

Physics at HIE-ISOLDE

Wednesday 19 December 2012 13:40 (30 minutes)

The HIE-ISOLDE project has met with large enthusiasm from the physics community. This is because the higher energy will allow nuclear reactions such as transfer and fusion for the first time for many exotic nuclear species, while the quality and intensity upgrades will give access to beams which could not be studied before.

In June 2010 the INTC committee has received 34 HIE-ISOLDE Letters of Intent, while in November 2012 31 full Proposals for the first state of energy increase were submitted. The major physics topics to be studied are nuclear shapes, shell evolution, halo properties, nuclear astrophysics, and even questions relevant for super-heavies. The main experimental techniques are Coulomb excitation, transfer reactions, and elastic scattering. These will make use of the existing ISOLDE setups, such as MINIBALL or REX scattering chamber, those used at or planned for other facilities (MAYA and ACTAR), but also new systems to be located at ISOLDE, such as the Helical-orbit spectrometer.

The talk will summarise the physics topics and experimental setups included in the recent HIE-ISOLDE proposals and will give more details based on a few selected examples.

Primary author: Dr KOWALSKA, Magdalena (CERN)

Presenter: Dr KOWALSKA, Magdalena (CERN)

Session Classification: HIE-ISOLDE