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## HOM damping for the EIC ESR SRF Cryomodule

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The Electron Ion Collider (EIC) to be constructed at Brookhaven National Lab (BNL) is a high luminosity collider as the next major nuclear physics research facility. One major new sub-accelerator of EIC is the Electron Storage Ring (ESR) to be built in BNL's RHIC (Relativistic Heavy Ion Collider) tunnel. The ESR is required to operate at 5-18 GeV with up to 2.5 A of beam current stored. A new SRF system with multiple cryomodules is needed in the ESR to replenish up to 10 MW of beam power losses from synchrotron radiation and high order modes (HOM). In this talk, we will present the challenges and solutions related to the HOM damping for this cryomodule.

**Primary author:** GUO, Jiquan (JLAB)

**Presenter:** GUO, Jiquan (JLAB)

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