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FCC-ee energy calibration and polarization - status and outlook

Monday 2 June 2025 16:00 (2 hours)

The Future electron-positron Circular Collider, FCC-ee, aims at high-precision particle physics experiments with beam energies from 45.6 to 182.5 GeV, corresponding to the Z-pole up to above the top-pair-threshold. These goals demand, among others, a precise knowledge of the center-of-mass energy and, hence, the beam energies. By depolarizing previously polarized pilot bunches and recording the change of polarization with a 3D polarimeter, it is aimed to determine the spin tune and thereby achieve a systematic uncertainty on the beam energy in the order of tens of keV. The latest progress of the work conducted by the FCC-ee energy calibration and polarization working group is reported here.

Footnotes

Paper preparation format

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