TASCA 18
GSI, Darmstadt, September 25, 2018
17th Workshop on
Recoil Separator for Superheavy Element Chemistry

Recent Results from the FIONA Separator at LBNL

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Recently, the Berkeley Gas-filled Separator (BGS) at the Lawrence Berkeley National Laboratory (LBNL) was coupled to a new mass analyzer, FIONA. The goal of BGS+FIONA is to provide a M/□M separation of ~300 and transport nuclear reaction products to a shielded detector station on the tens of milliseconds timescale. These upgrades will allow for direct A and Z identification of ii) new actinide and transactinide isotopes with ambiguous decay signatures such as electron capture or spontaneous fission decay and i) superheavy nuclei such as those produced in the 48Ca + actinide reactions. Here we will present recent results from the FIONA commissioning and first scientific experiments.

Financial Support was provided by the Office of High Energy and Nuclear Physics, Nuclear Physics Division, and by the Office of Basic Energy Sciences, Division of Chemical Sciences, Geosciences and Biosciences of the U.S. Department of Energy, under Contract No. DE-AC02-05CH11231.