



Charge breeding for Radioactive Ion Beam facilities

EMILIE concluding workshop

Dear colleagues,

This is the first circular for the concluding EMILIE workshop “Charge breeding for Radioactive Ion Beam Facilities”, which aims at discussing the latest developments of the charge breeding technique in ECRIS and EBIS as they were undertaken within the EMILIE project for EURISOL, and in a broader context in Europe and around the world. This workshop will be held in GANIL, Caen, from March 21st to 23rd, 2016. The registration to the workshop and the submission of abstracts can be done using the indico web site on the following link: <https://indico.in2p3.fr/event/12466/>. The deadline for **abstracts is February 26th 2015**. Registration can be made **from December 15th, 2015 until March 17th, 2016**.

Scientific program

During the past decade, the charge breeding technique has been generally adopted by facilities worldwide as an efficient technique to optimize the reacceleration of radioactive ion beams. On the roadmap to EURISOL, SPES and GANIL/SPIRAL 1 and 2 plan to use a PHOENIX ECR charge breeder, while ISOLDE has upgrade plans for REX-EBIS. The EMILIE project gathers several European laboratories to tackle the present issues of both ECRIS and EBIS charge breeding techniques for future facilities, in particular:

- The low duty cycle of the EBIS beam, by the development of an EBIS beam debuncher
- The beam purity limitations of ECR charge breeders, by using appropriate materials and treatments to the surfaces exposed to vacuum, properly dimensioning the pumping system and optimizing the resolution of the following spectrometer.
- The relatively low capture of light and metallic ions in ECR charge breeders, by optimizing the 1+ ion beam optics, and developing numerical simulations to gain understanding in the capture and charge breeding process

The EMILIE partners are: GANIL, LPC Caen and LPSC, France; INFN – LNL and INFN-LNS, Italy; ISOLDE, CERN, Switzerland; JYFL, Finland; and HIL, Poland.

The main achievements of EMILIE will be recalled and discussed along the workshop and will be discussed with the international community. Results obtained at other facilities around the world will be additionally presented and discussed at the occasion of the workshop. **We warmly encourage experts in the field to post abstracts to this workshop to discuss in a lively manner the latest progresses of the technique world-wide.**

Looking forward to seeing you in GANIL,

Pierre Delahaye, Alessio Galatà for the EMILIE project