Abstract Submitted
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Surrogate measurements of the ^{241,242}Am(n, f) cross sections[1] J.J. RESSLER, LLNL, J.T. BURKE, J.E. ESCHER, A. ADEKOLA, R.E.A. AUSTIN, M.S. BASUNIA, C.W. BEAUSANG, L.A. BERNSTEIN, D. BLEUEL, J. GOSTIC, R.H. HENDERSON, R.O. HUGHES, A. HURST, A. KRITCHER, C.M. MATTOON, J. MUNSON, L.W. PHAIR, T. ROSS, N.D. SCIELZO, M.A. STOYER — New reactor designs and materials, reprocessing efforts, and transmutation of nuclear waste play significant roles in the future of nuclear energy. New or improved neutron measurements on a number of isotopes are needed to determine feasibility, effectiveness, and safety issues for the novel engineering efforts. Data collection is often hampered by the need for radioactive targets; the use of such targets is limited to longer-lived isotopes due to the large background induced by the decay of the material. However, cross sections for isotopes of interest can be obtained indirectly using light-ion reactions on long-lived neighbors. Decay from the compound state is assumed to be independent of the production reaction, allowing reactions with the neighboring isotopes to be used as a surrogate for the reaction of interest. Results from the neutron-induced fission cross sections of ^{241}Am and ^{242}Am, performed via surrogates ^{243}Am(^{3}He, $\alpha' f$) and ^{243}Am(^{3}He, ^{3}He$' f$), respectively, will be shown.

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J.J. Ressler
LLNL

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