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Séminaire de Physique Nucléaire Théorique

Quantum diffusion description of multinucleon transfer in ^{48}Ca+^{238}U, ^{58}Ni+^{60}Ni and ^{60}Ni+^{60}Ni collisions.

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Multinucleon transfer is investigated by using a beyond mean-field approach called Stochastic mean-field (SMF) approach from which the nucleon transport coefficients are extracted. These coefficients are determined by the occupied single-particle wave functions of the time-dependent Hartree-Fock equations. As a result, the primary fragment mass and charge distribution functions are determined entirely in terms of the mean-field properties. The results of calculations are compared with the TDRPA calculations and the recent data of ^{58}Ni+^{60}Ni. A good description of the data and a relatively good agreement with the TDRPA calculations are found.

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