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# Dynamics of multi-nucleon transfer processes in the $^{56}$Fe + $^{208}$Pb reaction

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The report is devoted to the theoretical study of the main characteristics of the $^{56}$Fe + $^{208}$Pb reaction at $E_{lab} = 340$ MeV within the multidimensional dynamical model based on Langevin equations [1]. Calculation results are compared to available experimental data on energy, atomic number and angular distributions of projectile-like fragments [2]. Better agreement of theoretical and experimental data has been reached by varying the model parameter: relaxation time of neck degree of freedom. Influence of this model parameter on the kinetic energy of fragments is discussed in the report.
This improvement of the model allows us to describe more properly multinucleon transfer processes in similar systems including $^{208}$Pb nucleus, such as $^{58}$Ni, $^{64}$Ni + $^{208}$Pb. Cross sections of heavy neutron-rich nuclei with the closed neutron shell $N = 126$ obtained in the reactions under study have been calculated and compared with corresponding cross sections obtained in the reactions $^{136}$Xe + $^{198}$Pt, $^{208}$Pb.
[1] A.V. Karpov, V.V. Saiko // Phys. Rev. C 96, 024618 (2017).
[2] G. Guarino, A. Gobbi, K.D. Hildenbrand et al. // Nucl. Phys. A. 424, 157 (1984).

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