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News on the iThemba LABS Radioactive Beams Project

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Abstract content
   (Max 300 words)

The Separated Sector Cyclotron at iThemba LABS is a shared facility, used for basic nuclear physics research, hadron therapy, and radioisotope production. Nuclear physics is oversubscribed with increasing demand for beam time. Furthermore, the most exciting frontier of international nuclear physics research is now the study of the neutron rich nuclei, neglected until recently due to the difficulty of their study without using radioactive beams. To address the problem of increasing demand, a new cyclotron has been proposed, one that would move isotope production onto the new machine and double the available beam time for nuclear physics research. It is proposed that the new machine be capable of delivering two beams of 70 MeV protons with a combined intensity of up to 1mA. In this case it would also serve as the driver accelerator for a radioactive beam facility. The SSC would be used as the post accelerator, delivering high-intensity radioactive beams of up to ˜ 108 particles per second, up to mass 140 with energies of up to 7 MeV/nucleon. A workshop on the project was held at iThemba LABS in August 2011. Developments since the meeting are reported.

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