ISOLDE Workshop and Users meeting 2011

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Advances in radioactive ion beam R at GANIL

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Content :

Since 2001, SPIRAL at GANIL has been delivering radioactive ion beams of gaseous elements of unique intensity and purity for physics experiments.
Recently, a project was formed to upgrade SPIRAL for making use of so far unexploited capabilities for radioactive ion beam production. Neutron deficient beams from condensable elements should soon become available with unequalled intensities for a number of physics cases in nuclear astrophysics, nuclear structure and for precision tests of the Standard Model.
The upgrade relies on the so called 1+ n+ method: singly charged radioactive beams are delivered from a hot plasma source, the ISOLDE VADIS, to an ECR charge breeder, the Phoenix charge breeder, which performs the multi-ionisation required by the post-accelerator.
The association of VADIS with the present SPIRAL target was lately tested on-line. A number of new beams were produced, showing the potential of such association.
The Phoenix charge breeder, which was previously tested at ISOLDE, is being upgraded. So far, modest efficiencies were obtained with the charge breeding of light metallic ion beams in ECRIS. This upgrade is part of a more general program aiming at improving the performances of charge breeding in ECRIS and EBIS for future ISOL facilities: the EMILIE (Enhanced Multi - Ionization of short Lived Isotopes for EURISOL) project.

This contribution will present the latest status of these R projects.

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