## The High Intensity heavy ion Accelerator Facility (HIAF)

HIAF complex consists of a high current superconducting linac (iLinac), a 34 Tm synchrotron (BRing) equipped with electron cooling for beam accumulation, a multifunction experimental storage ring (SRing) and a 43 Tm synchrotron (CRing) for beam compression and stacking. In the high intensity operation mode, the BRing will be used as booster to increase the beam energy from iLinac to overcome the space charge limit in CRing. The key features of the facility are unprecedented pulse beam intensities and versatile operation mode. The facility will provide intense beams of primary and rare isotopes relativistic heavy ions for a wide range of experiments in particle, nuclear and atomic physics. Rare isotope beams are used to investigate the structure of exotic nuclei, to learn more about nuclear reactions of astrophysical and to measure the mass of nuclei with high precision. High energetic highly bunched heavy ion beams are used to interact with dense plasma to probe the physics of high energy and density matter. Highly charged ions are used for atomic physics programs and a series of applied science.

