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**Analysis of Kinematics and Decay Energy in the Breakup of $^7$He**[1] DEBORAH DENBY, PAUL DEYOUNG, GRAHAM PEASLEE, Hope College, MONA COLLABORATION — The energy resolution of the Modular Neutron Array and Sweeper magnet was studied by measuring the breakup of $^7$He. A 40 MeV/A $^7$Li beam was produced with the coupled cyclotrons at the National Superconducting Cyclotron Laboratory and following proton stripping in a Be target unstable $^7$He were produced. After breakup of the $^7$He into $^6$He and a neutron, the resultant charged fragments were deflected by the Sweeper magnet and detected, and the corresponding neutrons were detected in MoNA. The decay energy of $^7$He was calculated based on reconstructed fragment and neutron energies. Further analysis is in progress to verify results and determine uncertainty. Analysis procedures and the setup and operation of the experiment will be presented. Decay energy results and implications will also be discussed.

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