

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



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Study for the CEPC injector and injections

Tuesday 4 March 2025 10:00 (30 minutes)

The Circular Electron Positron Collider (CEPC) is a 100-km electron-positron collider designed as a Higgs factory. Its accelerator complex comprises a 30-GeV Linac, a full-energy booster, two collider rings, and several transport lines. To mitigate the challenges associated with low-energy design for the booster and to manage costs effectively, the Linac is tasked with delivering electrons and positrons at an energy of 30 GeV. The CEPC Linac utilizes normal-conducting technology and incorporates S-band and C-band accelerating units. This report will outline the physics design of the Linac and address the research issues encountered during the Engineering Design Report (EDR) phase. Additionally, in light of the high-energy Linac, we propose a high-energy X-ray Free Electron Laser (XFEL) scheme capable of producing photon energies exceeding 50 keV.

Footnotes

Funding Agency

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Yes

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