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Production and Decay of Light Thorium Isotopes J. QIAN, A. HEINZ, R. WINKLER, WNSL, Yale University, R.V.F. JANSSENS, D. PETERSON, D. SEWERYNIAK, B. BACK, M.P. CARPENTER, A. HECHT, C.-L. JIANG, F.G. KONDEV, T. LAURITSEN, C.J. LISTER, S. ZHU, Argonne National Laboratory, P. COLLON, X. WANG, University of Notre Dame, N. HOTELING, University of Maryland — A beam of $^{50}_{22}\text{Ti}$ at 230 MeV, accelerated by the Argonne Tandem Linac Accelerator System (ATLAS), was incident on a $^{170}_{68}\text{Er}$ target. Recoils from fusion-evaporation reactions were separated using the Fragment Mass Analyzer (FMA) according to their mass-to-charge ratio. The recoil position was detected with a Proportional Grid Avalanche Counter (PGAC) and subsequently implanted in a Double-sided Silicon Strip Detector (DSSD) located at the focal plane of FMA. Position and time of implant events and subsequent alpha decays were measured and correlated. An array of gamma detectors surrounding the DSSD was used for the correlation of alpha and gamma decays. A beam monitor detector provided a measurement of the beam current, allowing the determination of production cross sections. The experimental setup and results will be presented. This work has been supported by the DOE under grant number DE-FG02-91ER-4069 and W-31-109-ENG-38

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