Abstract Submitted
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$\beta-$decay Waveform Classification using Supervised Learning[1] MICAH CRUZ, University of Tennessee — Measurement of the neutron lifetime via the "beam method" relies on very accurately counting the decay products of neutron beta decay, namely protons. These protons are detected with silicon detectors and recorded as digitized waveforms. After detection, proton events must be correctly identified from a host of other possible events, such as cosmic rays and electrons. Supervised learning methods offer an opportunity to classify events much more quickly than traditional analysis. This relies on training a model with labeled pseudodata. This talk will feature an explanation of multiple supervised learning algorithms that were used for this study, report the accuracy of these algorithms, and discuss how they could be implemented in modern experiments.

[1]-decay Waveform Classification using Supervised Learning

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