News of the ISOLDE Group

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4th November 2014

Outline

- Fellows Associates and students
- Courses and workshops during 2014
- ENSAR / ENSAR 2
- EURISOL MoU / EURISOL DF
- Status of the new beam lines: IDS, VITO
- Financial situation of the collaboration
- Collaboration Matters:
  - Norwegian Contract
- Letter of Intend to host AGATA@HIE-ISOLDE
  - Period of 2017-2018 assigned to GANIL, prolongation of the present stay of AGATA.

Fellows, Associates & Students

- Associates (March)
  - Claes Fahlander July – Dec 2014 + 1 month
  - ➢ New Applications: Palle Gunnlaugsson, Costel Petrarche,…
- Corresponding Associates (March)
  - Amandina Lima Lopes July-Cctober 2014
  - ➢ New Applications: Janne Pakarinen July-Dec 2015

- Fellows: (~3th of March 2015)
  - ✓ Susanne Kreim, Dec 2014 (ground state properties)
  - ✓ Elisa Rapisarda, Dec 2014 (Nuclear structure) + 5 months
  - ✓ Monika Stachura, April 2013- March 2015 (Applied Sciences)
  - ✓ Miguel Madurga (June 2014 – May 2016) (Nuclear structure)
  - ✓ Stephan Ettenbauer (June 2014 – Jan 2017, COLLAPS, Polarisastion beams)
  - ✓ Akira Miyazaki (June 2014- May 2016, SC cavities)
  - ✓ Kara Lynch (Jan 2015 – Dec 2017)

  Good Candidates are requested to apply in March 2015

- Doctoral student: **Next deadline.**
  - ✓ Doctoral Student CERN for IDS: Razvan Lica
  - ✓ Doctoral Program with Greece for life sciences (50% GR, 50% CERN):
    - Stavroula Pallada (March 2014 - Feb 2017)
  - ✓ Doctoral Program with Germany
    - Laura Grob Jun2014 –

- User support: Jennifer Wetterings (50% Col + 50% PH) → Contract finishes April 2015

Courses / Workshops

Courses

- Separator courses in April-May 2015

Workshop

- ISOLDE Workshop 15 – 17 December 2014

One session Wednesday 17th in the morning dedicated to celebrate the 50 years anniversary of ISOLDE approval.

Posters prize

- SASc-ISOLDE Spring Workshop on GEANT4 (SWG 2015),

will be held on April 26 - May 1, 2015 in Casta-Papiernicka in Slovakia.
Institute of Physics, Slovak Academy of Sciences and ISOLDE collaboration

ENSAR / ENSAR 2

- ENSAR stand for European Nuclear Structure and Application Research
  - Started 1st Sep 2010 ends in 31st Dec 2014
  - The TNA money used this year for young newcomers : 237 days distributed this year.

- ENSAR 2 Application submitted 2nd of September. News expected for the end of January 2015
  - Mushin Harakeh coordinator
  - 10 Meuros

  - **10 TNAs**
  - **7 JRAs**
  - **8 NAs**

GANIL (France)
- **GSI (Germany)**
- **LNL / LNS (Italy)**
- **JYFL (Finland)**
- **ISOLDE – CERN (Switzerland)**

712.000 Euros (10 M)/ 543.380 (8M) Euros

- **ALTO – CNRS (France)**
- **KVI (The Netherlands)**

NEW
- **SLCJ-HIL / IFJ PAN (Poland)**
- **ELI-NP / IFIN-HH (Romania)**
- **ECT* (Italy)**

EC financial contribution request: 10 M€

- **Transnational Access Activities: 47.5%**
- **Joint Research Activities: 37.2%**
- **Networking Activities: 15.3%**

JRA / NA

- All **Integrating Activity (IA)** should be for the benefit of the **Research Infrastructures (RIs)** within the IA. The **Trans National Access Activities (TNAs)** are to serve the community by offering access to the advanced unique RIs of an IA.

NAs @ ENSAR^2 : 15.3 %

FISCO: Management NA
NUSPRA: Network of facilities to propose common DAQ, electronics..
MEDINET: nuclear applications (medical applications, *e.g.*, hadrontherapy?)
ENSAF: small scale facilities
NUSPIN: Nuclear spectroscopy Instr
GDS: Active targets +TPC
MIDAS: ECR ion sources
NuPIA: Nuclear Physics Innovation

The JRAs @ ENSAR^2 : 37.2 %

TheoS(Nuclear Structure & Reactions)
PSeGe: AGATA detector + applications
TecHIBA: stable ion beams + medical isotopes (CERN)
EURISOL facility (all stages) (CERN)
RESIST: resonant ionisation techniques for separators (CERN)
PASPAG: particle and gamma detection
SiNuRSE2: simulations

~ 11% for CERN

EURISOL MoU / EURISOL DF

- Steps towards EURISOL:
  - 5th framework: EURISOL Research and Technical Development Study.
    - ✓ Conceptual Design Report (2004)
  - 6th framework: EURISOL Design Study
    - ✓ Reference Design report & preliminary Cost Estimate (2009)
- Supported by Long Range Plan 2010, A MoU was created to launch a collaborative effort to continue the development of EURISOL R&D and Cost
- Parties: CERN, GANIL(2011), COPIN (Poland) (2012), BEC (belgium) 12/7/2014, INFN(2014). Valid 3 years → July 2017.
- Steering Committee: Borge, M. Lewitowitz (project leader), A. Maj, L. Popescu, Sara Pirrone and A. Bracco (Nuppec Chair, ex-officio member)
- Fee 3000 euros/ y

Propose in Lisbon Oct2012
Discussed in York July 2014

- EURISOL DF:
- Enter in ESFRI list (3 countries) and obtain funds.
  - Plan for call 2018
- To be define:
  - Members: GANIL, ISOLDE, SPES (+ISOL@MYRRHA)
  - Small scale ISOL facilities: ALTO, Jyvaskyla
- Legal structure, coordination, responsibilities…
- CERN?

ISOLDE Towards EURISOL-DF

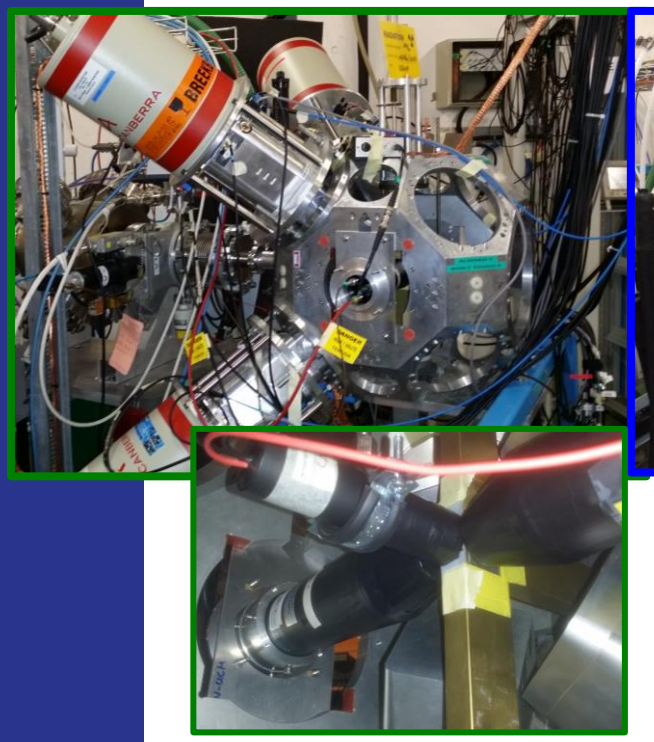
- Concentrate in the Intensity, purity and emittance of the radioactive beams .
  Target + ION SOURCE
  - EBIS+REBUNCHER
  - HRS new design
    - ✓ Design of new beam dumps to face the increase in energy
  - Cost estimated in 10 MCHF
- Implementation of the TSR (?) as part of the Instrumentation
  - Study done
  - Cost estimated 15 MCHF

- Steps taken:
  - 1. Preliminary discussion with DG-EU : Svetlomir Stavrev 17 oct 2014
    - ✓ Contact the Swiss representative to get their support.
    - ✓ Prepare a 1 page description of the project for swiss.
    - ✓ To be approved by Council.
  - Consult the CERN legal service, DG-LS: Eva Maria Groniger-Voss
  - Scientific Deputy Director: Sergio Bertolucci 6 Nov 2014
    - ✓ Most probably CERN cannot be member of ERIC

News on the Beam Lines

IDS operative and working

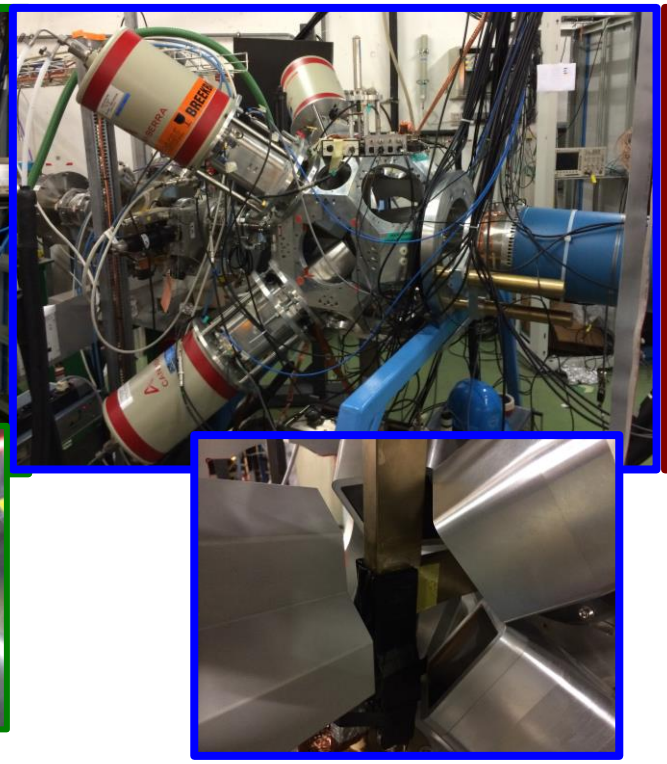
Life Time Measurements



- Implantation on Tape
- 4 Ge Clovers at Backward angles
- 2 LaBr3
- 1 plastic scintillator
- IS579,590, No Mn
- Data on ^{129}In

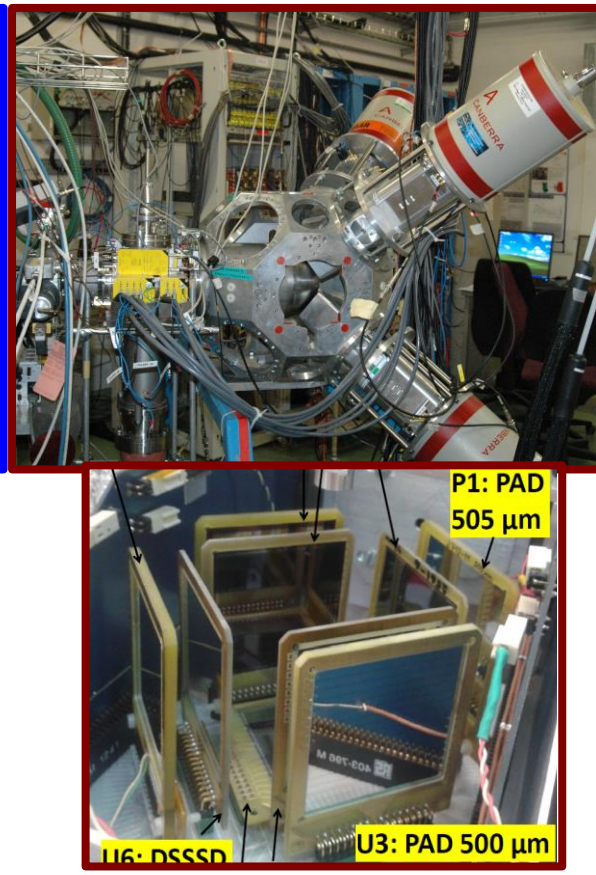
Courtesy E. Rapisarda

High efficiency Gamma Spectroscopy



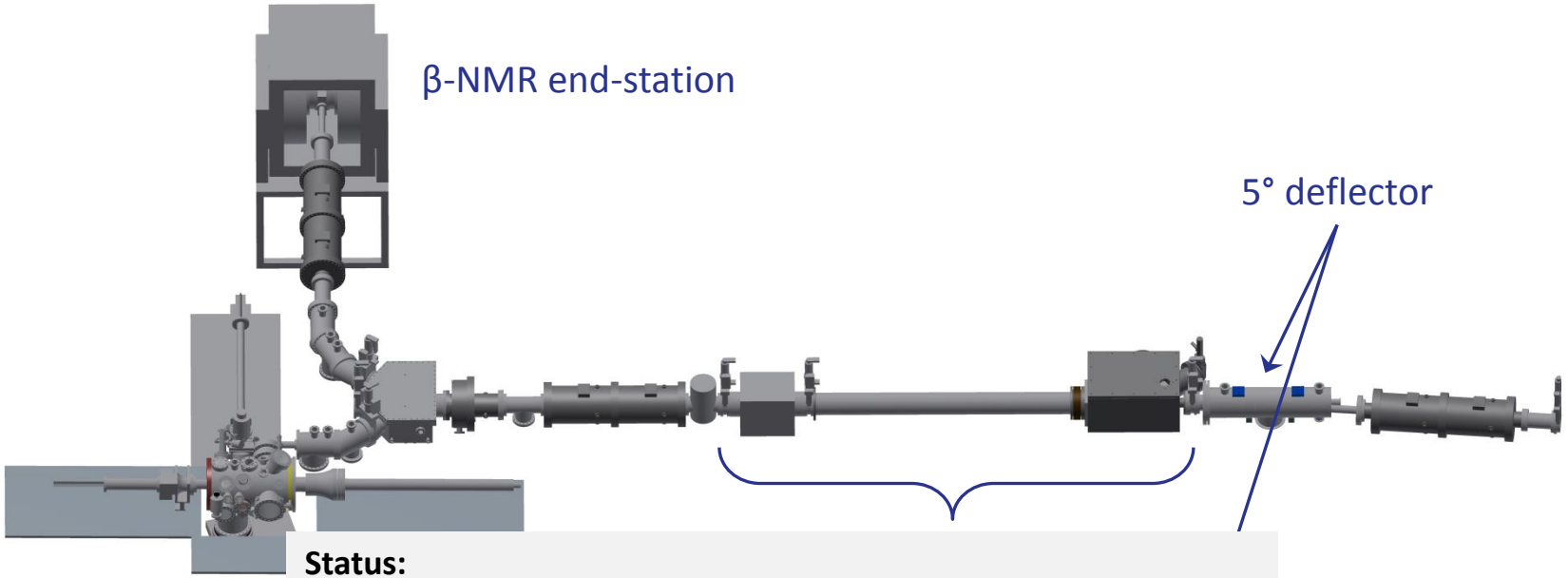
- Implantation on Tape
- 4 Ge Clovers at Backward angles
- 1Miniball Detector (triple cluster)
- 3 plastic scintillators
- IS588 ^{207,208}Hg

Charged Particle Spectroscopy



- Implantation on C foil
- 4 Ge Clovers at Forward angles
- Si box
- IS476^{+} ^{31}Ar

VITO Beam Line On going

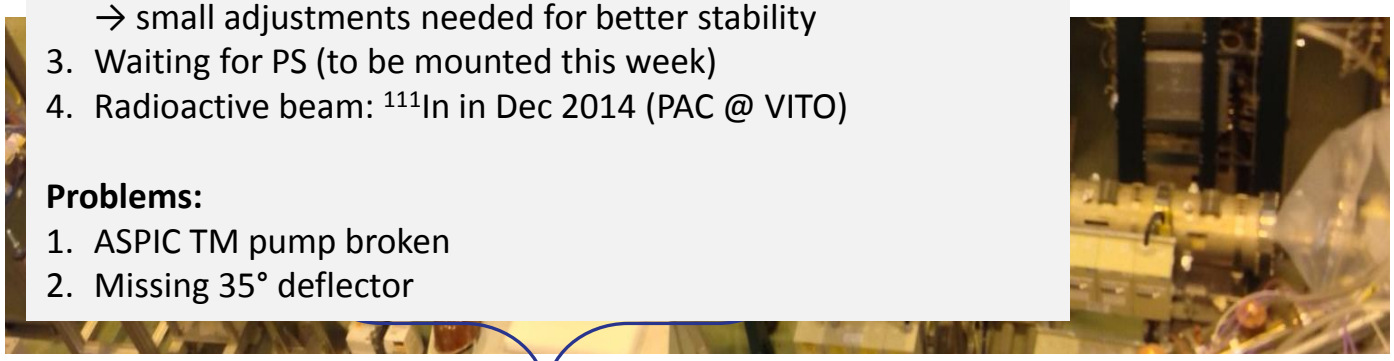


Status:

1. Beamline pumped down and checked for leaks
2. Switchyard mounted last Friday
   → small adjustments needed for better stability
3. Waiting for PS (to be mounted this week)
4. Radioactive beam: ^{111}In in Dec 2014 (PAC @ VITO)

Problems:

1. ASPIC TM pump broken
2. Missing 35° deflector



spacer for the polarizer

NICOLE Status

- Set the fridge at the beam line roughly.
- Reassemble the main unit of the fridge.
- Vacuum test at the LN2 temperature.



- Next step:

  He transfer test with the new supports (now drawing) and test the fridge at He temperature.

  Connect the fridge to the beam line (fine alignment)

Collaboration Matters

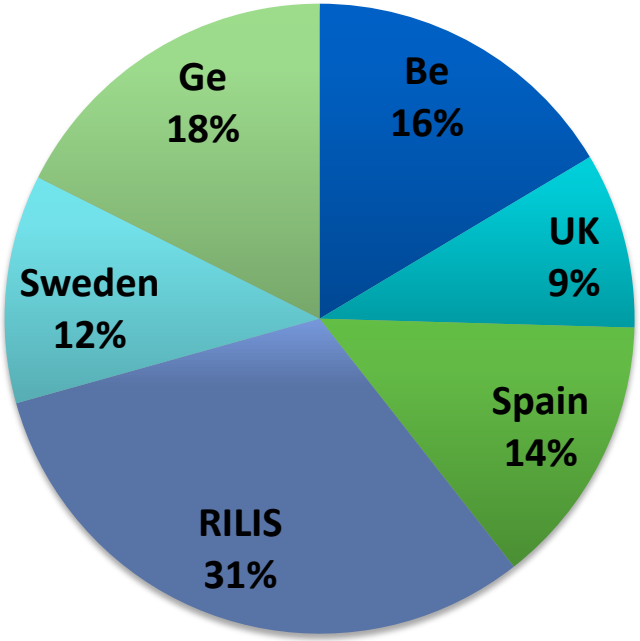
Income of the collaboration

Country	Amount per year (CHF)	2013 contribution Received	2014 contribution Received
Belgium	60.000	✔	
CERN	60.000	✔	
Denmark	60.000		
Finland	60.000		
France	60.000		
Germany			
Greece			
India			
			✔
			✔
Ro		✔	On the way
Spain		On the way	
Sweden	.000	✔	✔
United King	60.000	✔	✔

Bulgaria has agreed with the ISOLDE-MoU & Sergio Bertolucci has signed the 21st of March 2014, pending the Bulgaria side.
Poland is in the process to apply.
South Africa is in the process to apply.
Algeria is interested in joining.
Problems with India contribution

Expenditure Collaboration

- Contribution 2013 and 2014 to HIE-ISOLDE already transferred.



Subsistance 2014

- Minimum Expenditure foreseen for 2014 250.00 – 300.000
  (presently: 216.459 CHF)

- Balance 1st November 2014 466. 773 CHF
- Contribution 2012 96,2 % received
- Contributions 2013 80 % received
- Contributions 2014 59 % received