

LABORATORY OF NEUTRON PHYSICS OF THE JOINT INSTITUTE FOR NUCLEAR RESEARCH

The Joint Institute for Nuclear Research (JINR) is the international centre for experimental and theoretical research in the field of elementary particle physics, nuclear and neutron physics, condensed matter research and some other related topics.

The Convention establishing JINR was signed on 26 March 1956 by the Plenipotentiaries of the Governments of the Member States, and the Charter regulating the activities of the Institute was adopted on 23 September the same year.

The research policy of JINR is handled by the Scientific Council which is convened twice annually.

The structure of JINR is determined by its specialization and by the principle of governing it internationally. Current scientific and financial affairs of the Institute's Laboratories, common services as well as the work of several specialized departments are guided by the Institute Directorate.

Among the JINR common services there are: library, publishing department, experimental physics facilities division, medical service, etc.

The Laboratory of Neutron Physics is one of seven JINR Laboratories. It was established in 1956, soon after the foundation of JINR. In 1960 the idea of Prof. D.I. Blokhintsev (11.01.1908-24.01.1979) was successfully realized: a principally new source of neutrons was put into operation. The creation of a pulsed reactor has actually initiated a new direction in the development of research neutron sources.

An extended scientific program was carried out on this new source under the leadership of the Laboratory director Prof. I.M. Frank (23.10.1908-22.06.1990) and his deputy Prof. F.L. Shapiro (06.04.1915-30.01.1973).

Academician, 1958 Nobel Prize Winner for Physics, Prof. I.M. Frank was at the head of this large international body for over 30 years. During these years a whole family of unique pulsed neutron sources for nuclear physics and condensed matter research were being designed, constructed and operated. In 1983 the new high flux pulsed reactor IBR-2 was put into operation at the Laboratory.

Today the scientific activity of the Laboratory is connected with two fields of physics: subatomic physics and condensed matter physics. The former includes investigations of the neutron as elementary particle and the study of compound nuclear states in the reactions induced by slow neutrons. The latter comprises the study of the mechanisms of superconductivity, the investigation of other urgent problems of the physics of solids, surfaces, liquids and of molecular biology. Besides, works are being carried out on the use of nuclear physics methods for applied research.