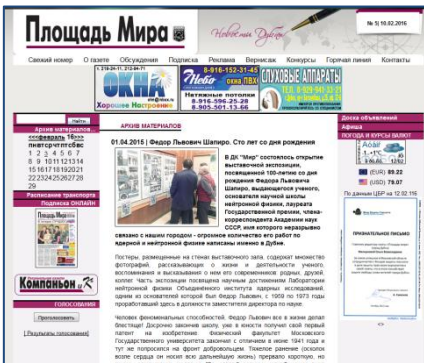
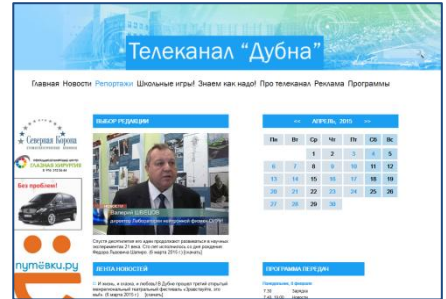
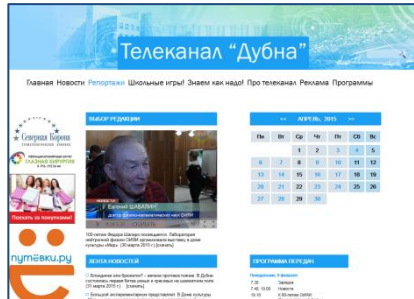


8. FLNP AND MASS-MEDIA

In the year 2015 Frank Laboratory of Neutron Physics was at center of interest of mass media

Телеканал Дубна March 2015



Площадь Мира April 2015

Встреча April 2015



ДУБНА June 2015

Physics World, Focus on Neutron Science October 2015

Advertising feature

Fast pulsed reactor IBR-2

The IBR-2 pulsed reactor is a powerful neutron source operating at the Frank Laboratory of Neutron Physics of Joint Institute for Nuclear Research. It operates at a mean power of 2 MW. The main part of the reactor, as shown schematically in Figure 1, is an irregular hexahedron composed of fuel element subassemblies. The cooling system has three circuits and two loops. In the first and second circuits the coolant is liquid sodium and in the third it is air. The core is installed in a double-walled steel vessel and is surrounded by a number of stationary reflectors, control and safety units among them. Around the reactor there are water moderators scanned by 14 horizontal channels for reactor extraction. Two of the moderators are grooved. After reflectors rotate in opposite directions with different velocities. When both reflectors coincide near the reactor core, a power pulse is generated. The IBR-2 reactor with its unique technical approach produces one of the most intense intense neutron fluxes at the moderator surface among the world's reactors: $\sim 10^{16}$ n/cm²/s, with a power of 1500 MW per pulse.

Currently, the spectrometer complex of the IBR-2 pulsed reactor consists of 13 instruments available for scientific research: 7 diffractometers, 3 small-angle neutron scattering spectrometers, 3 reflectometers and 2 neutron scattering spectrometers (Figure 3). There are also 2 new facilities under construction: neutron imaging instrument for radiography and tomography studies (NRT) and Fourier spectrometer for stress measurements (FSS).

The IBR-2 is used mainly for condensed matter physics and applied research. Experiments usually last 7500 hours of operation time per year.

The movable reflector is a complex mechanical system providing reliable operation of two parts, which determine the reactivity modulation: the main movable reflector and the auxiliary movable reflector. The rotors of the main and auxiliary movable

Figure 1. Main part of IBR-2 reactor.

Figure 2. Core of IBR-2 reactor with movable reflector.

Figure 3. Layout of IBR-2 spectrometer complex.

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Neutron News November 2015

Наука - практика

Реакторное материаловедение на ИБР-2

Второй премии ИСМЭ 2014 год в области прикладных научно-технических исследований за цикл работ «Исследования реакторного материаловедения на ИБР-2» удостоены: Ф. Д. Бурицкий, Р. Н. Васил, И. В. Павлушин, В. В. Суянов.

материалов и сплавов, а также получение для каждой фазы дифракционных материалов, определение их структуры, исследование их свойств. Это позволяет получать информацию о состоянии материалов в процессе эксплуатации реактора. В настоящее время на ИБР-2 ведутся работы по исследованию реакторного материаловедения. В частности, проводятся исследования по изучению поведения материалов в условиях нейтронного облучения. Это позволяет получать информацию о состоянии материалов в процессе эксплуатации реактора. В настоящее время на ИБР-2 ведутся работы по исследованию реакторного материаловедения. В частности, проводятся исследования по изучению поведения материалов в условиях нейтронного облучения. Это позволяет получать информацию о состоянии материалов в процессе эксплуатации реактора.

News and Reports

Honoring Fyodor Shapiro (1915–1973)

The experimental realization of the neutron slowing-down time spectroscopy, in particular in the design of a lead slowing-down spectrometer known as a 100-ton lead cube, which was actively supported the initiative of the Polish physicists working in JINR Prof. F. Yank, Dr. B. Buzas and Dr. J. Buzas.

2015 Annual Report