

Abstract Submitted
for the HAW05 Meeting of
The American Physical Society

Global Studies of Axial Shape Asymmetry of the Nuclear Ground State PETER MOLLER, Theoretical Division, Los Alamos National Laboratory, Los Alamos, NM 87545, RAGNAR BENGTTSSON, Department of Mathematical Physics, Lund Institute of Technology, Box 118, S-22100 Lund, Sweden — In the macroscopic-microscopic model we have calculated potential energy surfaces versus ϵ_2 , ϵ_4 , and the axial asymmetry shape coordinate γ for more than 7000 nuclei throughout the nuclear chart. Minima and the saddle points between them are studied with a water immersion technique. We discuss where we calculate that nuclei are axially deformed in their ground state and study the consequences when this effect is incorporated in the model for nuclear masses.

Peter Moller
Theoretical Division, Los Alamos National Laboratory, Los Alamos, NM 87545

Date submitted: 25 May 2005

Electronic form version 1.4