

# 2024 DESIR WORKSHOP



## Report of Contributions

Contribution ID: 4

Type: **List of posters**

## Testing the Standard Model with the WISArD Experiment

The objective of the WISArD experiment is to test the existence of new physics in the weak interaction sector of the Standard Model of particle physics using beta decay. The goal of the WISArD experiment is to measure the angular correlation parameter  $a$  and the Fierz interference term  $b$  in the decay of  $^{32}\text{Ar}$  with a precision of about 0.1%, in order to provide constraints on new physics that are competitive with the direct searches conducted at very high energies at the LHC. My poster will describe the physical context in which WISArD takes place, providing explanations about the experimental setup, simulations, and data analysis.

### Abstracts

**Primary author:** LECANUET, Samuel

Contribution ID: 6

Type: **List of posters**

## Technical progress at the double Penning trap PIPERADE

The double Penning trap PIPERADE (PIèges de PENning pour les RADionucléides à DESIR) [1] for the DESIR facility has been advancing in its commissioning phase at the LP2i-Bordeaux laboratory. The traps were designed with the objective of performing high-precision mass measurements and high-resolution mass purification of strongly contaminated ion beams. The latter will be produced by the existing SPIRAL1 facility and the S3 spectrometer. In order to push the limits of existing devices, PIPERADE is equipped with a new type of high-capacity large trap that aims to separate up to  $10^4$  -  $10^5$  ions per bunch.

The purified samples will be re-injected in the main DESIR beam line for downstream setups to perform trap-assisted spectroscopy. Alternatively, the purified samples will be utilized to perform high-precision mass measurements. In this context, standard ion-beam manipulation techniques are now being routinely demonstrated, i.e. the sideband buffer gas cooling (BGC) [2] and the time-of-flight ion-cyclotron-resonance (ToF-ICR) [3], while others are being implemented - phase-imaging ion-cyclotron-resonance (PI-ICR) [4]. Last year, as part of the implementation process of PI-ICR, an imaging system consisting of a microchannel-plate detector coupled to an anode constructed of helical wire delay lines was installed. RoentDek Handels GmbH has developed the delay-line anode with a specific three-layer geometry (“Hexanode”) [5] to improve the ambiguity of multi-hit position and time encoding on the detector.

In this contribution, we will present the latest achievement from the BGC technique, the first mass measurement by using ToF-ICR and finally, the detector installation to allow the position encoding for future PI-ICR measurements.

[1] P. Ascher et al., Nucl. Instrum. Methods. Phys. Res. A 1019 (2021) 165857

[2] G. Savard, et al., Phys. Lett. A 158 (1991) 247

[3] M. Koenig, et al., Int. J. Mass Spectrom. 31 (1995) 95

[4] S. Eliseev et al., Phys. Rev. Lett. 110 082501 (2013)

[5] O. Jagutzki et al., IEEE Trans. Nuc. Sci. 49 (2002) 5

### Abstracts

**Primary author:** FLAYOL, Mathieu (CNRS-LP2IB-CENBG)

**Co-authors:** Dr HUSSON, Audric; ATANASOV, Dinko (LP2iB); GERBAUX, Mathias (CENBG - Université de Bordeaux); ASCHER, Pauline (LP2iB); Mr ALFAURT, Philippe (CNRS-LP2IB-CENBG); Dr REY-HERME, Emmanuel (LP2IB); Dr GREVY, Stephane (LP2I Bordeaux); DAUDIN, Laurent (CNRS/IN2P3/CENBG); DE ROUBIN, Antoine (CENBG); LACHACINSKI, Benoit (CNRS/UMR5797); HUKKANEN, Marjut (University of Jyväskylä and CENBG)

Contribution ID: 10

Type: **List of posters**

## **RIALTO, the Resonant Ionization Laser Ion Source at ALTO**

RIALTO, the Resonant Ionization Laser Ion Source at the ALTO facility, uses a multi-step laser excitation process to produce pure ion beams through the resonance ionization technique.

The laser laboratory is equipped with three high-power Nd:YAG operating at 10 kHz and pumping three dye lasers; these lasers are coupled with BBO doubling units and one tripling unit; this laser system allows us to achieve two and three-step ionization schemes with a range of 200–850 nm.

Additionally, an atomic beam unit (ABU) is incorporated into the setup to determine optimal operational parameters for online operation with a radioactive beam. The ABU was used to determine the optimal operational parameters and laser ionization scheme for producing silver with a 3-step-3 color scheme. The upgraded RIALTO system enables the simultaneous production of two different element schemes, leading to the successful generation of stable Ga and Ag beams.

Furthermore, this work includes measurements of the laser ionization production of radioactive Ga and Ag, which are compared with the initial estimations, providing valuable insights.

### **Abstracts**

**Primary author:** SEGOVIA MIRANDA, Anahi (IJCLab)

Contribution ID: 11

Type: List of posters

## Development and commissioning of new Decay Spectroscopy Station at CRIS with $^{75}\text{Zn}$

Laser spectroscopy can study many ground-state properties (spin, nuclear electromagnetic moments, changes in the charge radius) of the nucleus which can challenge state-of-the-art nuclear models, and enhance our understanding of the nuclear forces. Furthermore, its application at ISOL facilities can give access to the same properties of long-lived states ( $>10\text{ms}$ ). One major challenge that laser spectroscopy at ISOL facilities faces is the presence of isobaric contaminants that can increase the background signal significantly. This is most detrimental for low-yield isotopes, making these isotopes inaccessible. The Decay Spectroscopy Station (DSS) can solve this problem by combining laser and decay spectroscopy in decay-assisted laser spectroscopy, which can tag the isomer of interest based on its decay. Experimental work on previous designs of the DSS at ISOLDE/CERN has been performed successfully on neutron-rich potassium ( $Z=19$ ) [1] and francium ( $Z=87$ ) [2-4].

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Conversely, laser-assisted decay spectroscopy can also be performed with the DSS at CRIS by tagging the isomer of interest based on its ionisation scheme. This is crucial to measure the decay scheme of isomers with similar half-lives, as conventional methods cannot easily discern between isomers with similar half-lives. This was successfully performed with a previous design on francium ( $Z=87$ ) [3-4]. \\\

Recently there has been an effort to upgrade the previous design of DSS to include a tape station and a dedicated beta-detection setup. I will present this new design, the upgrades implemented, and the upgrades planned for the future. Further, I will present the results from the commissioning on  $^{75}\text{Zn}$ .

### REFERENCES

- [1] Á. Koszorús *et al.*, *Nature Physics* **17** (2021) 439-443
- [2] K.M. Lynch *et al.*, *Physical Review X* **4** (2014) 011055
- [3] K.M. Lynch *et al.*, *Physical Review C* **93** (2016) 014319
- [4] G.J. Farooq-Smith *et al.*, *Physical Review C* **94** (2016) 054305

### Abstracts

**Primary author:** VAN DEN BORNE, Bram (KU Leuven)

**Co-authors:** MCGLONE, Abi (University of Manchester); KOSZORUS, Agota (University of Liverpool); NEASCU, Catalin (IFIN-HH); STEENKAMP, Christine (Stellenbosch University); Prof. HANSTORP, Dag (University of Gothenburg); NEYENS, Gerda (KU Leuven); HU, Hanrui (Peking University); DE WITTE, Hilde (KU Leuven); REILLY, Jordan (University of Manchester); TRUJILLO, Juan (KU Leuven); WESSOLEK, Julius (CERN); FLANAGAN, Kieran (University of Manchester); LALANNE, Louis (IPN); ATHANASAKIS-KAKLAMANAKIS, Michail (CERN); Dr LASSÈGUES, Pierre (KU Leuven); LICA, Razvan (IFIN-HH); GARCIA RUIZ, Ronald Fernando (MIT); DE GROOTE, Ruben; BAI, Shiwei (Peking University); BARA, Silvia (IKS, KU Leuven, Belgium); COCOLIOS, Thomas Elias (KU Leuven - Instituut voor Kern- en Stralingsfysica); Prof. YANG, Xiaofei (Peking University); GUO, Yangfan (Peking Uni-

versity); BALASMEH, Yazeed (KU Leuven); LIU, Yinshen (Peking University); LIU, Yongchao (Peking University); JOHRI, Zakariya (University of Nantes)

Contribution ID: 12

Type: List of posters

## Molecular laser spectroscopy of RaF at CRIS

In the past few years, the spectroscopy of radioactive molecules has been performed at ISOLDE (CERN) using the Collinear Resonance Ionization Spectroscopy (CRIS) experiment [1]. Given their structure and chemical properties, molecules are a promising candidate for studies in different fields [2] and for extracting elements with low production yields due to their refractory or reactive properties.

Among them, diatomic polar molecules are at the center of theoretical and experimental investigations in search of the electron's electric dipole moment (eEDM) and nuclear Schiff moments [3-4]. Due to the strong electric field and the rich electronic, vibrational, and rotational structure inherent in molecules, the sensitivity to Schiff moments and eEDM is expected to be enhanced in radioactive polar molecules, such as RaF [5]. The sensitivity to these moments depends on non-measurable molecular constants, making the benchmark of ab initio molecular theory with experimental observations a crucial step towards eEDM studies.

After three experimental campaigns at CRIS (2018, 2021, 2023), all predicted electronic levels in RaF have been studied with broadband laser spectroscopy [6] and one optical transition in high resolution on  $^{223,225,226}\text{RaF}$ , yielding sensitivity to magnetic dipole and electric quadrupole interactions, as well as a laser cooling scheme [7-8].

This poster will present the study of eEDM's on molecules, the basic principles of molecular spectroscopy at CRIS, and some results obtained in the last experimental campaign.

[1] Garcia Ruiz, R.F., et al. "Spectroscopy of short-lived radioactive molecules." *Nature* 581.7809 (2020): 396-400.

[2] Opportunities for Fundamental Physics Research with Radioactive Molecules, arXiv:2302.02165 (2023)

[3] Kudashov, A. D., et al. "Ab initio study of radium monofluoride (RaF) as a candidate to search for parity- and time- and parity-violation effects." *Physical Review A* 90.5 (2014): 052513.

[4] Osika, Y., & Shundalau, M. (2022). Fock-space relativistic coupled cluster study on the RaF molecule promising for the laser cooling. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 264, 120274.

[5] Flambaum, V. V., and V. A. Dzuba. "Electric dipole moments of atoms and molecules produced by enhanced nuclear Schiff moments." *Physical Review A* 101.4 (2020): 042504.

[6] M. Athanasakis-Kaklamanakise et al., Pinning down electron correlations in RaF via spectroscopy of excited states, submitted (2023)

[7] S.-M. Udrescu, et al., Precision spectroscopy and laser-cooling scheme of a radium-containing molecule", *Nature Physics* (2024) online January 9, <https://doi.org/10.1038/s41567-023-02296-w>

[8] S. G. Wilkins et al., Observation of the distribution of nuclear magnetization in a molecule, submitted (2023).

### Abstracts

**Primary author:** FAJARDO ZAMBRANO, Carlos Mario (KU Leuven)

**Co-authors:** MCGLONE, Abi (University of Manchester); KOSZORUS, Agota (University of Liver-

pool); Dr BREIER, Alexander A.; Prof. BORSCHEVSKY, Anastasia (University of Groningen); VAN DEN BORNE, Bram (KU Leuven); HANSTORP, Dag (University of Gothenburg); NEYENS, Gerda (KU Leuven); Dr BELOSEVIC, Ivana (TRIUMF); WARBINEK, Jessica (CERN); REILLY, Jordan (University of Manchester); WESSOLEK, Julius (CERN); Mr BERBALK, Justus (KU Leuven); Prof. LYNCH, Kara (University of Manchester); CHRYSALIDIS, Katerina (CERN); FLANAGAN, Kieran (University of Manchester); Dr SKRIPNIKOV, Leonid (Kurchatov Institute); LALANNE, Louis (IPN); NIES, Lukas (CERN / University of Greifswald (DE)); BISSELL, Mark (CERN); AU, Mia (CERN); ATHANASAKIS-KAKLAMANAKIS, Michail (CERN); Mrs NICHOLS, Miranda (University of Gothenburg); Mr AHMAD, Osama (KU Leuven); IMGRAM, Phillip (Institute for Nuclear Physics, Technical University Darmstadt); LASSÈGUES, Pierre (KU Leuven); HEINKE, Reinhard (KU Leuven); Dr BERGER, Robert (Philipp-Universität Marburg); GARCIA RUIZ, Ronald Fernando (MIT); DE GROOTE, Ruben; GELDHOF, Sarina (GANIL); FRANCHO, Serge (ipn); WILKINS, Shane (CERN); BAI, Shiwei (Peking University); UDRESCU, Silviu-Marian (MIT); Dr KUJANPÄÄ, Sonja (University of Jyväskylä); COCOLIOS, Thomas Elias (KU Leuven - Instituut voor Kern- en Stralingsfysica); Prof. GIESEN, Thomas F. (University of Cologne); YANG, Xiaofei (Peking University); LIU, Yinshen (Peking University); RAGGIO, andrea (INFN-Sezione di Padova)



Contribution ID: 13

Type: List of posters

## beta-delayed neutron emission and half-lives measurements with a 4pi neutron detection setup: BELEN and BRIKEN detectors

$\beta$ -delayed neutron emissions play a crucial role in various fields, including nuclear technology and nuclear astrophysics. Our research group boasts extensive expertise in measuring  $\beta$ -delayed one and two neutron emission probabilities ( $P_{1n}$  and  $P_{2n}$  values), as well as decay half-lives of exotic nuclei, utilizing the state-of-the-art BELEN and BRIKEN (Beta delayed neutron measurements at RIKEN) detectors. This poster showcases our technical proficiency in designing the BELEN and BRIKEN detectors, highlighting various configurations developed, along with the most noteworthy results derived from these experiments. Additionally, we introduce innovative designs tailored to meet the scientific objectives of the DESIR-BESTIOL collaboration.

### Abstracts

BESTIOL

**Primary author:** Dr CORTES, Guillem (Universitat Politecnica de Catalunya (UPC), Barcelona, Spain)

**Co-authors:** Dr TARIFEÑO-SALDIVIA, Ariel (Instituto de Física Corpuscular, CSIC-Universidad de Valencia, Spain); Dr TAIN, Jose Luis (Instituto de Física Corpuscular, CSIC-Universidad de Valencia, Spain); Dr CALVIÑO, Francisco (Universitat Politecnica de Catalunya (UPC), Barcelona, Spain); Dr RIEGO, Albert (Universitat Politecnica de Catalunya (UPC), Barcelona, Spain); Dr ALGORA, Alejandro (Instituto de Física Corpuscular, CSIC-Universidad de Valencia, Spain)

Contribution ID: 14

Type: **not specified**

## An electrostatic trap for high sensitivity, on-line laser spectroscopy

Collinear laser spectroscopy coupled with optical pumping, within the cooler-buncher, has proved a highly successful technique at IGISOL-4 (and at the previous IGISOL-3) [1-3] and has facilitated spectroscopy on manganese, niobium, yttrium and even the doubly charged yttrium ion. The technique is however critically limited by conditions within the cooler-buncher. The pumping, while highly efficient and well matched to our pulsed laser system, is subject to the Doppler and pressure perturbations and collisional relaxation encountered within the gas-filled device. These limitations have motivated the development of a secondary electrostatic trap, which operates in vacuum, and resulted in the development of the Manchester ConeTrap.

The ConeTrap, pioneered by Schmidt et al. [4], is a readily constructed, electrostatic device that is especially suitable for deployment at the IGISOL [5]. The devices have been shown to successfully contain close to 10<sup>5</sup> ions for time periods in excess of 100 ms (many times the atomic excitation and de-excitation lifetimes) and are well matched to the typical ion plumes released from the IGISOL cooler-buncher (typically 1-10k ions released in an ensemble of less than 10 microsecond duration). With limited, but critical, modification to the original design a trap suitable for use on the cooler-buncher platform was constructed and deployed at the IGISOL.

While successfully demonstrating the device was operational, the initial tests showed that only a physically larger trap with matched injection and extraction ion optics would provide the desired spectroscopic performance. Such a trap has now been developed on a bespoke testbed (in Manchester) and will shortly be (re-)deployed at the IGISOL. The new design, development, simulation and commissioning of the device along with future spectroscopic opportunities will be presented.

[1] B. Cheal et al., Phys. Rev. Lett. 102, 222501 (2009)

[2] F. Charlwood et al., Physics Letters B, 690(4), 346-351 (2010)

[3] L. J. Vormawah et al., Phys. Rev. A 97, 042504 (2018)

[4] H. T. Schmidt et al., Nucl. Instr. and Methods B, 173 523-527 (2001), P. Reinherd et al., Nucl. Instr. and Methods A, 621 83-90 (2010)

[5] S. Kelly et al., Hyperfine Interact. 238, 42 (2017)

### Abstracts

**Primary authors:** BETTANEY, Daniel (University of Manchester); Mr SHEN, Zixu (University of Manchester); Dr CAMPBELL, Paul (University of Manchester)

Contribution ID: 15

Type: List of posters

## Advances in the beta-decay experimental studies of the $^{46}\text{Mn}$ $\beta^+$ decay channel

Core Collapse Supernova (CCSN) explosion is the final process suffer by stars with initial mass greater than  $8 M_{\odot}$ . In such processes the  $^{44}\text{Ti}$  nucleosynthesis takes place, doing the isotope a good gamma tracer of Supernovae events, due to its characteristic gamma decay chain. The comparison between observations and models of the synthesized  $^{44}\text{Ti}$  in CCSN gives important constraints to the models in which reaction networks are used for modelling nucleosynthesis occurring in the last stages of those stars with thermonuclear reaction rates as its inputs [1,2,3].

One of the candidates to be sensitive to nucleosynthesis of  $^{44}\text{Ti}$  in CCSN explosions is the  $^{45}\text{V}(p,\gamma)^{46}\text{Cr}$  reaction. However, reach a direct study of the reaction cited, is a difficult task for the current nuclear labs. In this context, the indirect methods as the  $\beta$ -delayed proton emission, is one of the opportunities to approach narrow isolated resonances which is the case [1,4,5].

In this work we present new advances and results of analysing the  $^{46}\text{Mn}$  decay channel as a way to study the  $^{45}\text{V}(p,\gamma)^{46}\text{Cr}$  reaction. The  $^{46}\text{Mn}$  was selected among other species in the cocktail beam delivered by LISE fragment separator at GANIL (Caen, France) in order to study its  $\beta$  decay and the excited states of his daughter nucleus  $^{46}\text{Cr}$ . We present the proton and gamma emission peaks related to the  $^{46}\text{Mn}$  decay and compare them with the work from references [6,7]. Also, we present a  $p$ - $\gamma$  coincidence study to identify the processes linked to the  $\gamma$  emission. Furthermore, we obtained the intensities of the  $\gamma$  peaks for the pure beta emitters,  $^{42}\text{Ti}$  and  $^{46}\text{Cr}$  which were also detected in this experiment, to corroborate our results.

[1] C. Illiadis, Nuclear Physics of Stars, Wiley-VCH (2007).

[2] A. Heger, C.L. Fryer, S.E. Woosley, N. Langer, and D.H. Hartmann, ApJ 591, 288-300 (2003).

[3] C. Giunti, and K.C. Wook, Fundamentals of Neutrino Physics and Astrophysics, Oxford University Press (2007).

[4] L. Trache, E. Simmons, et. al., AIP Conference Proceedings 1409, 67-70 (2011).

[5] L.-S. The, D.D. Clayton, L. Jin, and B.S. Meyer, ApJ 504, 500-515 (1998).

[6] C. Dossat, N. Adimi, et. al., Nuclear Physics A 792, 18-86 (2007).

[7] J. Giovinazzo, B. Blank, et. al., Eur. Phys. J. A 10, 73-84 (2001).

Acknowledgements: This work is supported by DGAPA-UNAM IG101423 and CONACyT 314857 projects.

### Abstracts

**Primary authors:** Mr SANCHEZ BENITEZ, Angel Miguel (University of Huelva / CEAFCM); Mr BLANK, Bertram (LP21-Bordeaux France); Ms FOUGÈRES, Chloé (GANIL); Mr GODOS VALENCIA, David (Instituto de Física, Universidad Nacional Autónoma de México, Mexico.); Mr DE OLIVEIRA SANTOS, François (GANIL); Mr GIOVINAZZO, Jérôme (LP21-Bordeaux France); Mr ACOSTA SÁNCHEZ, Luis Armando (Instituto de Física, Universidad Nacional Autónoma de México, Mexico/Instituto de Estructura de la Materia, CSIC, Spain); Mrs ASCHER, Pauline (LP21-Bordeaux France)

Contribution ID: 16

Type: **not specified**

## **Alberto Pérez de Rada Fiol (CIEMAT): MONSTER at DESIR (10'+5')**

Contribution ID: 17

Type: **not specified**

## **Alberto Pérez de Rada Fiol (CIEMAT): MONSTER at DESIR (10'+5')**

Contribution ID: 20

Type: **not specified**

## **Luis Miguel Motilla (GANIL): MORA (20' +5')**

**Presenter:** MOTILLA MARTINEZ, Luis Miguel (University of Caen, GANIL, University of Jyvaskyla)

**Session Classification:** DETRAP 4

Contribution ID: 21

Type: **not specified**

## **Maud Versteegen (LP2iB): WISArD - Perspectives at DESIR (20' +5')**

**Session Classification:** DETRAP 4

Contribution ID: 22

Type: **not specified**

## **Franck Varenne (GANIL): DESIR infrastructure (20' +5')**

**Session Classification:** Infrastructure and beams



Contribution ID: 23

Type: **not specified**

## **Pierre Chauveau (GANIL): SPIRAL1 production (20' +5')**

**Session Classification:** Infrastructure and beams

Contribution ID: 24

Type: **not specified**

## **Vladimir Manea (IJClab): S3-LEB: status, capabilities and perspectives (20'+5')**

Contribution ID: 25

Type: **not specified**

## **Luc Perrot (IJClab): DESIR beam lines (15+5')**

Contribution ID: 26

Type: **not specified**

## **Pauline Ascher (LP2iB): PIPERADE (15+5')**

**Presenter:** ASCHER, Pauline (LP2iB)

Contribution ID: 27

Type: **not specified**

## **Franck Varenne (GANIL): DESIR infrastructure (20' +5')**

*Tuesday 27 February 2024 14:00 (25 minutes)*

**Presenter:** VARENNE, Franck ({CNRS}UPR3266)

Contribution ID: 28

Type: **not specified**

## **Pierre Chauveau (GANIL): SPIRAL1 production (20' +5')**

*Tuesday 27 February 2024 14:25 (25 minutes)*

**Presenter:** CHAUVEAU, Pierre (GANIL)

Contribution ID: 29

Type: **not specified**

## **Vladimir Manea (IJClab): S3-LEB: status, capabilities and perspectives (20'+5')**

*Tuesday 27 February 2024 14:50 (25 minutes)*

**Presenter:** MANEA, Vladimir (IKS, KU Leuven, Belgium)

Contribution ID: **30**

Type: **not specified**

## **Luc Perrot (IJClab): DESIR beam lines (15+5')**

*Tuesday 27 February 2024 15:15 (20 minutes)*

**Presenter:** PERROT, Luc (IJCLAB - Laboratoire de Physique des 2 Infinis Irène Joliot-Curie)



Contribution ID: **31**

Type: **not specified**

## **Gilles Ban (LPC Caen): SHIRaC (15+5')**

*Tuesday 27 February 2024 16:00 (20 minutes)*

**Presenter:** BAN, Gilles (Laboratoire de Physique Corpusculaire de Caen, LPC Caen)

Contribution ID: 32

Type: **not specified**

## **Julien Michaud (IJClab): HRS (15+5')**

*Tuesday 27 February 2024 16:20 (20 minutes)*

**Presenter:** MICHAUD, Julien (IJClab - CNRS)

Contribution ID: 33

Type: **not specified**

## **Mathias Gerbaux (LP2iB): GPIB (15+5')**

*Tuesday 27 February 2024 16:40 (20 minutes)*

**Presenter:** GERBAUX, Mathias (LP2iB - Université de Bordeaux)

Contribution ID: 34

Type: **not specified**

## **Pauline Ascher (LP2iB): PIPERADE (15+5')**

*Tuesday 27 February 2024 17:00 (20 minutes)*

**Presenter:** ASCHER, Pauline (LP2iB)

Contribution ID: 35

Type: **not specified**

## **Gerda Neyens (KU Leuven), Paul Campbell (Manchester): LUMIERE introduction (10')**

*Wednesday 28 February 2024 09:00 (10 minutes)*

**Presenter:** NEYENS, Gerda (KU Leuven)

Contribution ID: 36

Type: **not specified**

## **Agota Koszorus (KU Leuven): DESIR in the European context of ISOL facilities (20'+5')**

*Wednesday 28 February 2024 09:10 (25 minutes)*

**Presenter:** KOSZORUS, Agota (KU Leuven, SCK CEN)

Contribution ID: 37

Type: **not specified**

## **Sarina Geldhof (GANIL): Laser spectroscopy: from S3-LEB to DESIR (20'+5')**

*Wednesday 28 February 2024 09:35 (25 minutes)*

**Presenter:** GELDHOF, Sarina (GANIL)

Contribution ID: 38

Type: **not specified**

## **Liss Vazquez Rodriguez (ISOLDE&Heidelberg): Fluorescence spectroscopy and other techniques with cw-lasers and continuous ion beams (20'+5')**

*Wednesday 28 February 2024 10:00 (25 minutes)*

**Presenter:** VAZQUEZ RODRIGUEZ, Liss (CERN, MPIK)



Contribution ID: 39

Type: **not specified**

## **Louis Lalanne (IPHC): Resonance ionization spectroscopy (20'+5')**

*Wednesday 28 February 2024 10:25 (25 minutes)*

**Presenter:** LALANNE, Louis (IPN)

Contribution ID: 40

Type: **not specified**

## **Pauline Ascher: Introduction DETRAP (10')**

*Wednesday 28 February 2024 11:20 (10 minutes)*

**Presenter:** ASCHER, Pauline (LP2iB)

Contribution ID: 41

Type: **not specified**

## **Sarah Naimi (IJClab): The Atomic Mass Evaluation - perspectives at DESIR (20' +5')**

*Wednesday 28 February 2024 11:30 (25 minutes)*

**Presenter:** NAIMI, Sarah (IJClab)

Contribution ID: 42

Type: **not specified**

## **Antoine de Roubin (LPC Caen): Laser spectroscopy & mass measurements at DESIR (20'+5')**

**Session Classification:** DETRAP 1

Contribution ID: 43

Type: **not specified**

## **Antoine de Roubin (LPC Caen): Laser spectroscopy & mass measurements at DESIR (20'+5')**

*Wednesday 28 February 2024 11:55 (25 minutes)*

**Presenter:** DE ROUBIN, Antoine (CENBG)

Contribution ID: 44

Type: **not specified**

## **Matthieu Lebois (IJClab): BESTIOL introduction (15')**

*Wednesday 28 February 2024 14:00 (15 minutes)*

**Presenter:** LEBOIS, Matthieu (IJCLab/Univ. Paris-Saclay)

Contribution ID: 45

Type: **not specified**

## **Sonja Orrigo (Valencia): TAGS measurements (20'+5')**

*Wednesday 28 February 2024 14:15 (25 minutes)*

**Presenter:** Dr ORRIGO, Sonja (IFIC (CSIC-UV))

Contribution ID: 46

Type: **not specified**

## **Guillem Tocabens (Saclay): COeCo (20'+5')**

*Wednesday 28 February 2024 14:40 (25 minutes)*

**Presenter:** TOCABENS, Guillem (IPNO)



Contribution ID: 47

Type: **not specified**

## **James Cubiss (York): ISOLDE decay station results (20'+5')**

*Wednesday 28 February 2024 15:05 (25 minutes)*

**Presenter:** CUBISS, James (University of York)

Contribution ID: 48

Type: **not specified**

## **Antoine de Roubin (LPC Caen): Perspectives for mass measurements of neutron-deficient refractory elements and proton emitters (20'+5')**

*Wednesday 28 February 2024 16:00 (25 minutes)*

**Presenter:** DE ROUBIN, Antoine (CENBG)

Contribution ID: 49

Type: **not specified**

## **Enrique Minaya Ramirez (IJClab): MLLTRAP - Measurements at ALTO and in-trap spectroscopy studies (20'+5')**

*Wednesday 28 February 2024 16:25 (25 minutes)*

**Presenter:** Dr MINAYA RAMIREZ, Enrique (IJCLab)

Contribution ID: 50

Type: **not specified**

## **Francesca Giacoppo (GSI): Investigating low-lying isomers in the heaviest nuclei with Penning traps (20' +5')**

*Wednesday 28 February 2024 16:50 (25 minutes)*

**Presenter:** GIACOPPO, Francesca (GSI Helmholtzzentrum für Schwerionenforschung GmbH)

Contribution ID: 51

Type: **not specified**

## **Simon Lechner (ISOLDE): Spectroscopic opportunities using the MIRACLS technique and laser cooling (20'+5')**

*Wednesday 28 February 2024 17:15 (25 minutes)*

**Presenter:** LECHNER, Simon (CERN)

Contribution ID: 52

Type: **not specified**

## **Emmanuel Rey-Herme (LP2iB): Heavy nuclei (20'+5')**

*Thursday 29 February 2024 09:00 (25 minutes)*

**Presenter:** Dr REY-HERME, Emmanuel (LP2iB)

Contribution ID: 53

Type: **not specified**

## **Bernadette Rebeiro (GANIL): Superalloyed beta decays (20'+5')**

*Thursday 29 February 2024 09:25 (25 minutes)*

**Presenter:** REBEIRO, Bernadette (GANIL)

Contribution ID: 54

Type: **not specified**

## **Leendert Hayen (LPC Caen): Quantum sensors (20' +5')**

*Thursday 29 February 2024 09:50 (25 minutes)*



Contribution ID: 55

Type: **not specified**

## **Piet Van Isacker (GANIL): Wigner symmetry and beta decay into N=Z nuclei (20'+5')**

*Thursday 29 February 2024 10:15 (25 minutes)*

**Presenter:** VAN ISACKER, Piet (GANIL)

Contribution ID: 56

Type: **not specified**

## **Zhuang Ge (JYFL): Mass measurements of N=Z nuclei (from Zr to Ag) (20'+5')**

*Thursday 29 February 2024 11:15 (25 minutes)*

**Presenter:** GE, zhuang (GSI)

Contribution ID: 57

Type: **not specified**

## **Lukas Nies (ISOLDE): Nuclear structure near 100Sn from atomic masses and restrictions at existing facilities (20'+5')**

*Thursday 29 February 2024 11:40 (25 minutes)*

**Presenter:** NIES, Lukas (CERN / University of Greifswald (DE))

Contribution ID: 58

Type: **not specified**

## **Hervé Savajols (GANIL): Perspectives for mass measurements of N=Z nuclei at S3 and DESIR (20'+5')**

*Thursday 29 February 2024 12:05 (25 minutes)*

**Presenter:** SAVAJOLS, Hervé (GANIL/CNRS)

Contribution ID: 59

Type: **not specified**

## **Ruben de Groot (KU Leuven): Measurement of new nuclear observables using precision laser-radiofrequency techniques (20'+5')**

*Thursday 29 February 2024 14:00 (25 minutes)*

**Presenter:** DE GROOTE, Ruben

Contribution ID: **60**

Type: **not specified**

## **Monika Piersa (ISOLDE): $\beta$ -decay with polarized beams (20'+5')**

*Thursday 29 February 2024 14:25 (25 minutes)*

**Presenter:** PIERSA-SILKOWSKA, Monika (CERN)

Contribution ID: **61**

Type: **not specified**

## **Mark Bissell (ISOLDE): $\beta$ -NMR and HFA studies (20' +5')**

*Thursday 29 February 2024 14:50 (25 minutes)*

**Presenter:** BISSELL, Mark (CERN)

Contribution ID: 62

Type: **not specified**

## **Phillip Imgram (KU Leuven): Laser spectroscopy of He-like carbon ions (20'+5')**

*Thursday 29 February 2024 15:15 (25 minutes)*

**Presenter:** IMGRAM, Phillip (Institute for Nuclear Physics, Technical University Darmstadt)



Contribution ID: 63

Type: **not specified**

## **Mustapha Laatiaoui (JGU Mainz): Laser spectroscopy on heavy ions (20'+5')**

*Thursday 29 February 2024 16:10 (25 minutes)*

**Presenter:** LAATIAOUI, Mustapha

Contribution ID: 64

Type: **not specified**

## **(Imperial College London): Molecular spectroscopy (20'+5')**

*Thursday 29 February 2024 16:35 (25 minutes)*

**Presenter:** ATHANASAKIS-KAKLAMANAKIS, Michail (CERN)

Contribution ID: 65

Type: **not specified**

## **Iolanda Matea (IJClab): Beta-gamma spectroscopy (20'+5')**

*Thursday 29 February 2024 17:00 (25 minutes)*

**Presenter:** MATEA MACOVEI, Iolanda (IPN Orsay)

Contribution ID: 66

Type: **not specified**

## **Jérôme Giovinazzo (LP2iB): Multi-proton decays (20' +5')**

*Thursday 29 February 2024 17:25 (25 minutes)*

**Presenter:** GIOVINAZZO, Jérôme (LP2IB (CENBG) CNRS / Univ. Bordeaux)

Contribution ID: 67

Type: **not specified**

## **Georgi Georgiev (IJClab): Nuclear moments of nanosecond isomeric states ( $20'+5'$ )**

*Thursday 29 February 2024 17:50 (25 minutes)*

**Presenter:** GEORGIEV, Georgi (CSNSM, Orsay, France)

Contribution ID: 68

Type: **not specified**

## **Alberto Pérez de Rada Fiol (CIEMAT): MONSTER at DESIR (10'+5')**

*Thursday 29 February 2024 18:15 (15 minutes)*

**Presenter:** PEREZ DE RADA FIOL, Alberto (CIEMAT)

Contribution ID: **69**

Type: **not specified**

## **Luis Miguel Motilla (GANIL): MORA (20' +5')**

*Friday 1 March 2024 09:00 (25 minutes)*

**Presenter:** MOTILLA MARTINEZ, Luis Miguel (University of Caen, GANIL, University of Jyvaskyla)

Contribution ID: 70

Type: **not specified**

## **Maud Versteegen (LP2iB): WISArD - Perspectives at DESIR (20'+5')**

*Friday 1 March 2024 09:25 (25 minutes)*

**Presenter:** VERSTEEGEN, Maud (CENBG)



Contribution ID: 71

Type: **not specified**

## **Michele Sguazzin (IJClab): Prospects of the HINA project at DESIR (20'+5')**

*Friday 1 March 2024 09:50 (25 minutes)*

**Presenter:** SGUAZZIN, Michele (CNRS)