Abstract Submitted
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Measurement of the ^{86}Kr (n, γ) ^{87}Kr Cross Section Between 0.43 MeV and 14.8MeV[1] ELIZABETH RUBINO, Duke University/TUNL, TRIANGLE UNIVERSITIES NUCLEAR LABORATORY TEAM[2] — The purpose of this research was to determine the cross section of the ^{86}Kr (n, γ) ^{87}Kr reaction for incident neutron energy levels between 0.43 MeV and 14.8 MeV using the neutron activation technique. The half-life of this reaction is 76.3 minutes and the flux of incident neutrons will be measured using ^{115}In foils (except for 14.8MeV where ^{197}Au foils will be used) that are 0.125 millimeters thick and 2.0 centimeters in diameter. This information is applicable to astrophysics, specifically the slow neutron capture process that occurs in low neutron density environments and creates heavier nuclei. This information is also relevant for the National Ignition Facility and the Lawrence Livermore National Laboratory with regards to their Deuterium-Tritium Internal Confinement Fusion plasma.

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