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## Dynamic aperture studies for the EIC electron storage ring

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The Electron-Ion Collider (EIC) will be constructed at Brookhaven National Laboratory with the goal of providing high luminosity, high average beam polarization, and a wide range of colliding beam energies. One critical requirement is a large dynamic aperture (DA) of the collider rings, in both transverse and momentum dimensions. The ring lattices have been continually optimized to improve the geometric and optics conditions. This paper presents results of the DA studies for the recent lattices of the Electron Storage Ring at different energies, including non-linear chromaticity correction, effects of errors, magnet field quality, and orbit correction options.

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### Footnotes

### I have read and accept the Privacy Policy Statement

Yes

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