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Modern alchemy, the production and application of radioactive ion beams at thick target ISOL facilities

Thursday 13 June 2024 16:15 (1 hour)

Radioactive ion beam facilities employ accelerated particles to produce exotic isotopes for experiments in fields ranging from nuclear, atomic and solid-state physics, to biophysics and medicine. A key subset of these facilities is the thick target Isotope Separator Online or ISOL type, where the irradiated material is thick enough to stop and thermalise the nuclear reaction products prior to their ionisation and reacceleration into radioactive ion beams. The first part of this seminar will discuss the techniques and technologies involved in producing exotic ion beams at such facilities, with a particular focus on the CERN-ISOLDE facility and the upcoming TRIUMF-ARIEL facility. The second part will explore the application of these approaches for fundamental physics and medicine.

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