

Modeling of protons elastic scattering on exotic nuclei using MPI-version of the folding potential

This work is devoted to theoretical studies of the basic microscopic potential of the folding model for elastic scattering of exotic nuclei on protons. The main purpose of this work is MPI-implementation of the calculation of microscopic optical nucleus-nuclear potential using the folding model on the heterogeneous cluster HybridIT of the Multifunctional Information Computing Complex (MICC) of the JINR Laboratory of Information Technologies. The differential cross of elastic scattering of exotic nuclei on protons is calculated. Agreement between the experimental data for elastic collisions of exotic nuclei with protons and the results of calculation different distributions of the densities of the ^6He and ^8He nuclei using calculated the folding potential.

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