

Abstract Submitted
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Neutron Capture Cross Sections of Tin Isotopes JEREMY SYLVESTER, KENNETH KRANE, Department of Physics, Oregon State University, Corvallis, OR 97331 — Tin has more stable isotopes than any other element, and thus naturally occurring elemental tin provides the opportunity to measure the neutron capture cross sections of several isotopes. Following irradiation of metallic foil samples of tin in our nuclear reactor, we have observed the radioactive decays of the isotopes of tin with mass numbers 113, 117, 123, and 125. In some cases we observed the decays of the ground state and the isomeric state, and thus we were able to deduce separate cross sections for the production of both. By using thermal column and cadmium-shielded core irradiation facilities, we determined both the thermal (2200 m/s) cross section and the average resonance integral. Comparison was made with materials of known thermal and resonance cross sections that served as flux monitors, including Au, Co, Fe, Zn, and Zr.

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