

Improving accuracy of Machine Learning algorithms with Feature Selection in the context of particle background discrimination for the AGILE telescope

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The aim of this work is to optimise the training process of machine learning algorithms in order to improve their performance on the background particles discrimination task, for the AGILE gamma ray telescope. It has been used a supervised dataset that describes the interactions between the high energy particles with the AGILE detectors. The dataset is composed of thousands of particles interactions, each interaction is described by more than 250 features. The optimisation of the training process is carried out through the Feature Selection technique: the application of selection/dimensionality reduction methods to extract the most relevant features for the training phase of the machine learning algorithms. This process can lead to improvements in their accuracy scores.

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