

Abstract Submitted
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2-Proton Decay from Exotic Nuclei¹ MIRA GHAZALI, Michigan State University — A recent experiment at the National Superconducting Cyclotron Laboratory measured the two-proton decay of ^{30}Ar in order to better understand this decay mode into the *sd*-shell. The experiment couples the S800 spectrograph to a small silicon-cesium iodide (Si-CsI) array, along with a 2D scintillating fiber array. The Si detector is used to determine the angle of the two protons, and combining the Si and CsI allows one to distinguish between different charged particles and measure their total energy. The fiber array records the angle of the heavy residue emitted from the decay. The S800 spectrograph measures the total energy and identifies the ^{28}S decay residue. A proper energy calibration is needed to accurately analyze data from the experiment. Each detector (along with the fiber array) in the experimental setup requires its own calibration. The ancillary detectors, which include the Si and CsI detectors, call for a linear calibration; this is unlike the S800 spectrograph, which is composed of several different detection systems and consist of different techniques of calibration.

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