel the mystery of how quarks form matter and the symmetries of fundamental interactions, is under design in China. The STCF is designed to have energy of 2-7 GeV and luminosity higher than $0.5 \times 10^{35} \text{ cm}^{-2}\text{s}^{-1}$ with circumference about 800-900 m. There are two dual-aperture final focus insertion region superconducting magnet (IRSM) systems sites symmetrically respective to Interaction Point (IP) at the center of detector magnet. The IRSM, to squeeze the beam for high luminosity, is the key component in the accelerator hardware elements. Each IRSM consists of 4 high field gradient and high field quality quadrupoles, 2 compensation solenoids and 6 orbit correctors. In this presentation, the progress of the IR superconducting magnet is reported.

Footnotes

Funding Agency

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