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A study of the Moon shadow by using GRAPES-3 muon telescope

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The GRAPES-3 experiment is designed to perform precision studies of gamma-ray sources in the TeV-PeV energy region. It consists of 400 plastic scintillator detectors spanning an effective area of 25000 m^2 and a large area (560 m^2) muon telescope which records 4x10^9 muons every day. With the recent installation of an improved triggerless data acquisition (DAQ) system, the information related to every muon is recorded with a timing resolution of 10 ns. The angular resolution and pointing accuracy of the upgraded muon telescope has been validated by characterizing the shadow of the moon among recorded muons. Here, the details of the analysis and results, as well as the simulation studies to account for the deflection of the particles in the Earth's magnetic field will be presented.

Keywords

Collaboration

other (fill field below)

other Collaboration

GRAPES-3

Subcategory

Experimental Results

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