## **LISA conference**



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## In gas jet laser spectroscopy optimization for high resolution measurement of actinides

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This contribution presents offline commissioning experiments and results of the Super Separator Spectrometer-Low Energy Branch (S

-LEB) setup. S

-LEB is a low-energy radioactive ion beam facility, which will be employed for the study of exotic nuclei, under commissioning as a part of the GANIL-SPIRAL2 facility. For the offline commissioning of the S

-LEB set-up with laser ionization and spectroscopy, a gas cell based technique called in-gas jet laser spectroscopy was implemented which aims to provide the optimum resolution. Technical development including implementation of a narrowband continuous wave Ti: sapphire laser acting as a seed laser for in-gas-jet laser spectroscopy was implemented as a part of this work. The first laser spectroscopy results with the coupling of a buffer gas cell to the system is reported. For the commissioning tests, a tantalum filament was installed in the gas cell for the production of stable isotopes of Er,

Er being one of the online experiments foreseen. Characterization of the Er ions in the gas cell and jet has been performed to obtain the minimum possible spectral resolution and maximum ionization efficiency.

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