

Abstract Submitted
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Benchmarking an Active Catcher Array for the Study of Multinucleon Transfer Reactions¹ A. HOOD, J. GAUTHIER, K. HAGEL, A. JEDELE, Y.-W. LUI, A. MCINTOSH, L. MCINTOSH, Z. TOBIN, R. WADA, A. WAKHLE, S. YENNELLO, Cyclotron Institute, Texas A&M University, College Station, TX 77843 — Multinucleon transfer (MNT) reactions may offer a way to produce new neutron-rich isotopes of known and yet-to-be discovered elements in the heavy and super-heavy mass regimes. Despite decades of study, many open questions remain about MNT reactions. For example, the mechanisms of multinucleon transfers in low-energy collisions of very heavy ions are not well understood. Experimental data are imperative to verify and refine theoretical models as well as decide how to proceed experimentally in the future. Many experimental challenges to these studies exist, such as large background and uncertainties in product scattering angle. We have developed an active catcher array which can be used in-beam to study short and long-lived MNT products [1]. Two experiments were conducted to benchmark the functionality of the array. We present the results from these experiments and discuss the next steps we will take to pursue the study of MNT reactions at the Texas A&M University Cyclotron Institute. [1] Wuenschel, S., et al., PRC 90, 011601 (2014).

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