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Studying CUORE Pulses with Principal Component Analysis ROGER HUANG, University of California, Berkeley, CUORE COLLABORATION
— CUORE is a tonne-scale cryogenic bolometric experiment searching for the neutrinoless double beta decay of ^{130}Te, operating a total of 988 TeO_2 crystals at a temperature of 10 mK. The pulse shapes of triggered events in CUORE contain additional information that can be used to reject undesirable events, such as pileups and spurious triggers mimicking the energy signature of real physics events. Principal component analysis (PCA) is a method of dimensionality reduction that allows one to find the components that explain the most variance in a set of data. In this talk we present results from applying PCA to CUORE pulses and discuss its potential for pulse shape discrimination.

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