

Abstract Submitted
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Low-lying Structure of ^{132}Xe from Inelastic Neutron Scattering¹

E.E. PETERS, A. CHAKRABORTY, B.P. CRIDER, A. KUMAR, F.M. PRADOS-ESTÉVEZ, S.F. ASHLEY, M.T. MCELLISTREM, S.W. YATES, Departments of Chemistry and Physics & Astronomy, University of Kentucky, Lexington, KY 40506 — The stable isotopes of xenon span a region which exhibits the transition from spherical vibrators to gamma-soft nuclei and could thus provide some insight into this lesser understood shape transition. Many measurements to examine the nuclear structure of the xenon isotopes are constrained, however, as xenon is a gas under ambient conditions. Recently, highly enriched samples of ^{132}Xe and ^{134}Xe were converted to solid XeF_2 and were studied at the University of Kentucky 7-MV Van de Graaff accelerator facility using inelastic neutron scattering with gamma-ray detection. Lifetimes for some of the low-lying levels were determined via the Doppler-shift attenuation method and reduced transition probabilities were determined. First results of the experiments on ^{132}Xe will be presented.

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