

Muon lateral distribution from Telescope Array Surface Detector data

We present a method for muon density reconstruction for extensive air showers detected by the Telescope Array Surface Detector (TA SD). The method uses machine learning to predict the muon density at each triggered SD station of the event based on both station-local and shower-wide information. We discuss the sensitivity and systematics of the method. We report the reconstructed muon lateral distribution function from TA SD data and compare it with the predictions of Monte-Carlo simulations.

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