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Using the surrogate ratio method to determine the ^{237}U(n,f) cross section. J.T. BURKE, L.A. BERNSTEIN, J.A. CHURCH, F.S. DIETRICH, J.E. ESCHER, E.B. NORMAN, Lawrence Livermore National Laboratory, L.W. PHAIR, P. FALLON, R.M. CLARK, M. DESCOVICH, M. CROMAZ, M.A. DELEPLANQUE, I.Y. LEE, A.O. MACHIAVELLI, M.A. MCMAHAN, L.G. MORETTO, E. RODRIGUEZ-VIEITEZ, S. SINHA, F.S. STEPHENS, Lawrence Berkeley National Laboratory, H.C. AI, Yale University, C.W. BEAUSANG, B. CRIDDER, Richmond University — A collaboration of scientists at LLNL, LBNL, and Yale University have deduced the ^{237}U(n,f) cross section over a neutron energy range of 0 to 20 MeV. The cross-section was determined from the relative fission probability of ^{238}U(α,α'f) compared to ^{236}U(α,α'f). Where ^{238}U(α,α'f) and ^{236}U(α,α'f) are surrogates for ^{237}U(n,f) and ^{235}U(n,f) respectively. The experiment was performed at the 88 Inch Cyclotron at LBNL using the Silicon Telescope Array for Reaction Studies (STARS) spectrometer developed at LLNL. In this talk I will present an overview of the measurement and present the surrogate ratio method. This work was performed under the auspices of the U.S. Department of Energy by University of California, Lawrence Livermore National Laboratory under Contract W-7405-Eng-48.

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