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Search for α-cluster structure in ^{14}O T. AHN, J. ALLEN, D.W. BARDAYAN, B. BECKER, W. BOESCHENSTEIN, K. CUSHMAN, M. HALL, O. HALL, J. HU, J. KOCI, L. JENSEN, J.J. KOLATA, P. O'MALLEY, University of Notre Dame, Y. AYYAD, D. BAZIN, S. BECEIRO NOVO, J. BRADT, M. CORTESI, L. CARPENTER, W. MITTIG, NSCL, Michigan State University, F.D. BECCHETTI, University of Michigan — α-cluster structure in exotic nuclei is an emergent many-body phenomenon that is an important ingredient in nuclear structure. Evidence for α-cluster structure has been found for states in ^{14}C, an example of α cluster structure existing with additional neutrons. On the proton-rich side, the question remains if clusters states exist in the isospin mirror ^{14}O. A secondary beam of ^{10}C was produced using TwinSol at the University of Notre Dame to probe states in ^{14}O using α-resonant scattering. The Prototype Active-Target Time-Projection Chamber was used to measure differential cross sections. These cross sections should give a strong constraint to cluster models and help elucidate whether isospin is preserved in cluster states. Preliminary results for the recently performed experiment will be presented.

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