Abstract Submitted
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Yield measurements of the ^{20}Ne$(\alpha,\gamma)^{24}$Mg reaction with the St. George recoil mass separator[1] LUIS MORALES, ALEXANDER DOMBOS, MANOEL COUDER, CHRISTOPHER SEYMOUR, SHANE MOYLAN, GWENAELLE GILARDY, University of Notre Dame, JERRY HINNEFELD, Indiana University South Bend, PATRICIA HUESTIS, DANIEL ROBERTSON, EDWARD STECH, MICHAEL SKULSKI, G. P. A. BERG, MICHAEL WIESCHER, University of Notre Dame — The St. George recoil mass separator at the University of Notre Dame has been used to study the ^{20}Ne$(\alpha,\gamma)^{24}$Mg reaction. The cross section of ^{20}Ne$(\alpha,\gamma)^{24}$Mg is critically important in advanced burning stages in massive stars such as carbon, neon and silicon burning. At this stage, three known resonances have been measured for commissioning experiment of St. George and the characterization of the focal plane detector. The St. George separates the ^{20}Ne beam and sends the ^{24}Mg recoils into a particle identification detection system using the time-of-flight versus residual energy approach. The separator commissioning results will be compared to previous measurements and the detector system characterization will be presented. A path to study ^{20}Ne$(\alpha,\gamma)^{24}$Mg at lower energy will be discussed.

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