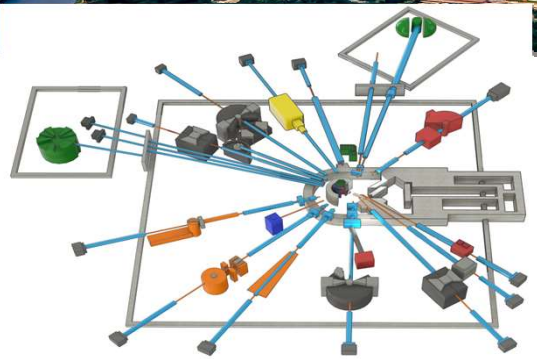
PULSED FAST REACTOR IBR-2

&

FLNP USER PROGRAM

DOROTA CHUDOBA

CREMLIN PLUS / 17.12.2021



JOINT INSTITUTE FOR NUCLEAR RESEARCH
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Frank Laboratory of Neutron Physics

FLNP

www.jinr.ru

http://flnp.jinr.ru

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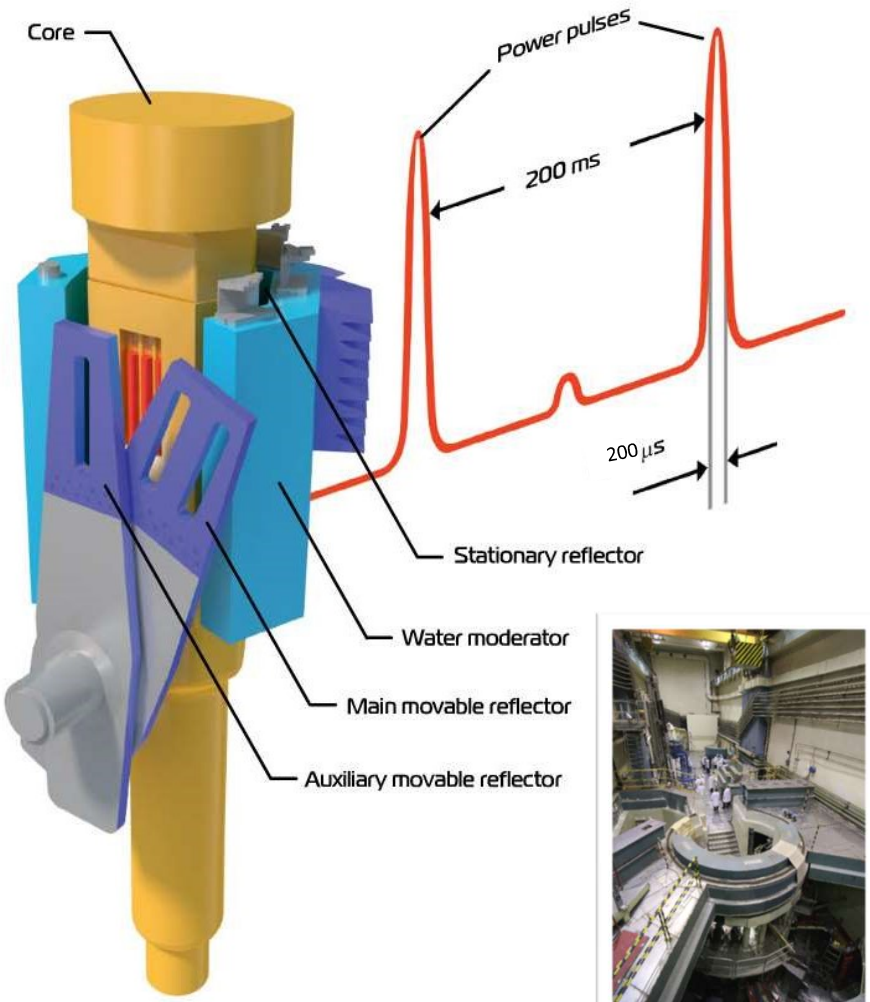
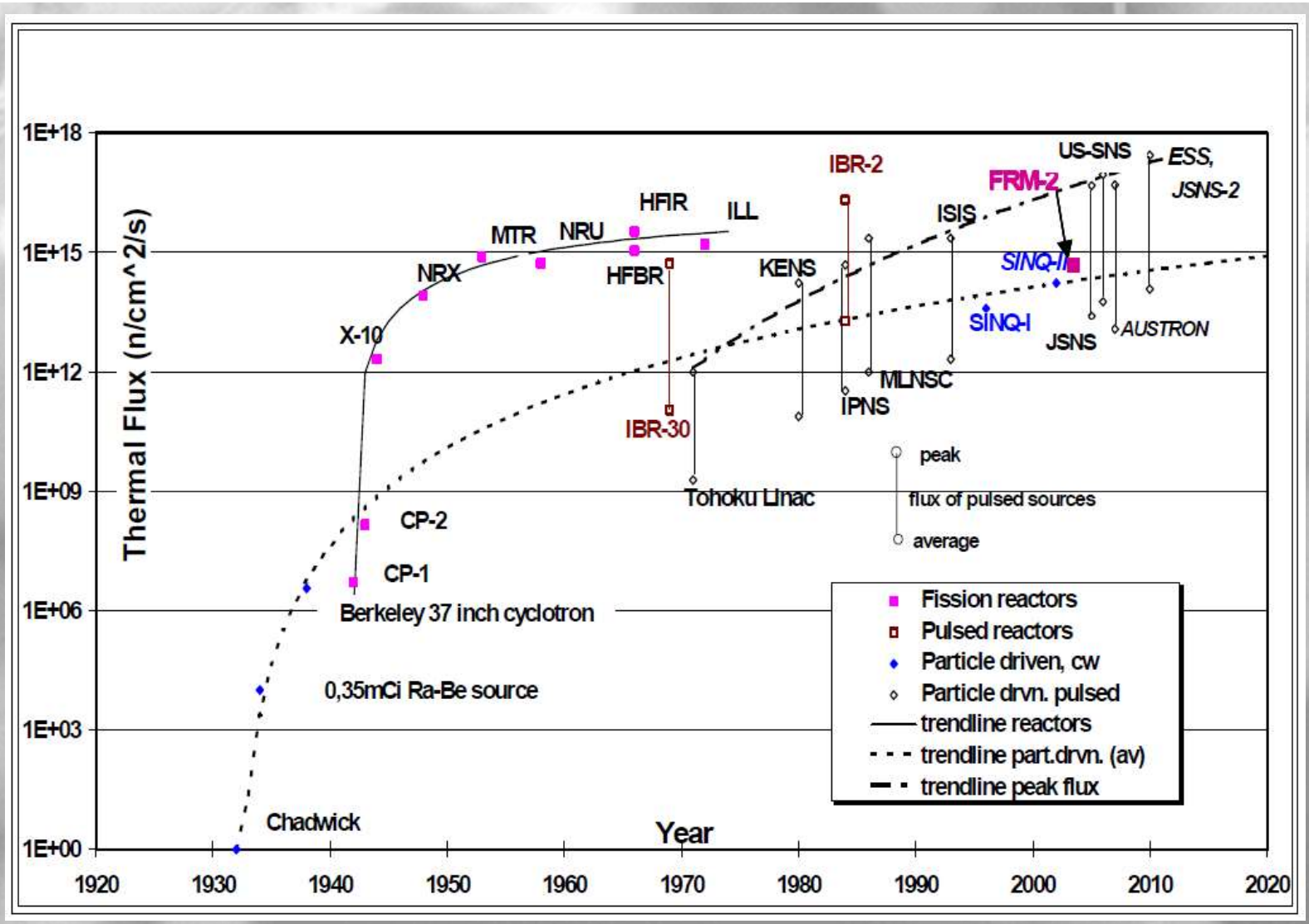
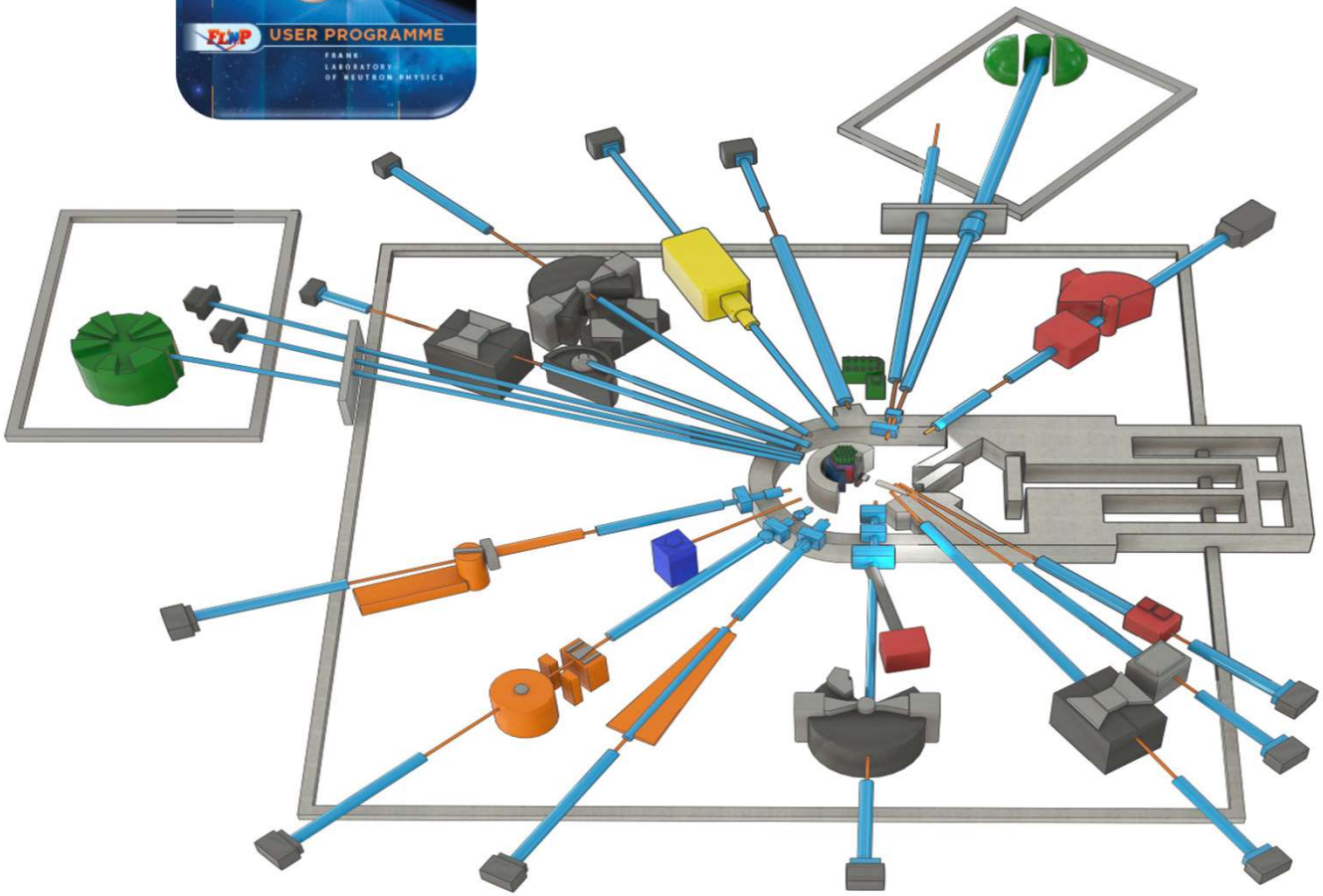
Pulsed Reactor IBR-2



Average power, MW	**1.6**
Fuel	PuO_2
Number of fuel assemblies	69
Maximum burnup, %	9
Pulse repetiton rate, Hz	5
Pulse half-width, μs: fast neutrons thermal neutrons	 200* 340
Rotation rate, rev/min • Main reflector • Auxiliary reflector	 600 300
MMR and AMR material	Nickel + steel
MR service life, hours	55 000
Background, %	7
Termal neutron flux density from the surface of the moderator • Time average • Burst maximum	 ~10^{13} n/cm^2 s ~10^{16} n/cm^2 s



Report of a technical meeting held in Vienna, 18–21 May 2004 , IAEA-TECDOC-1439 (2005)



13 INSTRUMENTS

Diffraction:
HRFD
RTD
DN-6
EPSILON
SKAT
DN-12
FSD

Inelastic scattering:
NERA

Small-angle scattering:
YuMo

Reflectometry:
GRAINS
REMUR
REFLEX

NAA:
REGATA

Distribution of the beam time

In the FLNP JINR the neutron beam time at the high flux pulsed IBR-2 reactor is distributed between **internal users** (FLNP) and **general science community** (GSC) in the ratio of

35% (internal proposals)

55% (external regular proposals)

10% (external urgent beam time requests)

Who can apply for beam time?

Scientists from **any country of the world** can apply for beam time.

Scientists from member states of JINR get additional financial support.

There are **two kinds of applications**:

Fast access applications

NO DEADLINE

Submission – via facility responsible

QUICK REVIEW
BY THE RESPONSIBLE OF FACILITY and HEAD OF DEPARTMENT OF NEUTRON INVESTIGATIONS OF CONDENSED MATTER

Regular access applications

SUBMISSION DEADLINE

Internet submission
via the web site:
http://ibr-2.jinr.ru/

2-STEP REVIEW PROCEDURE

	First round	Second round
Period for proposal submission	**September 1 - October 15**	**March 1 - April 15**
End of technical expertise	November 1	May 1
End of scientific expertise	December 1	June 1
Schedule	December 15	June 15
Information for Users	**December 25**	**June 25**

Experts commeeties

- Nanosystems and Soft Matter (YuMO, GRAINS, REFLEX, REMUR) – 13 Experts
- Atomic and Magnetic Structure (RTD, DN-6, DN-12, SKAT, EPSILON, FSD, HRFD) – 8 Experts
- Lattice and Molecular Dynamics (NERA, DIN-2 PI) – 3 Experts
- Neutron Activation Analysis (REGATA) – 3 Experts

IBR-2 User Association and User Committee

Idea about user association around IBR-2 reactor was discussed during *CMR@IBR-2 Conference* in October 2020 and *IBR-2 User Committee* was established to increase the user activity related to the interactions with FLNP, giving support to both specific and general user questions in December 2020.

https://ibr-2.jinr.ru/general-information

Temporal members of IBR-2 user committee:

- **Assoc. prof. Peter A. Georgiev**. University of Sofia. Bulgaria.
- **Dr. José María Porro Azpiazu**. BCMaterials and IKERBASQUE, Basque Foundation for Science. Spain.
- **Dr. Laszlo Almasy**. Centre for Energy Research. Hungary.
- **Prof. Vachagan Harutyunyan**. A.Alikhanyan National Science Laboratory. Armenia.
- **Dr. Viktor Petrenko.** BCMaterials & IKERBASQUE. Spain.
- **Prof. Ewa Juszyńska-Gałązka.** Institute of Nuclear Physics. Poland.

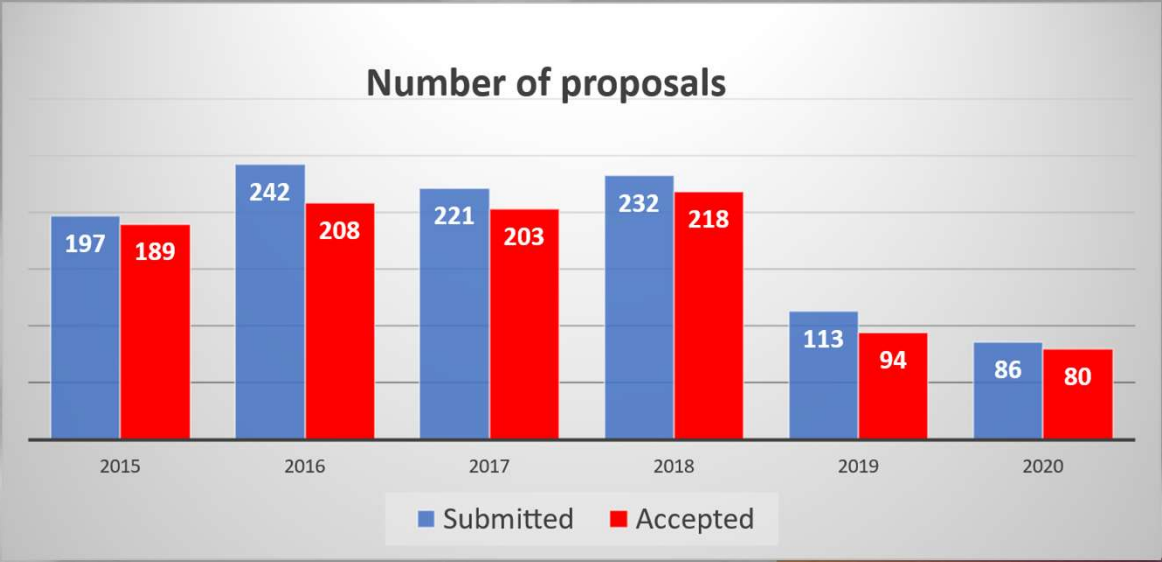
Representative of Polish Neutron scattering association:
Prof. Wojciech Zając. INP, Krakow, Poland.

The IBR-2 User Committee represents the IBR-2 users in official FLNP/JINR meetings, offers a discussion forum within the IBR-2 users' community, and reports to the FLNP directorate on new strategic ideas and procedures for a continuous improvement of the IBR-2 users' community satisfaction and work conditions at the IBR-2 reactor.

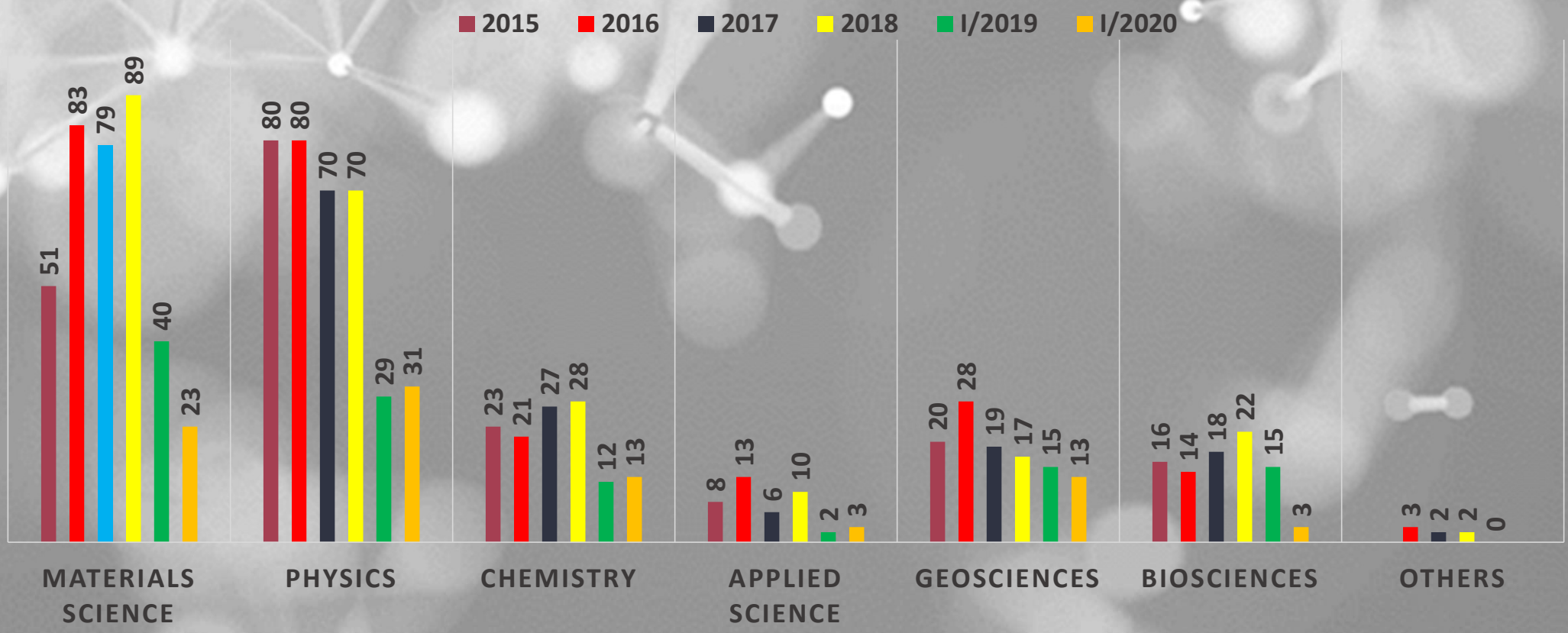
More then 400 registered users

Australia
Bulgaria
Belarus
Brazil
China
Germany
Moldova
Czech Republic
Egypt
France
South Africa
Kazakhstan
Latvia
Macedonia
Hungary
United Kingdom
Russian Federation
Serbia
Mongolia
Canada
Slovakia
Italy
Jordan
Spain
Sweden
Poland
Ukraine
Vietnam
Romania
United States

About 300 submitted proposals per year



PROPOSAL DISTRIBUTION WITH SCIENCE CORRELATION



THANK YOU

DOROTA CHUDOBA

+7 (926) 6760716

Scientific_secretary@nf.jinr.ru

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