

Abstract Submitted
for the HAW05 Meeting of
The American Physical Society

Possible E(5/4) Symmetry in ^{135}Ba M.S. FETEA, Department of Physics, University of Richmond, and Wright Nuclear Structure Laboratory, R.B. CAKIRLI, Wright Nuclear Structure Laboratory, and Yale University, R.F. CASTEN, Wright Nuclear Structure Laboratory, D.D. WARNER, SERC Daresbury Laboratory, UK, and Wright Nuclear Structure Laboratory — The case of a liquid drop with quadrupole deformation coupled to a particle with $j = 3/2$ was recently presented as a special solution E(5/4) to dynamic supersymmetries of differential equations. This development prompted the search for odd-A candidates for an E(5/4) symmetry at the critical value of the spherical to γ -unstable transition. Energies and E2 transitions have been calculated for ^{135}Ba in the Interacting Boson-Fermion Model, Particle Vibrator Model and in the Shell Model frameworks and compared with the E(5/4) predictions and with the data. A comparison of the results will be shown as well as an identification of key data that are needed. This work was supported by NSF Grant PHY 0204811, the Research Corporation, grant CC5494, and DOE Grant No. DE-FG02-91ER-40609.

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Date submitted: 16 May 2005

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