HEAVY ION ACCELERATOR DEVELOPMENT AT IUAC DELHI

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Abstract

Inter University Accelerator Centre has been involved in the development of heavy ion accelerators, ion sources, beam lines and experimental facilities for providing various heavy ion beams in a wide energy range varying from a few tens of keV to hundreds of MeV for experiments by more than four hundred research groups from all over India and abroad. A large vertical Pelletron electrostatic tandem accelerator capable of achieving terminal voltage up to 16MV has been in operational for more than a couple of decades. Superconducting niobium linac booster accelerating modules having eight niobium quarter wave resonators each have been developed and used. A high temperature superconducting electron cyclotron resonance ion source (HTS-ECRIS) was designed, fabricated and installed. It is in regular operation for production of highly charged ion beams for alternate high current injector (HCI) system consisting of radio frequency quadrupole and drift tube Linacs. Details of developments of various heavy ion beam facilities and experimental systems at IUAC will be presented.

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