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A Study of the quality of CsI detectors and pulse-shape discrimination of scintillators for ?[U+0251]-particles, ?[U+0263]-particles, and neutrons KAITLIN SALYER, University of Notre Dame, GRIGORY ROGACHEV, JOSHUA HOOKER, Texas AM University — This project studied the capabilities of two different scintillators, Cesium Iodide (CsI) and p-Terphenyl. First, the resolution of a CsI detector was investigated by exposing only very small areas of its surface at a time to an alpha source. Second, the abilities of p-Terphenyl to detect alpha particles, gamma particles, and neutrons were analyzed through pulse shape discrimination. p-Terphenyl is of particular interest because it will be used in the Mitchell Institute Neutrino Experiment at Reactor (MINER) at Texas A&M University for measuring background data. The information learned from conducting these tests will be useful in understanding and expanding the limits of the experiments in which these detectors will ultimately be used.

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