

Abstract Submitted  
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**Neutron Capture by Cadmium: Thermal Cross Sections and Resonance Integrals of  $^{106,108,110,112,114,116}\text{Cd}$**  ALLISON M. GICKING, KENNETH S. KRANE, Oregon State University — The neutron capture cross sections of the stable, even-mass Cd isotopes ( $A = 106, 108, 110, 112, 114,$  and  $116$ ) have been previously measured in sources of natural abundance or low enrichment, often making the results uncertain owing to the large absorption cross section of naturally occurring  $^{113}\text{Cd}$ . Ambiguities in values of the isomeric branching ratios have also contributed to uncertainties in previous results. We have remeasured the Cd neutron capture cross sections using samples of greater than 90% isotopic enrichment irradiated in the OSU TRIGA reactor. Gamma-ray emission spectra were analyzed to determine the effective resonance integrals and thermal cross sections leading to eight radioactive ground and isomeric states in the Cd isotopes.

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