

SPECIAL SEMINAR

Alpha Cluster states in ^{16}O

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TUESDAY

DECEMBER 8

4:00 P.M.

RM 124 NSH

The search for α -cluster states is an open and interesting question in nuclear structure and has implications for the understanding of helium burning in stars. We carried out an experiment to explore α -cluster states above the 4α -decay threshold in ^{16}O via the $^{13}\text{C}(\alpha, n)$ reaction at the University of Notre Dame's Nuclear Science Laboratory. The experimental setup included four double-sided strip detectors with 256 channels to measure energies and angular distributions of charged particles and 12 deuterated liquid scintillators were used to detect neutrons in the angular range 22-143 degrees. By reconstructing reaction kinematics α -cluster levels in ^{16}O can be obtained.