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FCC-ee Aperture and Collimation

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The FCC-ee design pushes parameters such as the beam energy, the stored beam energy, and the total synchrotron radiation power beyond the values achieved at existing machines. Ensuring safe machine operation and minimising background to detectors are important requirements. The first studies of the aperture limitations and the first considerations for a collimation system in the FCC-ee are presented in this talk. The aperture studies include an estimation of the beam stay clear and momentum acceptance, taking into account mechanical and optical tolerances and imperfections. The collimation studies are focussed on a preliminary design for a dedicated halo collimation system and the software tools that can be used for collimation simulations in the FCC-ee.

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