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Studies of the angular correlations between complementary fragments in multinucleon transfer reactions Xe-136 + Pt-198[1] SHAOFEI ZHU, Brookhaven National Laboratory, ATLAS 1713 COLLABORATION — A deep understanding of multi-nucleon transfer reactions is important for the future development in producing the neutron-rich nuclei of interests. The angular correlations of the complementary fragments produced in the reaction of a ^{136}Xe beam (8MeV/A) on a ^{198}Pt target (1mg/cm2) were measured using the CHICOII detector at ATLAS. The results were simulated by using the quantum molecular dynamics (QMD) model. Different Skyrme interaction parameters were applied. It is found that the effect of reaction Q values almost governs the production of primary fragments with about six or less nucleons being transferred. With the increase of the number of transferred nucleons, the dynamical processes, such as the dissipation of collective motion and the statistical fluctuation of multinucleon transfer, play more important role in the mass distributions. Further detailed study will focus on the mass and isotopic yields with respect to different angles between the target-like and projectile-like fragments. It will provide another direction to improve the model and explore the mechanisms of this type of reactions.

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