

TNA04:TRANSNATIONAL ACCESS TO JYU-J YFL PR1 (01/09/2010 – 29/02/2012)

Description of the publicity concerning the new opportunities for access

The measures taken to publicise the opportunities for access are:

a dedicated **web site**:

<https://www.jyu.fi/accelerator/ensar.html>

In web site it is described:

Who can apply

How to apply

Call for Proposals

Financial Support

Structure and Services of the research infrastructure

Advertisement of calls for proposals (15 March and 15 September) and new developments at JYU-JYFL are published in **JYFL Accelerator News** biannually, which is posted to nuclear physicists all over the world and published at <http://www.jyu.fi/accelerator/anews>.

Description of the selection procedure

Access is based on approved proposals for the experiments (= projects) to be carried out at the JYU-JYFL Accelerator Laboratory by the user groups. They are evaluated by the Program Advisory Committee (PAC) (= the Users Selection Panel), which meets in Jyväskylä around 2 weeks after the deadline for submitting proposals (March 15 and September 15).

Before the PAC meeting, every proposal is looked at in great detail by one PAC member, if possible by someone with particular experience in the relevant research topic. During the PAC meeting, each proposal is discussed in detail. The criteria used in judging a proposal are: the importance of the physics topic, the feasibility and the suitability for the JYFL facility. The PAC can propose to reduce the amount of beam time from that requested. After the discussion of all proposals, they are ranked according to the average mark they received. Since there are 2 calls for proposals per year, it makes no sense to award more than about 6 months worth of experiments during each PAC meeting. Going from the highest to lowest ranked proposals, the beam time is added until a total time of 120 to 150 days is reached, thus setting a cut-off mark. The PAC then recommends to approve the proposals with a mark higher than this cut-off value. All spokespersons of the proposals are notified of the result of the PAC discussion and of how much beam time (if any) was awarded.

The decision to award financial support under the ENSAR-TNA contract is taken by the board of the Accelerator Laboratory. During the PAC selection process, no priority is given to new and young users of the facility. However, this criterion is taken into account in awarding the financial support.

Please find in **Annex 1 (Database)** the list of the Selection Panel members for the reporting period.

No changes in the Composition of the Users Selection Panel during the reporting period.

Three selection meetings: on 16th October 2010, 15th April 2011 and 14th October 2011. A total of 42 proposals (projects) were approved as eligible for ENSAR support. A total of 22 out of those were selected for execution within the 1st ENSAR reporting period (1st of September 2010 – 29th of February 2012).

Transnational Access activity

In total, 22 projects have been supported and executed during the reporting period. All of the projects belong to the field of nuclear structure physics and are based on experiments performed at the JYU-JYFL Accelerator Laboratory by employing beams from the JYFL cyclotron and available instrumentation. The ENSAR supported experiments were performed by the visiting users in collaboration with the local expert research groups and technical staff.

During the first reporting period, a total of 1193 beam-time hours (share of the supported access) were delivered, 126 users (travel+sub. reimbursed) have visited the facility and spent 1509 person-days at JYFL.

Please find in **Annex 2 (Database) the list of user-projects** for which costs has been incurred in the reporting period.

Please find in **Annex 3 (Database) the list of users** in the reporting period.

The supported projects are:

1. A66 17.12.2010 – 09.02.2011, 1.02.2011 – 2.03.2011
Validation of calculations of in-target yields for SPIRAL2
2. A69 2.-3.05.11 and 19.09.-23.09.11
Development and implementation of the TOF-CLTD method for high-precision energy loss measurements
3. A72 28.-31.03.2011
Proton and deuteron irradiations for SPIRAL 2 radioprotection benchmark
4. A75 30.01.- 02.02.2012
Energy-Loss Straggling of Swift Heavy Ions in Matter
5. J11 13.-18.10.2010
Lifetimes of the low-lying non-yrast states in ⁸⁶Kr
6. J15 21.-28.2.2011
Prompt gamma-ray spectroscopy of neutron-rich nuclei in the mass 115-130 and mass 80 regions
7. J16 11.-18.4.2011
Exploration of the α -208Pb structure of ²¹²Po
8. JR100 1.-8.11.2010

Lifetime measurements of excited states in ^{163}W and ^{164}W

9. J102 18.-24.10.2010
Inverse Kinematics Coulex-Plunger Measurements in ^{130}Xe
10. JR104 1.8.-8.8.2011
Proof-of-principle of double-beta-tagging
11. JR106 4.-7.7.2011
Neutron single-particle orbitals and resultant shapes in neutron-deficient $A = 173$ nuclei
12. JR108 10.-24.10.2011
In-beam spectroscopy of $N=Z+3$ ^{111}Xe
13. JR111 1.9.2011-19.9.2011 and 26.09.2011-03.10.2011
In-beam gamma-ray spectroscopy of heavy elements: ^{256}Rf
14. JR85 6.-13.9.2010
Probing single-particle levels in very neutron-deficient isotope ^{183}Pb
15. JR90 22.11.-6.12.2010
Measurement of $B(E2)$ values for the first excited $2+$ and $4+$ states in $^{108,110,112}\text{Te}$
16. JR92 : 7.-12.2010
Investigation of $X(5)$ Critical-Point Nuclear Symmetry in ^{138}Gd using Recoil-Distance Plunger Measurements
17. NRO108 19.-21.8.2011
Investigation of heavy neutron-rich nuclei in the region of neutron closed shell $N=126$
18. R44 14.03-27.03.2011
Decay spectroscopy of ^{164}Ir and the structure of ^{160}Re
19. S06 19.-23.1.2012
Exploring nuclear shapes in the transitional region of $N\sim 90$: Coulomb excitation of $^{152,154}\text{Sm}$ to study $E0$ transitions with SAGE
20. S07 2.-9.2.2012
Probing the $E0$ transitions in ^{188}Pb using the SAGE spectrometer
21. S09 18.4.-2.5. ja 12.5. - 23.5.2011
Complete spectroscopy of the transfermium nucleus ^{255}Lr
22. S11, 31.10.-7.11., 10.11.-14.11.
Commissioning of the SAGE spectrometer through in-beam investigation of ^{177}Pt

Scientific output of the users at the facilities

Obviously not many publications can be expected from such complex experiments within the first period (see Annex 4 of the Data Base).

Please find in Annex 5 the list of peer-reviewed publications based on experiments supported by the previous TNA (FP6-EURONS) at JYU-JYFL and **not yet reported to EC**. They are 57 in total.

User meetings

The first users meeting was held just in March 2012 and will be reported in the next Periodic report

Annexes

Annex 1 – Composition of the Users Selection Panel

Annex 2 – List of User-Projects

Annex 3 – List of Users

***Annex 4 – List of Publications** (from work carried out under the present ENSAR Transnational Access activity).*

***Annex 5 – List of Publications** (from work carried out under the EURONS Transnational Access activity of FP6).*

