Ge Detector Data Classification with Neural Networks CARLY WILSON, RYAN MARTIN, The University of South Dakota, MAJORANA COLLABORATION — The MAJORANA DEMONSTRATOR experiment is searching for neutrinoless double beta-decay using p-type point contact *PPC* germanium detectors at the Sanford Underground Research Facility, in South Dakota. Pulse shape discrimination can be used in PPC detectors to distinguish signal-like events from backgrounds. This research program explored the possibility of building a self-organizing map that takes data collected from germanium detectors and classifies the events as either signal or background. Self organizing maps are a type of neural network that are self-learning and less susceptible to being biased from imperfect training data. We acknowledge support from the Office of Nuclear Physics in the DOE Office of Science, the Particle and Nuclear Astrophysics Program of the National Science Foundation and the Russian Foundation for Basic Research.

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