



Contribution ID: 134 Contribution code: THFA01

Type: Flash Poster Presentation

Modeling of Long-Bunch Space Charge in Circular Accelerators with Unfixed Closed Orbit

Thursday, October 23, 2025 2:00 PM (5 minutes)

We present PyFFA, a Python-based simulation framework developed for high-intensity beam dynamics studies in circular accelerators with unfixed closed orbits. The code features multi-particle tracking with self-consistent 2.5D Particle-In-Cell (PIC) space charge calculations and supports multi-turn painting injection for long bunches in accelerators such as FFA machines and cyclotrons.

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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Session Classification: THFA WGs flash talks

Track Classification: WGA:Beam Dynamics in Rings