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A New Gas Stopper for Heavy Element Chemistry Research at the Texas A&M University Cyclotron Institute MARISA ALFONSO, The Cyclotron Institute and Department of Chemistry, Texas A&M University, EVGENY TERESHATOV, MICHAEL DEVANZO, JORDAN SEFCIK, The Cyclotron Institute, Texas A&M University, MEGAN BENNETT, The Cyclotron Institute, Texas A&M University and Argonne National Laboratory, DMITRIY MAYOROV, TYLER WERKE, The Cyclotron Institute and Department of Chemistry, Texas A&M University, CHARLES FOLDEN, The Cyclotron Institute, Texas A&M University — A Recoil Transfer Chamber (RTC) to facilitate the chemical study of the heaviest elements, created via fusion-evaporation reactions, has been fabricated at the Cyclotron Institute at Texas A&M University. This gas stopper is a hybrid of previously used RTCs in the transactinide field and one used at Michigan State University for stopping products from projectile fragmentation reactions. Our RTC uses laminar gas flow and a series of electrodes that create a potential gradient to efficiently transport evaporation residues to an appropriate chemistry experiment. The RTC was characterized offline using ^{216}Po recoils from a ^{228}Th source and online using a high cross section fusion-evaporation reaction, ^{118}Sn(^{40}Ar, 6n)^{152}Er. Results show an online extraction efficiency of (70 +/- 9) %, which is comparable to devices used worldwide. This talk will discuss the design of the RTC and present results from offline and online experiments.

Marisa Alfonso
The Cyclotron Institute and Department of Chemistry,
Texas A&M University

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