

Abstract Submitted
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New analysis of levels in ^{147}La ¹ W.J. LEWIS, Furman University, E.H. WANG, C.J. ZACHARY, J.H. HAMILTON, A.V. RAMAYYA, Y.X. LUO, Vanderbilt University, J.O. RASMUSSEN, LBNL, S.J. ZHU, Tsinghua University, VANDERBILT UNIVERSITY COLLABORATION — Analysis of $\gamma-\gamma-\gamma$ and $\gamma-\gamma-\gamma-\gamma$ coincidence data from the spontaneous fission of ^{252}Cf has been performed to identify new levels in ^{147}La . These data were taken with Gammasphere at Lawrence-Berkeley National Laboratory. Twenty-two new transitions and fourteen new levels are established including a spin $39/2^+$ state and spin $47/2^-$ state. ^{147}La lies very close to the center for octupole deformation; strong $E1$ transitions are observed connecting two opposite parity doublets validating this expected octupole deformation. Additionally, back bending in the moment of inertia plot is observed in one band.

¹This work was performed while W.Lewis was a Research Experience for Undergraduates participant at Vanderbilt University.

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