

Abstract Submitted
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The $^{136}\text{Xe} + ^{208}\text{Pb}$ reaction: A test of models of multi-nucleon transfer reactions¹ SPENCER BARRETT, RICARDO YANEZ, WALTER LOVELAND, Oregon State University, SHAOFEI ZHU, ROBERT JANSSENS, MIKE CARPENTER, TORBEN LAURITSEN, JOHN GREENE, MICHAEL ALBERS, AKAA AYANGEAKAA, Argonne National Laboratory, ALEJANDRO SONZOGNI, ELIZABETH MCCUTCHAN, Brookhaven National Laboratory, CHRISTOPHER CHIARA, JESSICA HARKER, WILLIAM WALTERS, University of Maryland — The yields of over 200 projectile-like and target-like fragments from the interaction of ^{136}Xe ($E_{c.m.}=450$ MeV) with a thick target of ^{208}Pb were measured using Gammasphere and off-line γ -ray spectroscopy, giving a comprehensive picture of the production cross sections in this reaction. The measured yields were compared to predictions of the GRAZING model (with fission competition) and those of Zagrebaev and Greiner. There is good agreement between the measurements and the predictions of Zagrebaev and Greiner for nuclei near or below the target ($Z = 74, 76, 78, 80, 82$). However, the measured cross sections exceed the predicted values by up to an order of magnitude for neutron-rich trans-target nuclei ($Z = 84, 86, 88$). The GRAZING model predictions are adequate for nuclei near the target ($Z = 81-83$) but grossly underestimate the yields of all other products.

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