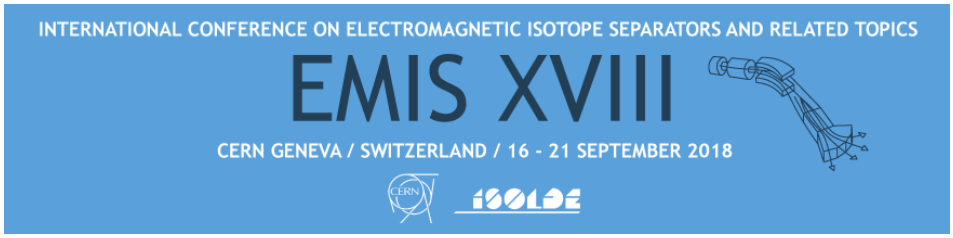

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Radioactive Beam Production at TRIUMF –Present and Future

Monday, 17 September 2018 11:30 (20 minutes)

ISAC-TRIUMF is the only ISOL facility worldwide that is routinely operating targets under particle irradiation in the high-power regime in excess of 10 kW. TRIUMF's current flagship project ARIEL, Advanced Rare IsotopE Laboratory, will add two new target stations providing isotopes to the existing experimental stations in ISAC I and ISAC II at keV and MeV energies, respectively. In addition to the operating 500 MeV, 50 kW proton driver from TRIUMF's cyclotron, ARIEL will make use of a 35 MeV, 100 kW electron beam from a newly installed superconducting linear accelerator. Together with additional 200 m of RIB beamlines within the radioisotope distribution complex, this will put TRIUMF in the unprecedented capability of delivering three RIB beams to different experiments, while producing radioisotopes for medical applications simultaneously – enhancing the scientific output of the laboratory significantly. General characteristics of the high-power target stations, remote handling and beam production technology at ISAC and ARIEL will be presented, showing the opportunities and limitations. Moreover, the current status of the facilities as well as the path to completion and ramp-up of ARIEL will be discussed.

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