Abstract Submitted
for the DNP12 Meeting of
The American Physical Society

Gamma-ray cascade transitions in ^{112}Cd and ^{114}Cd following capture of epithermal neutrons[1] G. RUSEV, M. JANDEL, T.A. BREDEWEG, T.N. TADDEUCCI, J.L. ULLMANN, LANL, M. KRTICKA, Charles University, Prague, Czech Republic — Investigation of the properties of the γ-ray transitions in the cadmium isotopes are of importance for nuclear structure and applied physics due to the high cross section for capture of thermal neutrons by ^{111}Cd and ^{113}Cd. We report results from a neutron-capture experiment on ^{nat}Cd carried out at LANL's LANSCE using the 4π BaF_2 DANCE array. Isolated resonances with known spins were selected to study the γ-ray cascade transitions in ^{112}Cd and ^{114}Cd. Experimental results are compared with predictions from the code `DICEBOX` to determine the optimal γ-ray strength function that reproduces these cascade transitions.

[1]Work supported by the NNSA Office of Nonproliferation and Verification Research and Development performed under the Department of Energy contract DE-AC52-06NA25396.

G. Rusev
LANL

Date submitted: 28 Jun 2012 Electronic form version 1.4