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Lattice design for pre-cooling in EIC HSR-IR2

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Insertion Region 2 (IR2) of the Relativistic Heavy Ion Collider will be modified to provide effective cooling for the Electron-Ion Collider (EIC). This paper summarizes the update of the HSR-IR2 lattice design to meet the evolving requirements of the EIC. The geometry has been redesigned to satisfy the yellow-to-yellow configuration, while also accommodating future integration of the 41 GeV bypass line. The injection optics is optimized to satisfy the pre-cooling requirements and physical aperture.

Footnotes

Paper preparation format

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Region represented

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