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ND-Cube: An active-target detector for radioactive beam experiments and detector development[1] T. AHN, University of Notre Dame, L. DELGADO, Vassar College, N. DIXNEUF, W. JACKSON, L. JENSEN, S. JIN, J. KOCI, J. LEVANO, University of Notre Dame, A. MUBARAK, University of Minnesota Duluth, P. O. O'MALLEY, M. Z. SERIKOW, University of Notre Dame, A. TOLLEFSON, Bethel University, L. YAN, University of Notre Dame — Active-target detectors have enabled the studies that can take advantage of their tracking capabilities and include studies with radioactive beams and reactions with low-energy decay products. We have developed an active-target detector, the ND-Cube, to enable such studies at the Nuclear Science Laboratory at the University of Notre Dame. The ND-Cube has a rectangular geometry that has an active volume of approximately 19 x 25 cm^2 and currently uses a Micromegas micropattern gas detector for electron amplification and detection. GET electronics are used for the read-out electronics. The ND-Cube will also be used as a platform for the development of active-target detector features and characterization such as *in situ* drift velocity measurements and space charge characterization. The ND-Cube is also unique in that the majority of its components were designed and built by undergraduate researchers. The first test measurements with the ND-Cube will be presented as well as its first planned science measurements using radioactive beams.

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