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Mass dependent parameters of extensive air showers with anomalous longitudinal profiles

We investigate possibilities to determine a mass of primary particle from anomalous longitudinal profiles of extensive air showers. Such profiles are predicted utilizing a Monte Carlo technique together with the contemporal high-energy interaction models. The depth of shower maximum, that is commonly used for the mass composition analyses, is inspected and its performace to discriminate between primary species is studied. We search for alternative observables that have better properties in case of anomalous profiles.

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