

Abstract Submitted
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Surrogate Measurement of the $^{237}\text{U}(n, f)$ Reaction Cross Section

H. AI, Yale University, C.W. BEAUSANG, University of Richmond, L. AHLE, L.A. BERNSTEIN, J.T. BURKE, J.A. CHURCH, K. MOODY, E.B. NORMAN, W. YOUNES, LLNL, D. BLEUEL, R.M. CLARK, P. FALLON, I.Y. LEE, A.O. MACCHIAVELLI, M.A. MCMAHAN, L.W. PHAIR, E. RODRIGUEZ-VIEITEZ, S. SINHA, M. WIEDEKING, LBL — The surrogate method of estimating reaction cross section, by inferring from the reaction probability of a different reaction that forms the same excited compound nucleus, has been established to be reliable by recent works. Using this method, the goal of this measurement is to estimate the (n, f) cross section on the short lived ^{237}U through the measurement of the $(\alpha, \alpha'f)$ reaction probability of the long lived ^{238}U . The $^{238}\text{U}(\alpha, \alpha'f)$ experiment was performed at LBNL with the STARS detector (Silicon Telescope Array for Reaction Studies.) Preliminary analysis on the estimation of the $^{237}\text{U}(n, f)$ reaction cross section will be presented. This work was supported by U.S. DOE Grant No. DE-FG02-05ER41379, DE-FG-05NA25929, and Contract No. W-7405-Eng-48, DE-AC03-76SF0098.

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