

Research of neutron transportation through neutron guides and magnetic fields of the UCN source at the pulsed reactor

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The work is devoted to the creation of computational tools for designing a UCN source for a pulsed reactor. Its result is two software products that can be used in the course of further work. One of them is designed to calculate the transport properties of UCN neutron guides based on given geometric dimensions, material, and surface roughness parameters. The second program is designed to calculate the dynamics of UCN motion in magnetic fields of magnetic resonance devices. This provides designers with the necessary tool for optimizing the parameters of the designed devices designed to form the pulsed structure of the neutron flux and slow down very cold neutrons to energies typical for UCN.

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