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EIC Interaction Region Design and Magnets

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The Electron-Ion Collider (EIC) aims at luminosities of up to 10^34 cm^-2 sec^-1. This is accomplished by colliding large numbers of high intensity bunches in a low-beta interaction region with a total crossing angle of 25 mrad. The physics program of the EIC requires high forward acceptance, which necessitates large apertures of the forward hadron magnets to transport scattered particles to the Roman pot detectors along the forward beampipe. Electron magnets on the rear side of the detector need very large apertures as well to accomodate the wide synchrotron radiation cone generated by the upstream (forward) low-beta quadrupoles. This talk will present an overview of the EIC interaction region as well as the interaction region magnets.

Footnotes

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Yes

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