Abstract Submitted
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Alpha Cluster States in ^{12}C and ^{16}O[1] BRYCE FRENTZ, ARMEN GYURJINYAN, ETHAN SAUER, WANPENG TAN, ANTHONY BATTAGLIA, ANDREW NYSTROM, CLARK CASARELLA, MALLORY SMITH, PATRICK O'MALLEY, SCOTT MARLEY, SABRINA STRAUSS, ANDRE BERMUNDEZ-PEREZ, BENJAMIN GUERIN, PATRICK FASANO, ANI APRAHAMIAN, Univ of Notre Dame, MICHAEL FEBBRARO, Oak Ridge National Laboratory, RAMÓN TORRES-ISEA, FREDERICK BECCHETTI, Univ of Michigan, MARTIN FREER, Univ of Birmingham, GVIROL GOLDRING, Weizmann Institute — The reaction ^{13}C(α, n)^{16}O and the subsequent breakup of ^{16}O was measured the University of Notre Dame Nuclear Science Laboratory in order to explore the α-cluster states above the 4α decay threshold in ^{16}O. The charged particles were detected using four double-side strip detectors with 256 total channels and 12 deuterated liquid scintillators were used to detect neutrons. Locating and understanding these states is crucial in understanding the stellar evolution and the CNO cycle. Details of the experimental setup, data analysis, and preliminary results will be presented.

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