

Electron-Ion Collider BPM Button Design Progress

The Electron-Ion Collider will be constructed at Brookhaven National Laboratory, utilizing the existing infrastructure and accelerator complex of the Relativistic Heavy Ion Collider (RHIC). The existing superconducting yellow RHIC ring will be upgraded to become the hadron storage ring (HSR) with a maximum energy of 275 GeV, and beam current up to 1 Amp. Upgrades include new button BPMs. A new electron storage ring (ESR) with a maximum energy of 18 GeV, and beam current up to 2.5 Amps will be installed in the existing RHIC tunnel, where it will provide polarized electrons for beam collisions with the HSR hadron beam in up to two interaction regions. Polarized electron bunches will be provided to the ESR by a new rapid-cycling synchrotron (RCS). The preliminary design progress of the RCS and ESR BPM buttons, and more advanced design of the HSR BPM buttons, will be presented.

Primary author: GASSNER, DAVID (EIC - Brookhaven National Lab)

Co-authors: BLEDNYKH, Alexei (EIC - Brookhaven National Lab); HETZEL, Charles (EIC - Brookhaven National Lab); MICOLON, Frederic (Brookhaven national laboratory); PINAYEV, Igor (EIC - Brookhaven National Lab); MATSUSHIMA, Kentaro (EIC - Brookhaven National Lab); PANICCIA, Matthew (EIC - Brookhaven National Lab); SANGROULA, Medani (EIC - Brookhaven National Lab)

Presenter: GASSNER, DAVID (EIC - Brookhaven National Lab)

Track Classification: Button BPMs for Synchrotron Light Sources