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Rare isotopes at the EIC. PAWEL NADEL-TURONSKI, Stony Brook University — Electron scattering on light- and heavy nuclei to measure is a cornerstone of the Electron-Ion Collider (EIC). However, Deep-Inelastic Scattering (DIS) on a nucleus also produces a wide range of nuclear fragments - some of which are, for instance, close to the neutron drip line. With the appropriate near-beam detection capabilities, an EIC can thus support a program complementary to planned for the Facility for Rare Isotope Beams (FRIB). In addition to providing a cross check using a very different technique, the lifetime of short-lived isotopes produced at the EIC would be longer in the lab frame (by a factor of 100), which could facilitate some measurements. A rare isotope program at the EIC could be carried out in parallel with other measurements, and the ion detection would also benefit key EIC measurements, such as probing the nuclear glue through coherent diffractive processes. This talk will give a first look at the opportunities and requirements for rare isotopes at the EIC.

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