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Exploration of Three-Body Decay using Jacobian Coordinates[1]
MARK HOFFMANN, KYLE WILLIAMS, NATHAN FRANK, Augustana College, MONA COLLABORATION — Experiments on neutron-rich nuclei may result in the emission of one or more neutrons. Attempting to find a clear signature of two-neutron decay is possible in some systems, but more difficult in others. The goal in a two-neutron analysis is improving the algorithm for biasing toward true two-neutron events while removing one-neutron scatter. A continuing challenge is to find a better method to do this task. A contaminant beam of 32Mg produced isotopes of 30Na and 29Na with possible two-neutron coincidences during an experiment using the Sweeper-MoNA facility at the National Superconducting Cyclotron Laboratory (NSCL), located at Michigan State University. We analyzed these two isotopes by using Jacobian coordinate systems and comparing to typical gates that the research collaboration has used previously. The exploration of physical parameters to Jacobian coordinates will be presented.

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