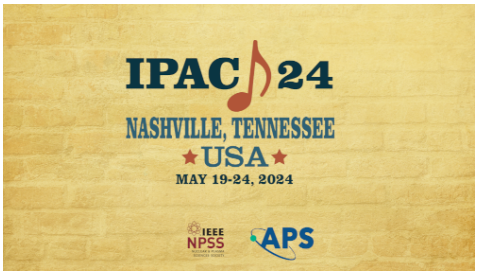

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Microbunching gain evaluation of bunch compressor designs

Monday, 20 May 2024 16:00 (2 hours)

The Electron-Ion Collider (EIC) is currently under development to be built at Brookhaven National Lab and requires cooling during collisions in order to preserve the quality of the hadron beam; an Energy Recovery Linac (ERL) operated at either 150 or 55 MeV is being designed to provide cooling through the mechanism of Coherent electron Cooling (CeC). This requires that the electron beam delivered to the cooling section be minimally perturbed by the bunch compressor located between the injector and the main linac. This paper evaluates the microbunching gain of the compressor design for the optics of both energies and considers the performance of alternate designs.

Footnotes

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