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Simulation of the Ion Bunch in the Presence of the CeC for the New Energy Scheme

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For RHIC run 25, the beam energy of the Coherent Electron Cooling (CeC) experiment will be reduced to achieve better cooling performance. For the new scheme, the distribution of the cooling electrons is obtained from beam dynamics simulation using Impact-T. A 3D particle in cell (PIC) simulation code, SPACE, is then used to obtain the cooling force that depend both on the longitudinal and transverse location of the circulating ions. In this study, we track the ions in the presence of the cooling force and investigate how their distribution evolves during the cooling process.

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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