

Radioactive Ion Beams at the HRIBF.

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The Holifield Radioactive Ion Beam Facility (HRIBF) is now fully operational and is providing beams of radioactive ions for nuclear physics and astrophysics experiments. The radioactive ions are produced using the Isotope-Separator-On-Line (ISOL) technique and then injected into a 25-MV tandem electrostatic accelerator and accelerated to energies of 0.1 – 10 MeV per nucleon for light nuclei and up to 5 MeV per nucleon for nuclei around mass 90. In the past year, the facility has provided more than 1500 hours of ^{17}F and ^{18}F beams for research with intensities up to 2×10^6 ions/s on target. The details of the target and ion source used in the production of these beams will be presented. Also, initial measurements of accelerated beams of neutron-rich radioactive ions will be presented. These neutron-rich ions (e.g. ^{80}As , ^{90}Br , ^{132}Sn) are produced in a highly permeable uranium carbide target using proton-induced fission. A target/ion source that has been developed for the production of ^{56}Ni beams will also be discussed.

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