**Referee Report**

**“DANSS – Detector of the reactor antineutrino based on solid state plastic scintillators”**

One of the main objective in the development of the research infrastructure in JINR is the support of broad neutrino programme as a priority task in Laboratory of Nuclear Problems (DLNP). It includes several main parts: i) experiment SuperNEMO in the frame of cooperation between JINR and Modane underground laboratory (LSM); ii) complex experiment Baikal-GVD or iii) neutrino laboratory in nuclear power plant (Kalinin).

V.G. Egorovin his report “DANSS – Detector of the reactor antineutrino based on solid state plastic scintillators”and his talk gave full and precise explanation of the present status of DANSS project as well as plans for future period including financial demands.

First of all, I would like to emphasize that our institute is involved in the project as a cooperating institution in construction of S-cube detector. Two our PhD students are fully concentrating on the project (software development, construction of detector part of S-cube setup).

The project is very important, because it has unique features. It connects fundamental physics (neutrino oscillations in very low distance from the source of antineutrinos, sterile neutrino) and application (control of non-allowed manipulation with nuclear fuel). JINR was able to sign the agreement with commercial nuclear power plant in Kalinin to build laboratory of neutrino physics under the reactor. Such agreement allows JINR to develop broader neutrino programme (not only neutrino oscillations but also detection of magnetic moment of neutrino). Project DANSS has also big chance for commercial application. In the case of success it can be installed in every existing nuclear reactor as a part of control system.

DANSS detector was tuned and now is working without interruptions (such task was not easy having 2500 independent detectors). Collaboration is now in the process of construction of smaller detector S-cube (40 x 40 x 40 cm3, 80 scintillating detectors), which should be used as a monitoring detector of reactor power.

Finally I would like to emphasize that V.G. Egorovis head of the group of young scientists (10 people from 15 are early stage scientists). He is also lecturer in DubnaUniversityattracting gifted young people to research. The project also support the development of JINR home research infrastructure, which is very important (reciprocity of scientific cooperation).

Prague, 12.1.2018 Ivan Štekl