Abstract Submitted
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Measurement of the $^3\mathrm{H}(d,\gamma)/^3\mathrm{H}(d,n)$ Branching Ratio at Low Energy[1] CODY PARKER, CARL BRUNE, THOMAS MASSEY, Ohio University, DANIEL SAYRE[2], Lawrence Livermore National Laboratory, JOHN O'DONNELL, Ohio University — The branching ratio $^3\mathrm{H}(d,\gamma)^5\mathrm{He}/^3\mathrm{H}(d,n)\alpha$ has been measured using a 500-keV pulsed deuteron beam incident on a stopping titanium tritide target, producing a cross-section-weighted average energy of 196 keV. The time-of-flight technique has been used to distinguish the γ-rays from the neutrons in the bismuth germinate γ-ray detector. Two stilbene scintillators and an NE-213 scintillator have been used to detect the neutrons using both the pulse-shape discrimination and time-of-flight techniques. The branching ratio has been measured to be $(6.9\pm1.6)\times10^{-5}$.

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