

Description of the multinucleon transfer reactions within dinuclear system model

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Dynamical description of the multinucleon transfer reactions $48\text{Ca}+208\text{Pb}$, $50\text{Ti}+208\text{Pb}$ and $40\text{Ar}+209\text{Bi}$ in the framework of dinuclear system model is presented. The system of master equations with phenomenological transition coefficients is solved for treatment of the nucleon transfer process. The results of calculations are in good agreement with the recent experimental data obtained at FLNR JINR[1]. The direct relation of transition coefficients and driving potential of dinuclear system provides a simplicity and a high predictive power of the model.

Literature

1. H.M. Devaraja et al, Phys. Lett. B 862 (2025) 139353.