

Abstract Submitted
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A desktop-computer simulation for exploring the fission barrier

CAMERON REED, Alma College — A simple model of a fissioning nucleus that splits symmetrically both axially and equatorially is used to show how one can predict the presence of a fission barrier of several tens of MeV for nuclides of mass number $A \sim 90$ and of ~ 10 MeV for heavy elements such as uranium. Despite its simplicity, the model reproduces the general behavior of the run of fission barrier height as a function of nuclear mass number as revealed by much more sophisticated models. Its intuitive appeal and tractability make it suitable for presentation in a sophomore-level Modern Physics class.

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