Contribution ID: **8** Contribution code: **THA2** Type: **Contributed Oral Presentation**

Multiple-Slice Simulations of Coherent Electron Cooling Performance with Low Beam Current

Thursday 30 October 2025 09:15 (30 minutes)

Coherent electron cooling (CeC) is a novel technique for rapidly cooling high-energy, high-intensity hadron beam. Plasma cascade amplifier (PCA) has been proposed for the CeC experiment in the Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratory (BNL). Cooling performance of PCA based CeC has been predicted in 3D start-to-end CeC simulations using code SPACE for multiple slices in the beam. The operation of low beam current provides more flexibilities for the CeC experiment.

Footnotes

Funding Agency

Work supported by Brookhaven Science Associates, LLC under Contract No. DE-SC0012704 with the U.S. Department of Energy.

I have read and accept the Privacy Policy Statement

Yes

Author: MA, Jun (Brookhaven National Laboratory)

Co-authors: WANG, Gang (Brookhaven National Laboratory); LITVINENKO, Vladimir (Stony Brook University); JING, Yichao (Brookhaven National Laboratory)

Presenter: MA, Jun (Brookhaven National Laboratory)

Session Classification: Cooler Designs and Applications I

Track Classification: COOL'25