



Report on TransNational Activities at ALTO

Description of the publicity concerning the new opportunities for access

A dedicated Users Guide on the ALTO Web-site exists to publicise the opportunities for access: <http://ipnwww.in2p3.fr/Guide-des-utilisateurs,84>

This renewed Website details the facilities available, the laboratory infrastructure and services, the selection process and a call for proposals.

In the ALTO page <http://ipnwww.in2p3.fr/Utilisateurs-ENSAR-TNA> the application for financial assistance for Transnational Access is described, i.e.:

- Financial support available
- Who can apply
- How to apply
- The application form

Description of the selection procedure

The selection of users by the PAC (Programme Advisory Committee) is made only on the scientific merit of the proposals submitted. The proposals are reviewed independently of their country of origin. Experiments are evaluated and awarded a number of 8-hour shifts of beam time, according to the number requested and the number deemed suitable by the PAC. Once the list of approved experiments has been determined by the PAC, two members of the PAC (the chairman and the scientific coordinator) together with the responsible of the TNA are asked to choose, from the approved experiments, those which are entitled to financial support through the TA activity.

During the reporting period, one PAC for nuclear physics was held at Orsay, on 23-24 January 2014. 25 Proposals were submitted of which 12 were eligible to financial support, but only 18 proposals were accepted of which 10 were eligible.

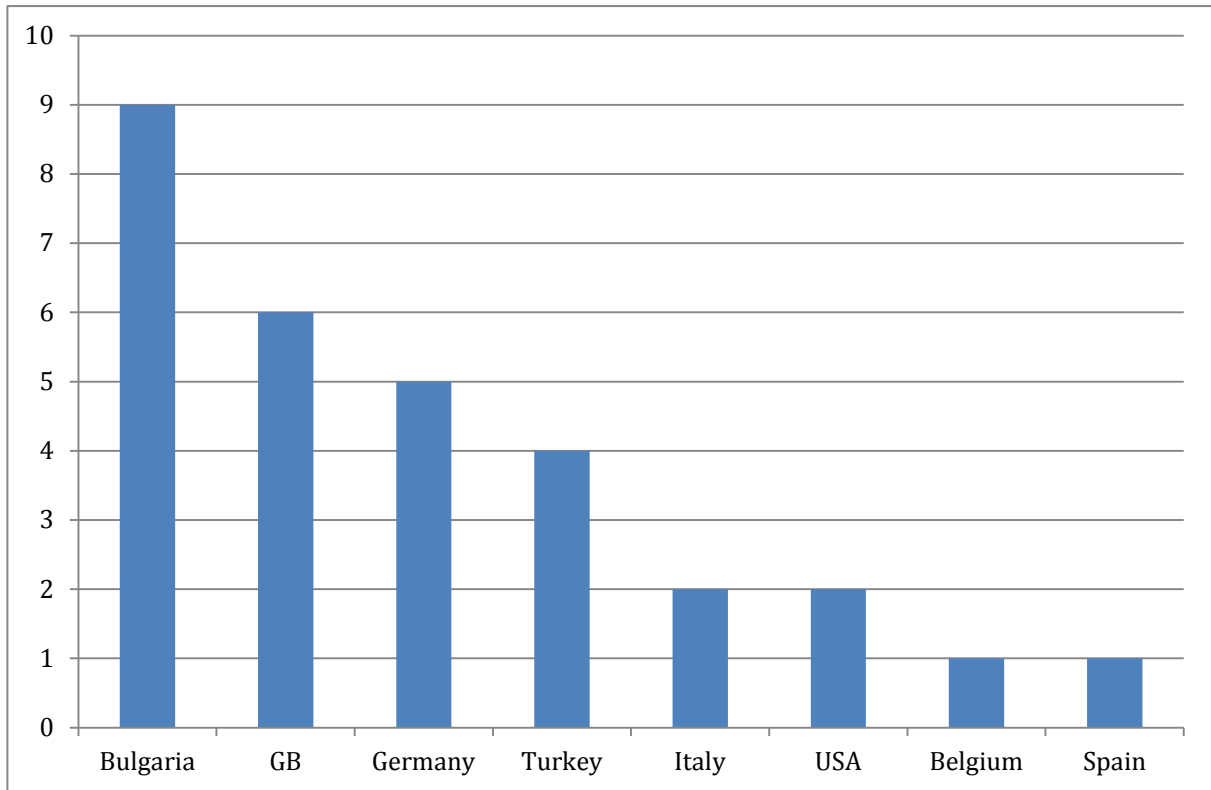
In Annex 1, the Selection Panel members for the reporting period as well as the number of eligible user-projects submitted to the panel during the reporting period and the number of the selected ones are listed.

Transnational Access activity

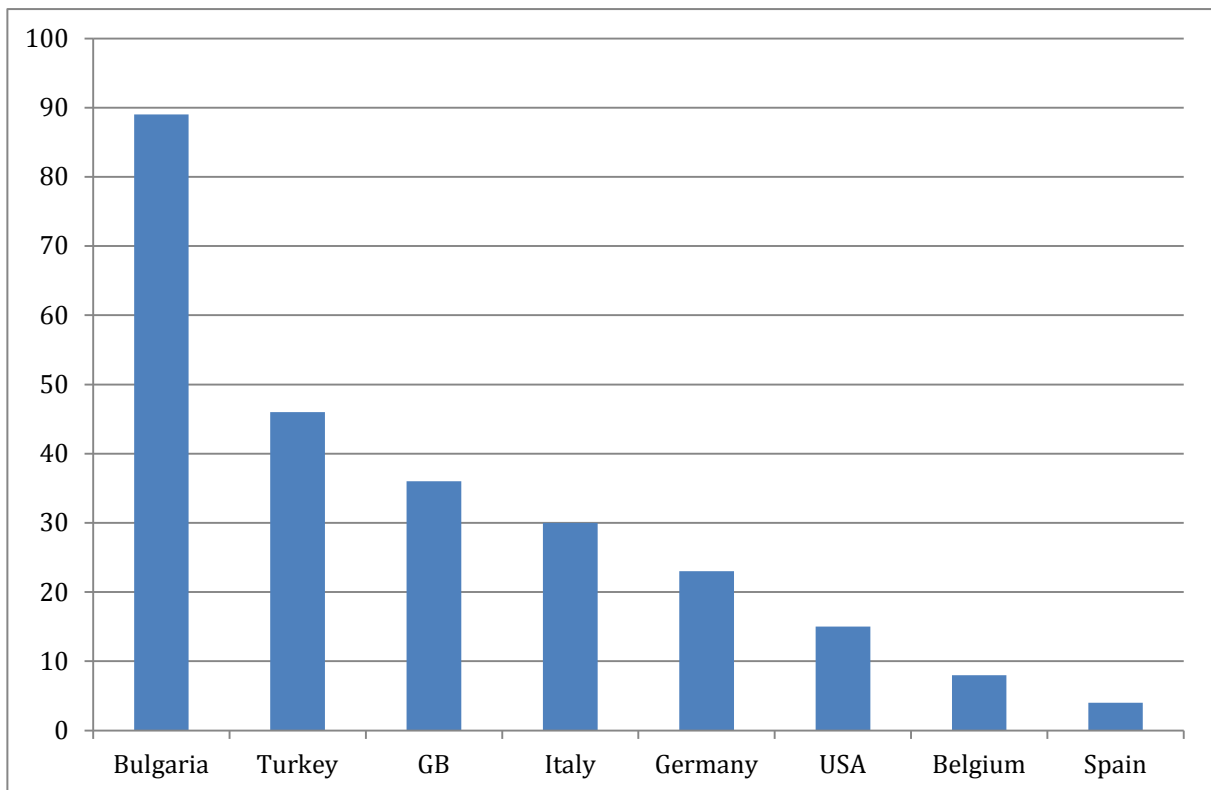
During the reporting period

- 4136 experimental hours were delivered in total
- 1080 experimental hours were offered under the proposal
- 31 users were supported by the TNA
- They spent 251 person-days at ALTO
- 52% were new users

The scientific areas of the experiments performed at ALTO are as follows: nuclear structure and spectroscopy of exotic nuclei; fusion, fission of heavy nuclei; nuclear astrophysics; and tests of fundamental interactions. Among others, the goals are to understand the structures of the nuclei, their shape and shell evolutions from stable to drip line nuclei, to measure the properties of nuclear matter and to evaluate the possible astrophysical implications.



Individual Users by Home Institution Country



Duration of stay by Home Institution country



Scientific output of the users at the facilities

8 publications have been published from the complex experiments performed at ALTO during the reporting period (see Annex 4 of the Database) and 4 have been submitted and accepted.

User meetings

The chairman of the User Group has been designated: Georgi Georgiev (CSNSM, Orsay, France)

An International workshop of the users – “Workshop ALTO”- was organised on May 14 and 15, 2013. <http://ipnweb.in2p3.fr/wsalto2013/>

The purpose of the Workshop was to review and discuss the research carried out at ALTO and the related activities carried out at similar facilities around the world.

The Colloque/workshop covered the range of topics addressed at ALTO

- Nuclear structure
- Reaction mechanism
- Nuclear astrophysics
- Interaction of ions with matter
- Interdisciplinary research

Annexes

Annex 1 – Composition of the Users Selection Panel

Chairman of the PAC:

Richard F. CASTEN – WNSL, Yale University, New Haven, USA: richard.casten@yale.edu

Tandem-ALTO Scientific coordinator:

David VERNEY – IPN Orsay - France: verney@ipno.in2p3.fr

Facility chief engineer:

Abdelhakim SAÏD - IPN Orsay - France: said@ipno.in2p3.fr

Member:

Emmanuel BALANZAT (CIMAP – Caen - France): balanzat@ganil.fr

Member:

Dimiter BALABANSKI (ELI-NP – Bucharest- Romania): dimiter.balabanski@eli-np.ro

Member:

Stéphane GREVY (CENBG - France): grevy@cenbg.in2p3.fr

Member:

Elias KHAN (IPN Orsay-France): khan@ipno.in2p3.fr

Member:

Berta RUBIO (IFIC - Valencia-Spain): Berta.Rubio@ific.uv.es

Member:

Patrick REGAN (University of Surrey-UK): p.regan@surrey.ac.uk

Member:

Peter REITER (Universität zu Köln-Germany): preiter@ikp.uni-koeln.de

Member:

Jean-Charles THOMAS (GANIL -France): thomasjc@ganil.fr

**Member:**

Aurora TUMINO (LNS-INFN-Catania-Italy): tumino@lns.infn.it

Member:

Christina TRAUTMANN (GSI- Germany): C.Trautmann@gsi.de

Annex 2 – List of User-Projects**I-SI-21:**

Pulse-shape analysis studies for Gaspard-Hyde-Trace

Spokesperson: Duenas (Huelva, Spain)

N-SI-48bg-factor measurements of short-lived states in the Mg isotopes towards the Island of Inversion: ^{26}Mg and ^{28}Mg .

Spokesperson: Kosuglu (Istanbul, Turkey)

N-SI-56Study of key resonances in ^{19}Ne relevant to the $^{18}\text{F}(p,\alpha)^{15}\text{O}$ reaction in novae. Spokesperson: Laird, (York, UK)**N-SI-62**

Nuclear moment and nuclear orientation from complete fusion and transfer reactions

Spokesperson: Marginean (Bucharest, Romania)

N-SI-63Time dependent recoil in vacuum for Na like ^{56}Fe ions

Spokesperson: Balabanski (Bucharest, Romania)

N-SI-64Investigation of shell effects in fusion-fission and quasifission processes in the reaction $^{16}\text{O}+^{204}\text{Pb}$, $^{34}\text{S}+^{186}\text{W}$

Spokesperson: Vardaci (Napoli, Italy)

N-SI-66

Single-particle structure in the second minimum. Search for high-K bands above fission isomers

Spokesperson: Balabanski (Bucharest, Romania)

N-SI-74Search for X(5) symmetry in ^{78}Sr nucleus

Spokesperson: Gladnishki (Sofia, Bulgaria)

N-SI-79Lifetime measurements in ^{113}Te : Determining Optimal effective charges approaching the $N=Z=50$ doubly-magic shell closure.

Spokesperson: Cullen (Manchester, UK)

Annex 3 – List of Users

UserProject_Acronym	Family_Name	First_Name	Country	Institution	Duration_of_stay
N-SI-48b	ATANASOVA	Lilya	BG	Medical University of Sofia	6
N-SI-48b	GOASDUFF	Alain	IT	University of Padova	7
N-SI-48b	KUSOGLU	Asli	TR	University of Istanbul	11
N-SI-56	BARTON	Charles	GB	University of York	3



N-SI-56	GARG	Ruchi	GB	University of York	7
N-SI-56	LONGLAND	Richard	OT	North Carolina State University	5
N-SI-56	PARIKH	Anuj	ES	University Politecnica de catalunya	4
N-SI-56	RILEY	Joscelin	GB	University of York	10
N-SI-56	TOMLINSON	Jessica	GB	University of York	7
N-SI-62	ATANASOVA	Liliya	BG	Faculty of Physics, University of Sofia	7
N-SI-62	BLAZHEV	Andrey	DE	Institute for Nuclear Physics	4
N-SI-62	DANCHEV	Miroslav	BG	University of Sofia Kliment Ohridski	7
N-SI-62	DETISTOV	Pavel	BG	INRNE	7
N-SI-62	GLADNISHKI	Kalin	BG	University of Sofia Kliment Ohridski	7
N-SI-62	KUSOGLU	Asli	TR	Istanbul university	14
N-SI-63	GLADNISHKI	Kalin	BG	University of Sofia	0
N-SI-63	KARAYONCHEV	Vasil	DE	Inst. for Nuclear Physics	6
N-SI-63	KUSOGLU	Asli	TR	Istanbul University	14
N-SI-63	WILMSEN	Dennis	DE	Institute for Nuclear Physics	6
N-SI-64	CHUBARYAN	Grigor	OT	Texas A&M University, Cyclotron Institute	10
N-SI-64	HANAPPE	Francis	BE	Univ. Libre Bruxelles	8
N-SI-64	VARDACI	Emanuele	IT	Universita Degli Di Napoli	16



N-SI-66	ATANASOVA	Lilya	BG	Medical University of Sofia	10
N-SI-66	DETISTOV	Pavel	BG	Institute for Nuclear Research and Nuclear Energy - BAS	20
N-SI-66	KOCHEVA	Diana	BG	University of Sofia	20
N-SI-66	KUSOGLU	Asli	TR	University of Istanbul	7
N-SI-66	REITER	Peter	DE	University of Cologne	3
N-SI-74	ATANASOVA	Lilya	BG	Medical University of Sofia	5
N-SI-74	BLAZHEV	Andrey	DE	University of Cologne	4
N-SI-74	GOASDUFF	Alain	IT	University of Padova	7
N-SI-79	CULLEN	David	GB	University of Manchester	4
N-SI-79	TAYLOR	Michael	GB	University of Manchester	5

Annex 4 – List of Publications (from work carried out under the Transnational Access activity):

- F. Hammache et al., Phys. Rev. C 88 (2013) 062802
- B. Hy et al., Nucl. Instrum. and Meth. B288 (2012) 34
- K. Kolos, Phys. Rev. C 88 (2013) 047301
- S. Benamara et al., Phys. Rev. C 89 (2014) 065805
- A. Etilé et al., submitted to Phys. Rev. C
- D. Testov et al., submitted to Nucl. Instrum. and Meth.
- M. Lebois et al., Nucl. Instrum. and Meth. A 735 (2014) 145
- B. Genoloni et al., Nucl. Instrum. and Meth. A 732 (2013) 87 **I-SI-21**
- J. Duenas et al., Nucl. Instrum. and Meth. A 743 (2014) 44 **I-SI-21**
- S. Go et al., submitted Phys. Rev. C
- A. Kusoglu et al., submitted to Phys. Rev. Lett. **N-SI-62**