



Physikalisch-Technische Bundesanstalt
Braunschweig and Berlin
National Metrology Institute

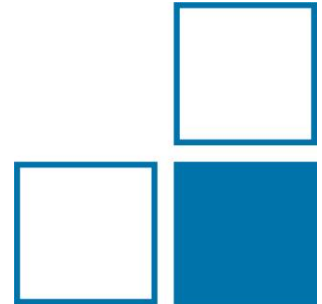
Accelerator and Research reactor Infrastructures for
Education and Learning

ARIEL



Status of the ARIEL TAA

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ARIEL transnational access programme

- Support for up to 3000 h of beamtime
 - 30 “typical” experiments:
100 h beamtime, 7 days, 4 researchers
- 24 partner facilities
- Only users from European institutions from countries other than the ARIEL TA facility
- Experiments should
 - include hands-on training for students and/or early stage researchers
 - lead to a peer-reviewed publication
- The activities are open also to senior scientists and to technical and professional staff



SUMMARY OF H2020-ARIEL FACILITIES AVAILABLE FOR TAA		ACCELERATORS															RESEARCH REACTORS							
		e ⁻ BEAMS		ION BEAMS																				
		nELBE@HZDR	GELINA@JRC	MONNET@JRC	n_TOF@CERN	AIFIRA@CNRS	ALTO@CNRS	GENESIS@CNRS	NFS@GANIL	CEA-DAM	FNG@ENEA	PTB	FNG@NPI	HISPANOS@CNA	NESSA@UU	U. Oslo	NPL	IFIN-HH	JYU	AMANDE@IRSN	BRR@MTA-EK	BR1@SCK-CEN	TRIGA@JGU	LR-0/LVR-15@CVR
Neutrons	Cold (<25 meV)																							
	Thermal ($\langle E_n \rangle = 25$ meV)																							
	Epithermal (25 meV – 100 keV)																							
	Fast (0.1-20 MeV)																							
	Very fast (>20 MeV)																							
	Pulsed beam																							
	Time-of-flight																							
Charged particles																								
Radioactive beam																								

Accelerator and Research reactor Infrastructures for Education and Learning



Status of the TA facilities

Facility	TA Contact	Status
AGOR	Jones	Cyclotron ready during most of 2022
AIFIRA	Aiche	
ALTO	Wilson	Fully operational
AMANDE	Babut	Tandatron operational
BNC	Belgya	BRR is operational, currently working on performing experimental backlogs. From Mon 7/3 all restrictions due to the pandemic are withdrawn.
CEA-DAM	Marmouget	
CVR	Kostal	LR-0 and LVR-15 are both in operation
FNG	Fiore	FNG fully operational without restrictions
GENESIS	Billeaud	Fully operational
HISPANoS	Fernandez	Fully operational, open for external users
IFIN-HH	Sava	9 MV Tandem operational
ILL	Köster	Long shutdown (14 months) started in October 2021. The next call for user proposals will be in 2022, approved experiments will be scheduled from January 2023 onwards.

Status of the TA facilities

Facility	TA Contact	Status
JGU Mainz	Geppert	
JRC	Plompen	Fully operational, external users allowed on site
JYFL	Penttilä	Cyclotron running. Mass separator has problem with the gas supply system
n_TOF	Vlachoudis	Operational. Physics run of 2022 starts in March.
nELBE	Beyer	Normal operation, external guests allowed. Next deadline for beamtime proposals: 12 April 2022.
NESSA	Pomp	NESSA not ready yet.
NFS	Ledoux	NFS is operational
NPL	Bunce	Operational, standard Covid precautions for external users
PIAF	Pirovano	PIAF fully operational, external users possible with 3G, downtime of CV28 cyclotron from 2022-05 until 2022-12
SCK-CEN	Wagemans	BR1 is operational. Shutdown of several months expected end 2023.
UJF	Majerle	Neutron generators operating, access possible with standard Covid precautions, TR24 cyclotron presently not available (downtime 6 months)
U. Oslo	Siem	

Status of TA projects

One call for proposals every ~6 months (<https://www.ariel-h2020.eu/index.php/en/call-for-proposals>)

As of today:

- 4 calls until now (2019-12, 2020-05, 2021-05, 2021-11)
- 21 TAA applications were received, 15 have been endorsed by the PAC:
 - 1265 h beamtime in 12 TA facilities
- 6 experiments (596 h beamtime) were completed
 - support for 25 researchers, among which 7 early stage researchers and 15 first-time users
 - facility scores >1.5, avg. 1.2 (1=very good, 5=poor) (based on user reports received so far)
- Delayed experiments: mostly because of Covid-19

Coming next: 2 calls in 2022 + 2 calls in 2023

Approved TA experiments

PAC	Spokesperson	Institute	Title	Facility
2019-12	Michal Kostal	CVR Rez	Response matrix of stilbene and new detection materials	PTB
2019-12	Gregory Lehaut	LPC Caen	SCALP(CF4) @ nELBE	nELBE
2019-12	Massimo Nocente	U. Milano-Bicocca	Characterization of the neutron response function of a C ⁷ LYC scintillator crystal for fusion plasma applications	HISPANoS
2019-12	Giuseppe Lorusso	NPL	Activation of a Sb-Be monoenergetic neutron source via thermal neutron irradiation	CVR
2019-12	Alix Sardet	CEA	Response function and calibration of a compact fast neutron spectrometer using a stilbene crystal	PTB
2020-05	Greg Henning	CNRS	Proton inelastic scattering cross sections on ⁴⁰ Ca	IFIN-HH
2020-05	Stephan Pomp	Uppsala U.	Isomeric yield ratios and fission fragment angular momentum in alpha-induced fission of ²³² Th	JFYL
2020-05	Markus Nyman	JRC	Photoactivation of accelerator beamline and beam dump materials	nELBE

Approved TA experiments

PAC	Spokesperson	Institute	Title	Facility
2021-05	Alexander Prokofiev	Uppsala U.	Light ion production studies with Medley at the NFS facility	NFS
2021-05	Imre Pázsit	Chalmers Univ. Tech.	Calibration of new fiber-mounted scintillation neutron detectors in a well characterized neutron flux for measuring the scalar flux and its gradient	SCK-CEN
2021-05	Ali Al-Adili	Uppsala U.	Investigation of the plasma delay time effect in PIPS detectors for the development of the VERDI fission spectrometer	ILL
2021-11	Nikolaos Patronis	U. of Ioannina	Measurement of the fission cross-section of ^{243}Am at EAR-1 of the CERN n_TOF facility	n_TOF
2021-11	Rosa Vlastou-Zanni	NTUA	Measurement of the fission cross section of ^{243}Am at EAR-2 of the CERN nTOF facility	n_TOF
2021-11	Maria Diakaki	NTUA	Neutron induced cross section measurements on Ge isotopes at the AMANDE facility	AMANDE
2021-11	Matthias Rudigier	TU Darmstadt	^{238}U nuclear structure study with v-ball 2 for nuclear energy application	ALTO

TAA - summary

- 15 experiments endorsed by the PAC, 1265 hours of beamtime granted
- 6 experiments (596 h) completed, support for 25 scientists
- Delays because of Covid-19 – hopefully balanced out by the 6 months extension of the ARIEL project

Next submission deadlines: **15 April 2022, 15 October 2022**
(+ presumably 2 calls in 2023)

LOIs are encouraged!

Info and how to apply can be found at:
<https://www.ariel-h2020.eu>

