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Top-up injection status and studies

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To maintain high circulating bunch charge despite the short beam lifetime and to maximize integrated luminosity, the FCC-ee requires top-up injection at all operation modes. The feasibility and efficiency of this scheme are therefore critical to the success of the FCC-ee program. Accurate simulation of the top-up injection process is essential and must account for collective effects and particle-matter interactions. This presentation provides an update on the latest simulations of the baseline top-up injection scheme with the tools and methods used. It further outlines the requirements, timeline, and expected deliverables needed to support the comparison of the two optics options currently under consideration.

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