

Minutes of the DESIR Collaboration Committee meeting held in Paris on 28/03/07

Present: M. Lewitowicz, J.C. Thomas, D. Lunney, M.J.G. Borge, G. Neyens, O. Naviliat-Cuncic, P. Thirolf, F. Le Blanc, B. Blank

Marek Lewitowicz's presentation:

- strategy viz safety authorisations for construction + operation : SPIRAL2 is divided in two parts: LINAC and stable beam exp. area + production building and DESIR
- construction of the LINAG building to start in 2009
- first stable beam delivery planned end 2011
- first RIB delivery planned end 2012
- one high- and one medium-intensity production cave
- n-tof exp. area included in SP2 budget
- call for proposals end of 2007 with deadline in 2008
- MOU for new apparatus in 2008/9
- SPIRAL2 week: 26-30 November 2007
- Discussion where to locate cooler and HRS:
 - result of discussion: it makes sense only to have the cooler and the HRS in the production building due to high risk of contamination, cost of a new yellow area, accessibility of DESIR hall etc.
- Study of SPIRAL2 buildings starts soon, DESIR hall included (for study only)

Additional information (from B. Blank):

- study the possibility to use stable heavy-ion beams in the LINAG exp. area to do fusion-evaporation reactions
- test bench for a fusion-evaporation station in development at CENBG, to be installed later on at Orsay or at Bucharest

Bertram Blank's presentation:

- 2 options for the DESIR building: basement + 750 m² or 1500 m²
- precise price estimates of the crane + basement needed

Peter Thirolf's presentation (With the suspension of the MAFF project, P. Thirolf and their group at LMU are interested in relocating their high-precision apparatus for laser and mass spectroscopy to DESIR.):

- MLLtrap aims at 10⁻¹⁰ measurement uncertainty (A=100, T1/2~100 ms) using highly-charged radioactive nuclides
- Cooler performance achieved: 16% which includes stopping and transmission
- Mass selection with multireflexion TOF (work by Giessen group): resolving power of up to 10⁵
- Penning trap (7T) basically identical to JYFLtrap and SHIPtrap (~50 % efficiency)
- Field precision: 0.3ppm (shimmed to provide two high precision regions)
- EBIS for charge-breeding most likely commercially acquired (Dresden)
- Sympathetic cooling with laser-cooled ²⁴Mg plasma
- Construction + commissioning finished in 3-4 years (Garching)
- 1-2 years use in MLL
- Could come to DESIR in 2013

- MOU and local technical support needed
- Total investment (excluding manpower): 700-800 kEuros

François Le Blanc's presentation:

- at ALTO: collinear laser setup, β -decay setup, static moment measurements at low temperature
- strong contribution from Mainz
- all components available in 2009
- commissioning in 2009 (n-rich Cu)
- first laser spectroscopy experiments ($I > 10^5$ pps): $^{75-79}\text{Ge}$, $^{111-118}\text{Ag}$, $^{A>132}\text{Sn}$
- basically everything can be moved from ALTO to LUMIERE@DESIR
- new investment needed at LUMIERE: β -NMR, Paul trap, infrastructure

Jean-Charles Thomas' presentation:

- report about neutron-detection meeting held at LPC-Caen the 27/02/07
- see minutes by N. Orr :
http://fachp1.ciemat.es/ndespec/events/workshop_caen_27_2_07/workshop.html

Dave Lunney's presentation:

- prototype cooler for HRS/DESIR at SPIRAL2: SHIRAC (SPIRAL2 High-Intensity RF Cooler)
- aim: $1 \mu\text{A} \sim 10^{12}$ pps (usually: 1 nA!!) using high electric fields (10 kVpp) at high frequency (30 MHz) and high pressure buffer gas pressure (1 mbar)
- prototype mounted at high-current mass separator SIDONIE in Orsay (CSNSM)
- injection and collection steps tested, buffer gas filling to be tested in July
- RF system needs upgrade (currently at 10 MHz, 2 kV)
- Collaboration with LPC Caen (G. Ban and F. Duval – thesis project)
- SHIRAC will move to LPC in late autumn
- Construction of HRS/DESIR cooler with financing from CPER (see below)
- Concerns about the gas handling in SP2 production building (flow rate = 1 mbar l / s)

Financing:

- for French scientists: coordinated funding request for DESIR in future via DESIR spokesperson AND lab director
- CPER Basse Normandie:
 - DESIR hall: 2 MEuros
 - Cooler: 320 kEuros

In 2009 additional budget might be expected via negotiations (2010?)
- FP7: Submission dead-line 02/05/07; financing to start in Nov 2007
 SPIRAL2 applies for 5MEuros for preparation of construction
 4 types of activity: coordination, support, R&D, management
 Max. 50% for technical work
 About 150-200 kEuros can be expected for DESIR
 From 2009 on 1MEuros might be expected via negotiations
 Aim: sign an agreement about construction at the end of the contract (i.e. 2009)
- FP7 for DESIR:
 - post-doc to calculate beam line and HRS optics
 - Workshop to prepare proposal
 - 2 meetings per year for DESIR Collaboration Committee (DSS)
- European Research Council:
 - There are “young scientist“ grants (up to 2 MEuros for 5 years)

and “senior scientist” grants (up to 2.5MEuros for 5 years)
Everybody should think where we can use this.....

- ANR: 2006: J.C. Thomas succeeded with VS3 (total amount: 430 kEuros)
We should think of an ANR for 2008, therefore action needed in late 2007
- IN2P3: an amount of 100-200 kEuros per year over 4-5 years may be possible
- Possible contributions from other countries:
 - Spain: synergy with FAIR/DESPEC financing seems to be possible
Contribution via R&D and construction of equipment (MoUs)
 - Belgium: financing via university, national and Flemish sources
Possibility to request funding in 2008
 - Germany: after agreement between France and Germany
However, there is no problem for moving the MLLtrap to
GANIL
- S. Gales requests a document which details the realistic investment of European partners in the DESIR facility. Needed to justify investment for DESIR hall which has to be paid by French funding sources (6MEuros)

Other business:

- the laser ionization source for SP2 is not part of DESIR
- M. Lewitowicz and K. Riisager prepare a report on the cooperation strategy between SPIRAL2 and ISOLDE

Next meeting:

During SPIRAL2 week November 26-30, 2007 (at GANIL?)