Contribution ID: **107** Type: **Oral contributed talk**

Simultaneous mass spectrometry and in-source laser spectroscopy of exotic nuclides from ISOLDE

Thursday, 23 October 2025 11:40 (20 minutes)

The ISOLTRAP mass spectrometry program at ISOLDE has pioneering many developments over the past decades, the most recent being the combination of precision time-of-flight mass spectrometry and in-source laser-ionization scanning to obtain the hyperfine structure of the isotope of interest.

First developed using sensitive alpha spectroscopy, the successful in-source spectroscopy technique was considerably extended by counting ions instead of radioactivity. Moreover, the high-resolution offered by ion traps enabled a dramatic gain in sensitivity not possible with dipole mass separators.

This contribution will recall the development of the in-source MS technique with some of the highlights before presenting new mass-spectrometry results for neutron-rich mercury (212Hg) and neutron-deficient cadmium (97Cd), both of which are near the intersections of major shell closures.

Email address

david.lunney@ijclab.in2p3.fr

Supervisor's Name

Supervisor's email

Funding Agency

Classification

Primary author: LUNNEY, David (CNRS)

Presenter: LUNNEY, David (CNRS)

Session Classification: Ion traps & laser techniques II

Track Classification: Ion traps and laser techniques