



## NUSTAR Seminar

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**CNRS Orsay, France**

**Wednesday, April 07, 2021 at 04.00 pm**

### **Zoom Link**

<https://gsi-fair.zoom.us/j/93731496108>

Meeting-ID: 937 3149 6108

Kenncode: 015123

### **Recent highlights from the S<sup>3</sup> Low Energy Branch at SPIRAL2-GANIL**

Vladimir Manea for the S<sup>3</sup>-LEB collaboration

The Super Separator Spectrometer (S<sup>3</sup>) is a state-of-the-art installation in construction at the SPIRAL2 facility of GANIL for the study of fusion-evaporation products from the medium-mass  $N = Z$  nuclei until the region of very heavy and superheavy elements.

One of the two experimental setups which will be installed at the S<sup>3</sup> focal plane for the Day-1 experimental program is the Low-Energy Branch (LEB), which will stop, thermalize and neutralize the S<sup>3</sup> recoils in an Ar gas cell and subsequently extract them in a supersonic gas jet, in which resonance-ionization laser spectroscopy will be performed with a spectral resolution of a few 100 MHz.

The resulting laser ions will be transported to two experimental setups for ion counting and dedicated measurements, a multi-reflection time-of-flight mass spectrometer and an alpha/fission-fragment spectroscopy station.

Currently the S<sup>3</sup>-LEB setup is in different stages of commissioning at the LPC Caen, GANIL and IRFU laboratories. In this talk, I will present the status of the ongoing S<sup>3</sup>-LEB developments, with highlights from recent tests and an outlook for the next few years of offline work and the beginning of online experiments.