

First two years of FRIB operation

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The Facility for Rare Isotope Beams (FRIB), a major nuclear physics facility for research with fast, stopped, and reaccelerated rare isotope beams, was successfully commissioned and has been in operation for the past two years. Various ion beam species have been accelerated up to 300 MeV/u and delivered to the target. FRIB routinely provided 10 kW primary beams on target over the past year, a factor of 10 above used at the beginning of user operation. Recently, a record-high 10.4 kW of uranium beam, the most challenging for accelerator systems, was delivered to the target, and three new isotopes were discovered during a short 24-hour run. In July 2024, we plan to develop a 20-kW Se-82 beam and provide it for the first observation of neutron-rich rare isotopes of calcium. Every incremental step in energy and power of primary beams allows us to gain valuable experience in the facility's safe operation and provides directions for further improvements. Several accelerator improvement projects are being pursued for further power ramp-up, improving the accelerator availability, delivering more time for science, and preparing for the ultimate 400 kW beam on target.

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Footnotes

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