

Abstract Submitted
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New level schemes and excitation modes of $^{117,118,119,120,122}\text{Cd}$ Y.X. LUO, Vanderbilt Univ./LBNL, J.O. RASMUSSEN, LBNL, C.S. NELSON, J.H. HAMILTON, A.V. RAMAYYA, S.H. LIU, N.T. BREWER, J.K. HWANG, C. GOODIN, Vanderbilt Univ., S.J. ZHU, Tsinghua Univ., G.M. TER-AKOPIAN, A.V. DANIEL, JINR, I.Y. LEE, LBNL — Analysis of high statistics triple coincidence fission γ data from ^{252}Cf at Gammasphere including angular correlations yielded well-expanded high-spin level schemes with more complete and reliable spin/parity assignments for $^{117-120,122}\text{Cd}$. Both the quasi-particle/hole couplings and quasi-rotational degrees of freedom are implied to play roles in these Cd isotopes. Evidence for triaxial shapes and octupole components in the Cd isotopes is presented. TRS calculations show an evolution from prolate shapes for mass number 115-118 to triaxial for 119-122. The model-independent spin $\sim h\omega$ plots of the yrast bands indicate the role of quasi-rotational alignment of the $(\nu h_{11/2})^2$ neutron pair and the blocking effect of the odd $h_{11/2}$ neutron.

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