

The azimuthal distribution of thunderstorm events recorded by the GRAPES-3 experiment

B. Hariharan

On behalf of the GRAPES-3 collaboration

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What is this contribution about?

This work is about the azimuthal distribution of thunderstorm events observed by the GRAPES-3 muon telescope.

Why is it relevant / interesting?

Thunderstorm events are not expected to have any asymmetry except the one due to the terrain conditions. But the main reason found here is due to muon charge asymmetry caused by the geomagnetic effect.

What have we done?

Almost a decade long observation by the GRAPES-3 muon telescope resulted in observation of 487 significant thunderstorm events. These events are analysed and catalogued to study the azimuthal distribution.

What is the result?

The asymmetry found in the azimuthal distribution of thunderstorm events are indeed due to the muon charge ratio which is demonstrated with the help of Monte Carlo simulations.