

Challenges of FRIB Facility and Current Status

Monday, 28 October 2024 11:00 (30 minutes)

The Facility for Rare Isotope Beams (FRIB) is a scientific user facility for nuclear science. FRIB's superconducting radio frequency (SRF) linear heavy-ion accelerator can accelerate all the ions up to uranium to energies above 200 MeV/u. The design beam power is 400 kW, which, once achieved, will extend the heavy-ion accelerator power frontier by more than one order of magnitude. FRIB currently operates at a primary beam power of 10 kW.

The FRIB accelerator systems include ion sources, front-end, linear accelerator, targetry, fragment separator, beam delivery, the cryogenic plant, beam dump, and supporting systems. This presentation will focus on the challenges, plan, and current status of FRIB accelerator systems and discuss the technical issues to be achieved. Very recently, ramp-up test at 21.9 kW in average power using 82 Se beam accelerated to 228 MeV/u has been successfully performed at the FRIB facility on July 16, 2024.

Primary author: WEI, Jei (FRIB, MSU)

Co-authors: KANEMURA, Takuji (FRIB, MSU); MILLER, Samuel (FRIB, MSU)

Presenter: WEI, Jei (FRIB, MSU)

Session Classification: Facility overview, updates and developments. Operational experience of targets, beam windows, cooling and ancillary systems

Track Classification: Facility overview, updates and developments. Operational experience of targets, beam windows, cooling and ancillary systems.