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Top-up Injection into the FCC-ee Collider Ring

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In order to maximize the integrated luminosity of the FCC-ee, top-up injection will be employed. The positron and electron beams will be accelerated to the collision energy in the booster ring before being injected into the collider ring where it will merge with the stored beam. Regular injection maintains an effectively constant beam current and, other than a brief period during the injection process, collision data can be continuously acquired. Two suitable schemes for FCC-ee, each with on- or off-momentum sub-schemes, have been identified in the past and are studied in further detail to find a suitable design for each of the four operation modes of the FCC-ee.

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