

## **n\_TOF Collaboration Board Meeting**

Bologna, Friday, November 29, 2013

### **Opening**

The meeting is opened at 09:10 by EC. Minutes are taken by AT.

Material is available on INDICO at: <https://indico.cern.ch/conferenceDisplay.py?confId=275569>

### **Approval of minutes and welcome to newcomers (E. Chiaveri)**

The minutes of the meeting in Manchester are approved by the Collaboration.

EC begins presenting the negotiations with new entries to the collaboration. The group of Hideo Harada (Japan) is now part of n\_TOF, after a long negotiation. The group will contribute with samples, and possibly with the development of new detectors. Two scientists will be joining.

A negotiation has begun with the IPPE Obninsk institute. The relative documents have been sent to the administration in Obninsk and the negotiations are ongoing. The group's competence will be an important addition to n\_TOF, especially with respect to contributions in samples. A "wish-list" of samples should be sent before the end of the year and will form the basis of the negotiation for the entrance to n\_TOF.

The University of Edinburgh may be joining n\_TOF. The contribution could be to provide a detector setup to cover the entrance fees in kind.

A document stating the change of affiliation of Thomas Rauscher to the University of Oxfordshire is being prepared, so that the university can begin to cover the corresponding M&O fees.

Toni Wallner is presently in Canberra and EC proposes to accept him in n\_TOF, waiting for the completion of the administrative procedure from Canberra that formalises his move. No particular entrance fees should be asked. A PhD student could be involved coming from the nuclear astrophysics group established by him.

DS mentions there is an addition of a post-doc radio-chemist in their group.

### **INFN-LNS, a new group in n\_TOF (P. Finocchiaro)**

PF presents the INFN group of Catania and the available facilities at the INFN-LNS. The physics background of the group are outlined, with activities in various fields. Several examples of experiments performed are shown, along with other activities, especially concerning nuclear waste. The new SiMon monitor for n\_TOF is being designed and constructed at LNS, including a preliminary design of the corresponding chamber discussed yesterday. The group is particularly interested in the study of the  ${}^7\text{Li}$  problem at n\_TOF.

### **Structure of the n\_TOF Team@CERN (E. Chiaveri)**

EC outlines the structure of the local n\_TOF team at CERN. Members of the team and corresponding tasks are presented in a detailed table (see slides). Additionally, EC mentions that MB and FM will be staying at CERN for 2014 and be involved in the commissioning activities.

### **Finance and M&O budget (N. Colonna)**

NC presents the status of the collaboration finances. All 2012 M&O fees have been paid. About 2/3 of the 2013 invoices for M&O have been paid, the rest should be coming in the next few months. The Spanish contribution should arrive at the beginning of next year. The ENEA contribution is on hold due to administrative issues, but this is being addressed. The total expected income is 267kCHF, of which 142kCHF have been collected. Additional contributions have been made by CERN, INFN, Charles University and Goethe University.

The current budget is 849kCHF with an expected 2013 balance of 966kCHF. However, part of this is already committed: 370kCHF to the 50% CERN staff, 36kCHF for Ge samples and 70kCHF to CIEMAT for sample procurement, totalling more than half the present budget. Expenses for 2012 include contributions for the Spokesperson, support of other personnel, detectors, electronics etc. for a total of 201kCHF.

For 2014, NC projects that 150kCHF would be available for expenditure. Assuming 50kCHF for materials, this would leave funds corresponding to around 25 man-months at CERN. He encourages scheduling the presence of students at CERN in the second half of 2014.

Following a remark by LTG, NC remarks that the funding for the new DAQ will be coming from the CHANDA project; this is why this expenditure does not appear in the collaboration budget.

### **Status of publications (F. Kaeppler)**

FK presents a list of peer-reviewed papers and conference proceedings published/submitted in 2013. Some upcoming publications are mentioned with expected dates. He particularly highlights that 20 contributions were made to ND2013. FK nominates CL as "n\_TOF Author Of The Year" due to her outstanding publication record and the awards received for her work, part of which, it is remarked, have been offered as contribution to obtain the Ge samples.

It is further pointed out that the authors' list should continue to be constantly updated. However, possible mistakes should be pointed out to the Editorial Board on a case-by-case basis.

### **Actinide samples from Munich (F. Kaeppler)**

FK reminds the collaboration about the negotiations that have been taking place to obtain actinide material from Munich. Communication has been difficult and slow. There was a meeting with the contact person in Munich in June 2013. A list of the available material is presented. It was not clear what the form of the material is (e.g. metal, etc.) There was an agreement to receive the samples by paying

the handling charges (~2000-3000 euro). Shipment and final disposal would be responsibility of n\_TOF. PSI has offered to finally receive the material. Additionally,  $^{248}\text{Cm}$  could be available. The samples should be ready to ship by the end of the year, but there are likely to be delays. 16 samples have been already documented. Still, we are optimistic about the successful conclusion of this transaction.

DS points out that PSI needs an official confirmation from CERN that n\_TOF will be responsible to cover the costs of final disposal. Authorisation by the Swiss authorities may be necessary for some samples. There is an additional limitation on the total activity inventory that the hot lab at PSI is allowed to handle, especially concerning Pu isotopes.

LTG remarks that IPNO intends to buy the Pa material within the CACAO framework, pending the authorisation to do so.

NC proposes that sample offers coming from different sources (Munich, Japan etc.) should be collected and reviewed by the collaboration in the next few months.

#### **Status and Plans for n\_TOF data dissemination (C. Lederer on behalf of R. Reifarh)**

CL presents a list of published n\_TOF work that is also already on EXFOR, and the publications that have not yet been submitted to EXFOR. Rene Reifarh will be in charge of coordinating and collecting the data from the collaboration members.

CG remarks that data in EXFOR is not always in the correct form, because it is often scanned from figures etc. This means that a more detailed work needs to be done to collect the missing information and submit the actual data and other relevant information. A template should be prepared so that people could easily provide the required information.

#### **Summary of Facility and Proposals (E. Chiaveri)**

EC summarises the status of the proposals and letters of intent that have been proposed. Remarks are made on each proposal.

<b>Type</b>	<b>Spokesperson(s)</b>	<b>Title</b>	<b>INTC in Feb. 2014</b>
Proposal EAR1	F. Gunsing	(Re)Commissioning of the n_TOF EAR-1 beam line	Yes
Proposal EAR1	C. Guerrero, C. Domingo	Neutron capture at the s-process branching points $^{171}\text{Tm}$ and $^{204}\text{Tl}$	Yes
Proposal EAR2	C. Lederer, P. Woods	Destruction of the cosmic $\gamma$ -ray emitter $^{26}\text{Al}$ by neutron induced reactions	Yes
Proposal EAR2	G. Smith, T. Wright	Characterizing fission on $^{235}\text{U}$ with STEFF	Yes
Proposal EAR2	R. Dressler	Measurement of the neutron capture cross-sections of $^{53}\text{Mn}$ at EAR2	Yes
Lol EAR2	C. Domingo, C. Guerrero	Neutron capture at the s-process branching point $^{79}\text{Se}$	Yes

LoI EAR1/2	J. Praena	Test and development of a (n,p) detector aiming at measuring $^{14}\text{N}$ and $^{35}\text{Cl}$ , of interest for BNCT	Yes
LoI EAR2	E. Mendoza, D. Cano	Feasibility test for fission tagging neutron capture experiments at EAR-2	No
LoI EAR2	D. Jenkins	Test and development of a (n,a) detector aiming at measuring the Helium production in tungsten, of interest for fusion reactors	Yes
LoI EAR2	V. Khryachkov	The (n, a) reaction cross section measurement for light isotopes	Yes

NC suggests that no proposals for capture measurements in EAR-2 should be submitted because the background is still unknown. At the very least, it should be clearly stated in proposals that this issue is pending.

An additional comment is made with regard to the timing of the proposals to INTC. EC explains that it would be appropriate to give an indication of measurement priority to the INTC, considering that the present proposals correspond to well over a year of operation. NC suggests that that it should be up to the collaboration to decide this planning and the Spokesperson should present it to INTC.

CL remarks that the Ni campaign, begun in Phase II, has not yet been completed, but EB adds that all Ni samples available at CERN have been measured. It will be checked whether there is interest and the samples for other isotopes.

#### **Closing remarks and next meeting (E. Chiaveri)**

EC remarks that a technical meeting should take place in March to finalise various facility parameters. Final feedback from simulations, under the responsibility of VV, will be a key element for the decisions to be taken. A date will be proposed by EC in January.

The next collaboration meeting will take place in May at CERN, when EAR-2 construction will be completed. Proposals should also be discussed again at this meeting.

EC closes the meeting at 11:45. He thanks Sylvie Leray for the overview talk given the day before. He once again thanks the local organizers, in particular Christian Massimi and Federica Mingrone and the rest of the local team for the excellent organisation of the meeting.