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Electron Storage Ring Collimation and Abort System design for the Electron Ion Collider

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The EIC electron beam parameters will feature 320 kJ stored kinetic energy and beam sizes leading to the melting of most metals in case of normal impact of a single bunch. In order to protect the aperture, focusing magnets and experimental detectors from beam losses and backgrounds a dedicated collimation system will be included in IR2 and IR4. Additionally, to protect against accidental losses from failures and continuous losses from swapping bunches, kickers and absorbers will be added to IR12 and IR2. This paper describes the current design for these two systems including material choices and specifications.

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Footnotes

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Yes

Primary author: VALETTE, Matthieu (Brookhaven National Laboratory)

Co-authors: DREES, Kirsten (Brookhaven National Laboratory); HETZEL, Charles (Brookhaven National Laboratory (BNL)); ROBERT-DEMOLAIZE, Guillaume (Brookhaven National Laboratory); BELLON, Jonathan (Brookhaven National Laboratory (BNL)); BHANDARI, Bijan (Brookhaven National Laboratory (BNL))

Presenter: VALETTE, Matthieu (Brookhaven National Laboratory)

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