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**Neutron Capture Cross Section Calculations with the Statistical Model** MARY BEARD, University of Notre Dame, ETHAN UBERSEDER, Texas A&M University, MICHAEL WIESCHER, University of Notre Dame — Hauser-Feshbach (HF) cross sections are of enormous importance for a wide range of applications, from waste transmutation and nuclear technologies, to medical applications, and nuclear astrophysics. It is a well observed result that different nuclear input models sensitively affect HF cross section calculations. Less well-known however are the effects on calculations originating from model-specific implementation details (such as level density parameter, matching energy, backshift and giant dipole parameters), as well as effects from non-model aspects, such as experimental data truncation and transmission function energy binning. To investigate the effects of these various aspects, Maxwellian-averaged neutron capture cross sections have been calculated for approximately 340 nuclei. The relative effects of these model details will be discussed.

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