

Abstract Submitted  
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**Statistical model calculations of heavy-ion induced fusion-fission reactions** SCOTT MCCALLA, JOHN LESTONE, Los Alamos National Laboratory — Statistical model calculations of heavy-ion induced fusion-fission reactions are performed with fission barrier heights, and potential curvatures, at both the equilibrium and saddle points, determined as a function of the total spin,  $J$ , the spin about the symmetry axis,  $K$ , and the nuclear temperature,  $T$ , in a self-consistent manner. The fission saddle points are correctly determined by finding the minimum in the system entropy as a function of deformation along the fission path. It is shown that if the saddle points are incorrectly determined using the turn points in the  $T=0$  potential energy surfaces, that erroneous conclusions can be made regarding the viscosity of nuclear matter. When fission is modeled correctly, vast amounts of heavy-ion induced fission-probability and particle-emission data are consistent with the fission of fully equilibrated systems with the nuclear viscosity determined via the surface plus window dissipation model of Nix and Sierk.

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