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## Prototype and high power test of SiC HOM absorber for EIC

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The Electron Ion Collider (EIC), to be built at BNL, is a unique high-energy, high-luminosity, polarized electron-proton/ion collider. High-Order-Mode (HOM) damping is a big challenge for EIC electron accelerators, especially for 17 single-cell 591 MHz SRF cavities in EIC Electron Storage Ring (ESR) because of its high electron beam current (up to 2.6 A). Room temperature SiC Beamline HOM absorbers (BLA) were chosen as the baseline of the HOM absorber, due to its broadband and high power capability. A SiC HOM absorber was prototyped to test a preparing process and high power handling capability. The high power test demonstrates 0.3 W/mm<sup>2</sup> of power handling capability by far, and we are going higher power to test its limit. This paper will present the preparing process (shrink fit, cleaning and outgassing test) and high power test results of the SiC HOM absorber prototype.

### Footnotes

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