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Current status and technical aspects of GRANDProto300

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GRANDProto300 is a prototype of GRAND (Giant Radio Array for Neutrino Detection) in Xiaodushan (40.99°N, 93.94°E) in Dunhuang, China. The detector will feature 300 radio antennas to cover a total geometrical area of $\sim$200 km^2. The experiment aims to demonstrate the autonomous detection of radio emissions from air showers produced by high-energy astroparticles. The first 65 antennas, installed by April 2025, are now stably taking the data. Data analysis is actively ongoing to calibrate the antennas, test trigger conditions for adio autonomous detection, search for cosmic-ray event candidates, and more. Simulation-based studies are also performed to estimate the exposure to cosmic-ray events and reconstruct their physical parameters such as energy and direction. This talk will first introduce the concept and the current status of the experiment and present the technical aspects including instrumentation, simulation studies, and the results of data analysis.

Collaboration you are representing

The GRAND Collaboration

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