

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



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FCCEe Interaction Point optics tuning

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The FCC-ee collider requires strong focusing and small beam sizes at the interaction point (IP) to achieve its unprecedented luminosity. Magnet misalignments and gradient errors will perturb the optics at the IP, leading to beam size growth, and making it difficult to reach the collider's luminosity goals. Therefore, tuning tools are essential for correcting these aberrations during operation. Dynamic aperture studies, conducted after IP tuning, assess the impact of these tools on lattice stability. This paper discusses the performance and challenges of the IP tuning tools in the presence of realistic errors.

Footnotes

Funding Agency

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Yes

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