

P R E F A C E

This is to introduce readers to the scientific activity report for 2001 of the Frank Laboratory of Neutron Physics.

The first part of the report presents the results achieved in the main scientific directions: condensed matter physics and neutron nuclear physics. It also includes the description of the results of work in the field of neutron sources and their state of the art. The report completes with brief reports on individual experiments and the list of publications for 2001.

In 2001 the IBR-2 reactor operated, as planned, 8 cycles in strict accordance with the approved working schedule.

Under the approved plan the IBR-30-LUE-40 booster was shut down in June 2001. The new source of resonance neutrons IREN will start operations at its sight in the nearest years.

In 2001 at FLNP neutron sources the program of physical calibration of the high-energy neutron detector HEND created in IKI RAS was executed with participation of FLNP JINR. The instrument entering the complex of research equipment on board the space apparatus Mars Odyssey 2001 started measurements of the neutron fields of Mars in February 2002.

On the neutron Fourier diffractometer FSD, the new ZnS(Ag) scintillator-based detector was put into operation. The working project of a wide-aperture scintillation detector of the new type to be assembled next year has been developed.

The data pointing to the existence of time-reversible superconductivity in Fe/V bilayers were obtained with the spectrometer SPN.

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Director

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