



Title: Meeting of the WP3 Fundamental Physics Subcommittee

Tuesday 15.12.2020 at 13:30-16:30 CET via videoconference

Chair: Valery Nesvizhevsky (ILL)

Participants:

Subcommittee members:

Valery Nesvizhevsky, ILL // WP3 PIK

Vladimir Voronin, PNPI // WP3 PIK

Yuri Kopatch, JINR // WP3 PIK

Hartmut Abele, TU Wien // WP3 PIK

Oliver Zimmer, ILL // WP3 PIK

Andreas Frei, TUM // WP3 PIK

Ekaterina Korobkina, North Carolina State University

PNPI speakers and attendees:

Sergey Grigoriev, NRC KI PNPI // WP3 PIK

Vladimir Voronin, NRC KI PNPI // WP3 PIK

Viktor Mitukhlyaev, NRC KI PNPI // WP3 PIK

Vladimir Panteleev

Anatoly Serebrov

Anatoly Barzakh

Invited guests:

Valery Shvetsov, JINR // WP3 PIK

Excused

Egor Lychagin, JINR // WP3 PIK

Brief Description:

The CREMLINplus kick-off meeting of the Fundamental Physics Subcommittee of WP3 was held on the 15 December 2020 via videoconference with the participation of the subcommittee members and PNPI scientists as speakers.

Opening the meeting, Deputy Director for International Activity of PNPI Sergey Grigoriev, presented a brief overview of the WP3 of CREMLINplus. It was announced that the instrument subcommittees shall provide specific recommendations on construction and layout of instruments at PIK, which shall be complemented by recommendations from technical subcommittees on moderators, neutron optics, detectors and sample environment. The goal of the Fundamental Physics Subcommittee is to support the development of the instruments to carry out research in the fundamental physics theme at PIK reactor.





Deputy Director for Science Vladimir Voronin presented the current status of the PIK reactor, its instrumentation and commissioning time schedule. PIK reactor will be one of the most powerful neutron sources in the world with the power of 100 MW, operational cycle of ~30 day and a large number of experimental channels. Reactor PIK is under commissioning which started in 2019, and now we are in the second stage of PIK commissioning which includes reaching 10 MW power. The reactor should attain megawatts power in December 2020 and five “first-day” stations are under construction in the reactor hall. Other neutron instruments will be realized in the framework of the national program of the development of neutron and synchrotron research in Russia, financially approved for the period 2020-2027.

In the following talks PNPI scientists presented the scientific program for fundamental interactions research for PIK reactor in Gatchina: Anatoly Serebrov told about the physics of fundamental interactions with neutrons and neutrinos, fission physics, applied research at PIK reactor; Victor Mityukhlyev presented the status of the cold neutron sources at the PIK reactor as of December 2020, Anatoly Barzakh presented the Project IRINA: laser-nuclear spectroscopy of neutron-rich nuclei, Vladimir Pantelev provided the status of IRINA (Investigation of Radioactive Isotopes at Neutron Facility) project at the PIK reactor.

Each presentation followed a 20-min discussion.

The members of the Fundamental Physics subcommittee were immensely impressed with the vast scientific program for fundamental interactions research at the reactor PIK.

After a closed session among the members of the Fundamental Physics subcommittee, the subcommittee has come up with a set of recommendations, which is reflected in the minutes of the meeting.

Materials from the kick-off fundamental physics subcommittee meeting, including the agenda, available slides from the talks, and the minutes of the meeting can be found on PNPI website [<https://oiks.pnpi.spb.ru/cremlinplus-pnpi>].

