Abstract Submitted
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Measurement of low-energy resonances in the ^{18}O(α,γ)^{22}Ne reaction[1] ALEXANDER DOMBOS, DANIEL ROBERTSON, University of Notre Dame, THOMAS KADLECEK, South Dakota School of Mines and Technology, MANOEL COUDER, JOACHIM GRRES, University of Notre Dame, MARK HANHARDT, South Dakota School of Mines and Technology, REBEKA KELMAR, ORLANDO OLIVAS-GOMEZ, ANNA SIMON, ED STECH, University of Notre Dame, FRANK STRIEDER, South Dakota School of Mines and Technology, MICHAEL WIESCHER, University of Notre Dame — The ^{18}O(α,γ)^{22}Ne reaction is part of a reaction chain that produces the ^{22}Ne(α,n) neutron source for the slow neutron-capture process. However, the astrophysically relevant resonances in the ^{18}O(α,γ)^{22}Ne reaction are difficult to measure due to their small resonance strengths. An experiment optimized for background reduction and detection efficiency was recently performed to measure the resonance strengths of these low-energy resonances. The experiment was performed at the Sanford Underground Research Facility (SURF), in the 4850-feet underground cavern dedicated to the Compact Accelerator System for Performing Astrophysical Research (CASPAR). The experimental end station used the γ-summing High Efficiency Total Absorption Spectrometer (HECTOR). Preliminary results from this experiment will be presented.

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