

780th ASRC Seminar

Date: 2月18日(火) 13:30 ~ 15:00

Location: Meeting Room 103, ASRC bldg.

Speaker: Dr. Christelle Stodel (GANIL, France)

Title: Status and developments for S3
at GANIL/SPIRAL2

要旨: At SPIRAL2/GANIL the superconducting linear accelerator LINAG with specifications which respond to the need of highest intensities is presently being commissioned [1]. One of its major experimental installations, the Superconducting Separator Spectrometer (S3) set-up [2], will serve for the investigations of superheavy nuclei (SHN), the region of $N=Z$ isotopes and for atomic physics studies. To this end two detection set-ups will be located at its focal plane. One is SIRIUS (Spectroscopy and Identification of Rare Isotopes Using S3), a silicon detector array consisting of a Double-sided Silicon Strip Detector (DSSD) with four silicon chips in a box or tunnel like structure on its upstream side, which will be surrounded by five large-volume germanium detectors. Its purpose is particle and photon detection capabilities for DSAS (Decay Spectroscopy After Separation) of species produced in fusion-evaporation reaction and separated by S3. The S3 low energy branch (LEB) will combine atomic and nuclear physics methods, including laser spectroscopy and mass measurement capabilities, to study basic nuclear properties. The high intensities of LINAG will be a challenge for target technology, demanding for specific measures like a dedicated target station with its appropriate instrumentation for material integrity check, and target fabrication and characterization methods are being developed. The developments concerning stable as well as actinide targets will be presented in this presentation, together with the status and perspectives of accelerator, separator and detection instrumentation.

[1] E. Petit - SPIRAL2 collaboration, Proceedings of NA-PAC2016, Chicago, IL, USA, TUA11002, 2016.

[2] F. Déchery et al., Eur. Phys. J. A 51, 1 (2015).

<Contact>

西尾勝久 (81-5454)

Advanced Science Research Center