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【359】 Deep Learning Measurement of Non-Fiducial Electrons Cosmic Rays Using on the DAMPE Experiment.

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The Dark Matter Particle Explorer (DAMPE) is a space-based cosmic ray observatory with the aim, among others, to study cosmic ray electrons (CREs) up to 10 TeV. Due to the low CREs rate at multi-TeV, we increase the acceptance by selecting events outside of the fiducial volume. High incidence events do however require special treatments with sophisticated analysis tools. We propose therefore a Convolutional Network to identify non-fiducial CREs and reject background, based on their interaction in DAMPE calorimeter. We will show how this method can outperform classical methods.

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