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Effects of Odd-Z Projectiles on Fusion-Evaporation Cross Sections TYLER WERKE, DMITRIY MAYOROV, MARISA ALFONSO, Cylotron Institute and Department of Chemistry, Texas A&M University, MEGAN BENNETT, Cyclotron Institute, Texas A&M University, MICHAEL DEVANZO, Cyclotron Institute, Texas A&M University and Department of Physics, Astronomy, and Geosciences, Towson University, CHARLES FOLDEN III, Cyclotron Institute, Texas A&M University — The production of nuclides near the N =126 shell in the ^{45}Sc + ^{159}Tb, ^{162}Dy reactions has been studied at Texas A&M University using the MARS spectrometer. Previously measured 4n exit channel cross sections for the ^{48}Ca, ^{50}Ti + ^{159}Tb and ^{48}Ca + ^{162}Dy reactions have exhibited enhanced fission probabilities in the de-excitation of the compound nucleus due to collective enhancements to the fission level density. The current research intends to study the change in the evaporation residue cross sections when odd-Z projectiles react with the same targets. The maximum 4n cross sections of the ^{45}Sc + ^{159}Tb, ^{162}Dy reactions were 2 μb, and 4 μb respectively, and these data are several orders of magnitude smaller than both theoretical predictions and the experimental data for the ^{48}Ca and ^{50}Ti reactions discussed above. This can be explained by collective enhancements as well as the relative neutron deficiency of ^{45}Sc compared to ^{48}Ca and ^{50}Ti. This talk will discuss theoretical models of evaporation residue cross sections, and will discuss the latest results on excitation functions for odd-Z projectiles reacting with lanthanide targets. This work may also have relevance to the production of superheavy elements with Z $>$ 118.

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