ISOLDE Decay Station (IDS) collaboration meeting (March 2025)

Report of Contributions

Contribution ID: **1** Type: **not specified**

Welcome and updates

Tuesday 11 March 2025 12:30 (30 minutes)

Presenter: CUBISS, James (The University of Edinburgh (GB))

Session Classification: Session 1

Contribution ID: **2** Type: **not specified**

IS456 Progress on Decay and Resonance Laser Ionisation Spectroscopy of Neutron Rich Polonium

Tuesday 11 March 2025 13:00 (20 minutes)

Presenter: SHAW, Jack (KU Leuven (BE))

Session Classification: Session 1

Contribution ID: **3** Type: **not specified**

Results from the IS685 experiment on Cd isotopes

Tuesday 11 March 2025 13:20 (20 minutes)

Presenter: LLANOS EXPOSITO, Marcos (Universidad Complutense (ES))

Session Classification: Session 1

Contribution ID: **4** Type: **not specified**

Study of the isospin of the 2+ doublet in 8Be populated in the beta+/EC decay of 8B

Tuesday 11 March 2025 13:40 (20 minutes)

Presenter: FERNANDEZ RUIZ, Daniel (Consejo Superior de Investigaciones Cientificas (CSIC) (ES))

Session Classification: Session 1

Contribution ID: **5** Type: **not specified**

Nuclear structure of the exotic nucleus 84Ge

Tuesday 11 March 2025 15:00 (20 minutes)

Presenter: GONZALEZ-TARRIO VICENTE, Pablo (Universidad Complutense (ES))

Session Classification: Session 2

Contribution ID: **6** Type: **not specified**

Beta delayed neutron emission from 8He

Tuesday 11 March 2025 15:40 (20 minutes)

Presenter: NIELSEN, Jeppe Schultz

Session Classification: Session 2

Contribution ID: **7** Type: **not specified**

Gamma-ray spectroscopy analysis of 229Ac following the beta-decay of 229Ra

Tuesday 11 March 2025 15:20 (20 minutes)

Presenter: SATRAZANI, Magda (KU Leuven (BE))

Session Classification: Session 2

Contribution ID: **8** Type: **not specified**

Decay spectroscopy of Ac225 and daughters

Tuesday 11 March 2025 16:00 (25 minutes)

Presenter: AELBRECHTS, Jana (KU Leuven (BE))

Session Classification: Session 2

Contribution ID: **9** Type: **not specified**

Beta-delayed two-neutron spectroscopy of 134In

Tuesday 11 March 2025 16:50 (20 minutes)

Experimental measurements of beta-delayed neutron emitters south-east of the 132Sn region can be used to validate the Hauser-Feshbach statistical model [1] calculations where beta-delayed two-neutron emission is an accessible decay mode. A previous measurement of neutron-rich gallium isotopes had shown that single-neutron emission is dominant from two-neutron unbound excited states [2], which is well described by the statistical model in the case of high nuclear level densities. To explore these phenomena in the low nuclear level density regime, a measurement of beta-delayed neutron emission from 134In was performed at the ISOLDE decay station (IDS) at CERN [3]. For the first time, correlated two-neutron emission from excited states in 134Sn were measured using the NEXT detector[4,5]. Moreover, the initial neutron emission was found to populate the neutron-unbound single-particle i13/2 state in 133Sn, which has gained attention over the last two decades [6-9]. This talk will cover both the experimental results and the comparison with the theoretical models in regards to BGT and the statistical model.

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[1] W. Hauser, H. Feshbach; Phys. Rev. 87, 366 (1952)
[2] R. Yokoyama, R. Grzywacz, et al; Phys. Rev. C 100, 031302 (2019)
[3] R. Grzywacz, M. Madurga, M. Karny; https://cds.cern.ch/record/2752915
[4] J. Heideman, et al; Nucl. Inst. And Methods A 946, 162528 (2019)
[5] S. Neupane, et al; Nucl. Inst. And Methods A 1020, 165881 (2021)
[6] W. Urban, W. Kurcewicz, A. Nowak, et al; EPJ A 5, 239 (1999)
[7] P. Hoff, P. Baumann, A. Huck; Hyperfine Interactions 129, 141 (2000)
[8] A. Korgul et al.; EPJ A 7, 167 (2000)
[9] K. Jones et al.; Nature 465, 454 (2010)

Presenter: DYSZEL, Peter (University of Tennessee (US))

Session Classification: Session 3

Contribution ID: **10** Type: **not specified**

Proposal for the installation of the SLICES spectrometer at the IDS

Tuesday 11 March 2025 17:10 (20 minutes)

SLICES is a spectrometer for internal conversion electrons designed for the beta decay station of the SPES facility at the Legnaro National Laboratories. It consists of a magnetic transport system coupled to a segmented large-area Si(Li) detector. The Si(Li) detector is about 70 mm in diameter and 7 mm thick, is segmented in 32 radial segments, and is cooled down to liquid nitrogen temperature. The setup ensures a very good energy resolution (about 3 keV of FWHM at 1 MeV electron energy) and high efficiency in specific energy ranges (up to 8-12%). In this talk, I will describe SLICES and present the proposal for its installation at the IDS.

Presenter: ROCCHINI, Marco (Universita e INFN, Firenze (IT))

Session Classification: Session 3

Contribution ID: **11** Type: **not specified**

Muonic x ray spectroscopy with IDS at PSI

Tuesday 11 March 2025 17:30 (30 minutes)

Presenter: VOGIATZI, Stella (KU Leuven)

Session Classification: Session 3