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Interaction point beam offset tolerances for luminosity performance at FCC-ee

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To achieve physics performance at the Future Circular electron-positron Collider (FCC-ee), luminosity and beam lifetime must be maintained at close to design specifications. Alongside global feedbacks, a fast feedback system is proposed to mitigate beam offset errors at the interaction points (IP), caused by magnet vibrations or other time-varying errors. In this paper, the FCC-ee luminosity performance is simulated for beam-beam interactions including beam offsets, providing performance requirements for the fast feedback system.

Footnotes

Paper preparation format

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