

Event identification with machine learning in DarkSide-50 experiment

Monday, 22 October 2018 15:40 (150)

A study of electron recoil and nuclear recoil identification in liquid argon is presented. In the DarkSide-50 experiment identification based on f_{90} criterion and selection cuts. We propose a new approach with use of machine learning techniques. The idea is to implement pulse shape discrimination through multi layer perceptron (MLP). We use calibration data to train the classifier and then test it on data collected during dark matter search runs with underground argon (UAr).

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Session Classification : Poster session and coffee-buffet

Track Classification : Facilities and advanced detector technologies