**Review of nuclear physics at DLNP**

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Nuclear physics approaches are the basis of DLNP scientific program. Research directions are: classical spectrometry of radioactive isotopes as well search for evidences of new physics beyond the Standard Model. That includes investigation of double beta-decay with different calorimetric and treko-calorimetric methods, investigation of neutrino properties from different sources, search for Dark Matter, etc. Significant part of the laboratory scientific program is devoted to investigation of processes inside of nuclear reactor core with neutrinos.

The DLNP is widely known as the laboratory leading in development of new methods for detection of charged and neutral particles, development of modern radiochemistry for astrophysics and nuclear medicine.

In 2024 the laboratory has aims in commissioning of two new basic facilities: LINAC-200/800 electron accelerator and working in tandem with the accelerator a spectrometry cluster. The laboratory enhances the radiochemistry program with new setups: ICP-MS spectrometry, Mössbauer spectrometry, improved methods of perturbed angular correlations to study of radiopharmaceuticals and their precursors as well for development of cleanest materials for neutrino related studies. The laboratory develops experimental techniques and conducts applied research with slow monochromatic positron beams. New setup that is in process of creation: MSC230 proton cyclotron which will be the core for new proton therapy clinical research center.

The laboratory applies wide range of nuclear physics methods to build and run experiments, and to produce physics results at the edge of the modern science. Laboratory development and ongoing research are carried out within the framework of the JINR 7-year plan.