

Dynamics Model for the "Neptune" Reactor

M.M. Podlesnyy, A.E. Verkhoglyadov, E.P. Shabalin, M.V. Rzyanin

Frank Laboratory of Neutron Physics, Joint Institute for Nuclear Research, IIO, Dubna

In the Frank Laboratory of Neutron Physics is working on developing a project for a new neutron source – periodically pulsed reactor "Neptune" –, which will replace the IBR-2 reactor by the end of 2030s. The new facility may be the first in the world to use neptunium nitride as fuel. This will increase the neutron flux by approximately ten times compared to the existing reactor and will provide new technological possibilities in neutron research.

This poster will present current status of the dynamics program for the Neptune periodically pulsed reactor, as well as possible directions for future development.