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Background suppression in HPGe detectors using Pulse Shape Discrimination methods

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To achieve low background in rare events physics experiments, several techniques are used. Apart from external veto and shielding, one can recognize the physical process taking place in the detector by analyzing the pulse shape of the detector signal. A presented discrimination method between multi-site and single-site energy deposition events in High Purity Germanium detectors is performed on the basis of the shape of preamplifier's signal rising edge, using multivariate classifiers (Multi Layer Perceptron Neural Networks and Projective Likelihood).

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