

STUDY OF ^{110}Cd THROUGH β -DECAY AND $(N, N'\gamma)$ REACTION

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^{110}Cd has long been considered an excellent example of a vibrational nucleus. However, recent work with other even-even Cadmium isotopes show a breakdown of vibrational motion at the 2 and 3-phonon level, suggesting the need for more precise measurements on ^{110}Cd . The structure of ^{110}Cd is studied with the $(n, n'\gamma)$ reaction performed at the University of Kentucky, as well as with the high statistics β -decay of ^{110}In performed at the TRIUMF-ISAC facility using the 8π spectrometer. Excitation functions and angular distributions from the $(n, n'\gamma)$ reaction provide us with spectroscopic information on the level scheme, including level lifetimes and spins. The β -decay allows us to create a $\gamma\gamma$ coincidence matrix allowing us to observe extremely weak branches. Details of the analysis to date will be presented.

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