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HOM power in the EIC crab cavity system

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Two types of crab cavities, one at 197 MHz and the other at 394 MHz, are designed to compensate the loss of luminosity due to a 25 mrad crossing angle at the interaction point (IR) in the Electron Ion Collider (EIC). The Higher Order Mode (HOM) damper designs of the EIC differs from the LHC designs since in the EIC the impedance budget is tighter, especially longitudinally, and in the EIC the HOM power is much higher due to the short and high intensity electron and ion beam. In this paper, HOM power in these two cavities is evaluated and optimized.

Footnotes

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