

# Comparison of CORSIKA hadronic interaction models with GRAPES-3 experiment data

Mohit Saharan

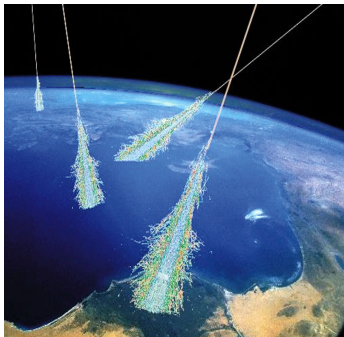
GRAPES-3 Interaction Meeting

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# Outline

- ▶ Introduction
- ▶ Cosmic Ray Induced air Showers
- ▶ GRAPES-3 experiment
- ▶ CORSIKA simulation program
- ▶ Comparison of different CORSIKA hadronic interaction generators with GRAPES-3 data
- ▶ Comparison of CORSIKA simulation data with GRAPES-3 data
- ▶ Summary

- ▶ One of the main challenges of astroparticle physics is to understand the source and propagation of cosmic rays.
- ▶ What are Cosmic rays?
  - ▶ Charged particles from extra-terrestrial origin bombarding Earth's atmosphere.
  - ▶ Energy varies from less than 1 GeV to  $10^{20}$  eV.
  - ▶ Only indirect measurements possible for energies  $\geq 10^{14}$  eV (Extensive Air Showers)



**Figure:** Schematic of GRAPES-3 detector array