Abstract Submitted
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Cd-128: ugly duckling or provocative young swan[1] W.B. WALTERS, N. HOTELING, A.A. HECHT, University of Maryland, P.F. MANTICA, B.E. TOMLIN, J. PEREIRA, A. BECERRIL, T. FLECKENSTEIN, G. LORUSSO, J.S. PINTER, J.B. STOKER, Michigan State University, M. QUINN, University of Notre Dame — In this presentation, gamma ray spectra will be presented that arise from the decay of microsecond level isomers in ^{125,126,127,128,129}Cd. These nuclei have been produced in fragmentation reactions at the NSCL, and identified using the beta counting system and SEGA gamma-ray detector array. Proposed level schemes for these nuclei will be shown that include the 2^+ and 4^+ energies for ^{126,128}Cd that have been previously identified in radioactive decay. Emphasis will be on the structure of ^{128}Cd for which the proposed 2^+ and 4^+ levels at 645 and 1428 keV, respectively, are far below the results from recent shell-model calculations. These structures are interpreted relative to the level structure of adjacent $^{115-124}$Cd ^{130}Cd, ^{130}In, and $^{125-134}$Sn isotopes. The possibility of weakened neutron-neutron and proton-neutron interaction strength will be discussed.

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William B. Walters
University of Maryland

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