Contribution ID: **274** Contribution code: **TUP031** Type: **Poster Presentation**

Dynamic Aperture Correction for Ring Electron Cooler

Tuesday 12 August 2025 16:00 (2 hours)

The Ring Electron Cooler is one option to provide cooling to the Electron Ion Collider's 275 GeV proton bunches. Using traditional electron cooling this racetrack shaped storage ring uses one straight section to cool the protons and the other one to enhance the radiation damping of the electrons using 2.4 T wigglers. These sections comprise the majority of the ring and are connected by short arcs. Space for sextupoles and octupoles is made in short straight sections between the wigglers. The strong wigglers and limited space for correction magnets create challenges in finding a suitable dynamic aperture correction. In this paper, we outline the challenges present in rings of this type and present a correction scheme that meets the aperture requirements of the design.

Please consider my poster for contributed oral presentation

No

Would you like to submit this poster in student poster session on Sunday (August 10th)

No

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: UNGER, Jonathan (Cornell University (CLASSE))

Co-authors: FEDOTOV, Alexei (Brookhaven National Laboratory); HOFFSTAETTER, Georg (Cornell University (CLASSE)); KEWISCH, Jorg (Brookhaven National Laboratory); SELETSKIY, Sergei (Brookhaven National Laboratory)

Presenter: UNGER, Jonathan (Cornell University (CLASSE))

Session Classification: TUP: Tuesday Poster Session

Track Classification: MC5 –Beam Dynamics and EM Fields