

Abstract Submitted  
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**A Study of the Energy Dependence of U-238 Fission Yields.<sup>1</sup>**

ANDREA MATTERA, ALEJANDRO A. SONZOGNI, ELIZABETH A. MCCUTCHAN, CAROLINE J. SEARS, Brookhaven National Laboratory — In an extensive data mining effort we retrieved experimental data for  $^{238}\text{U}$  neutron-induced fission product yields (FYs) spanning over 60 years. In the majority of the experiments FYs were measured with the activation technique, and - as a consequence of its experimental limitations - more than 75% of the data points report cumulative FYs. In this work, we studied these experimental data to identify how the incoming neutron energy affects the competition of fission modes in  $^{238}\text{U}$ , especially around symmetric fission, and we compared experiments with the prediction from the GEF model (one of the leading phenomenological fission models, developed by K.H. Schimdt, B. Jurado *et al.*). The independent FYs from GEF were complemented with isomeric yield ratios, and converted to cumulative FYs using information from the ENDF/B-VIII.0 decay data sub-library, in order to allow a direct comparison with experimental cumulative FYs. The agreement between the model and experiments is excellent around symmetric fission. As part of this work, the energy dependence of the isomeric yield ratios was also studied, and it was compared with values in the latest evaluated FY library, and with theory.

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