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Quantifying effects of crab cavity RF phase noise on transverse emittance in EIC Hadron Storage Ring

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The Electron-Ion Collider (EIC) incorporates beam crabbing to recover geometric luminosity loss from the nonzero crossing angle at the interaction point (IP). It is well-known that crab cavity imperfections can cause growth of colliding beam emittances, thus degrading collider performance. Here we report a particle tracking study to quantify parts of these effects.

Funding Agency

Footnotes

I have read and accept the Privacy Policy Statement

Yes

Primary author: HUANG, He (Thomas Jefferson National Accelerator Facility)

Co-authors: XU, Derong (Brookhaven National Laboratory); Dr SATOGATA, Todd (Thomas Jefferson National Accelerator Facility); MOROZOV, Vasiliy (Oak Ridge National Laboratory); HAO, Yue (Brookhaven National Laboratory); ZHANG, Yuhong (Thomas Jefferson National Accelerator Facility); LUO, Yun (Brookhaven National Laboratory)

Presenter: HUANG, He (Thomas Jefferson National Accelerator Facility)

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