

RARE ION BEAMS-THE EMERGING FRONTIER IN NUCLEAR SCIENCES

ALOK CHAKRABARTI*, ARUP BANDYOPADHYAY* AND VAISHALI NAIK*

Rare Ion Beams (RIBs) are accelerated ion beams of beta-unstable nuclei. The world-wide interest in RIB results from the unexpectedly different properties that the beta-unstable nuclei have exhibited as compared to their beta-stable counterparts and their role in nucleo-synthesis in various stellar environments, especially in explosive scenarios. The other interest in RIBs arises from the availability of a very large number of accelerated beams. Unstable beams have potential applications in material science, atomic physics, medical diagnosis and therapy, and in many other fields including biology. This article attempts to present a brief overview of the scientific interest in RI Beams, their methods of production and acceleration, a few vibrant international facilities that are operational for many years, and RI Beam development activities in the country.
