

Monte Carlo simulations of spallation experiments

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Monte Carlo codes MCNPX and FLUKA are used to analyze the experiments on simplified Accelerator Driven Systems, which are performed at the Joint Institute for Nuclear Research Dubna. At the experiments, protons or deuterons with the energy in the GeV range are directed to thick, lead targets surrounded by different moderators and neutron multipliers. Monte Carlo simulations of these complex systems are performed using PBS and MPI parallelization. The processing powers of some systems and experience with such types of parallelization are presented.

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