

Current research on ADS at the Joint Institute for Nuclear Research

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The research on Accelerator Driven Systems (ADS) has more than 20 year's tradition at the Joint Institute for Nuclear Research. Since 2010, the most experiments have been performed with a spallation target composed of 512 kg of natural uranium QUINTA irradiated with proton and deuteron beams of high energies. Currently, final preparations of a new spallation target BURAN consisting of 20 tons of depleted uranium are under way. The main tasks of the project are experimental investigation of neutron production inside the spallation target, possibility of natural thorium utilization and transmutation of the long-lived fission product. The supplementary tasks are measurement of nuclear data and verification of nuclear codes and theoretical models related to the ADS technologies. Recently, the group also investigates possibility of determination of the fission heat flux with the use of highly accurate thermocouples.

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