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SAIF - the South African Isotope Facility

The iThemba LABS' Radioactive-Ion Beam project has evolved into SAIF - the South African Isotope Facility. It has two phases, the first of which comprises the Low-Energy Radioactive-Ion Beam (LERIB) project and ACE Isotopes (Accelerator Centre for Exotic Isotopes) project. ACE isotopes calls for the installation of a commercial, off-the-shelf 70 MeV cyclotron for radionuclide production. It will remove isotopes production from the existing SSC accelerator, freeing additional beam time for research. The LERIB project is an upgraded version of the RIB "demonstrator", capable of producing neutron-rich beams of high-intensity, due to the fissioning of natural uranium at a rate of up to 6×10^{13} /s. The beams from LERIB will be of low-energy, 60 keV - suitable for decay studies and implantation in materials as radioactive probes. Phase 2 of the SAIF project is the Accelerator Centre for Exotic Beams (ACE Beams). It will see the addition of a post-accelerator, likely a LINAC, to take beams from the LERIB to high-energies for research into sub-atomic physics.

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