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Tracking Single and Multiple Events in MoNA ANDREW STUMP, Michigan State University, Michigan State University - REU, ANDREW RATKIEWICZ, Indiana University, Michigan State University - REU, MONA COLLABORATION — The Modular Neutron Array (MoNA) is a large area detector consisting of 144 plastic scintillating bars housed at the National Superconducting Cyclotron Laboratory (NSCL). Used in conjunction with a 4 T sweeper magnet, it is a high- efficiency neutron detector for studying nuclei near or past the neutron drip line. First experiments concentrated on the study of nuclei decaying by single neutron emission. However, future experiments are planned to explore for example the decay of ^{13}Li into ^{11}Li and two neutrons. Thus it will be necessary to distinguish one-neutron hits from two-neutron hits in MoNA. We used the data from the decay of ^{25}O into ^{24}O and a neutron as well as the decay of excited ^{11}Be into ^{10}Be and a neutron to characterize single neutron events. Subsequently we identified two-neutron events from the decay of excited ^{12}Be into ^{10}Be and two neutrons.

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