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Self-trigger radio prototype array for GRAND

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The GRANDProto300 (GP300) array is a pathfinder of the Giant Radio Array for Neutrino Detection (GRAND) project. The deployment of the array, consisting of 300 antennas, will start in 2021 in a radio-quiet area of ~200km^2 near Lenghu (~3000 m a.s.l.) in China.

Serving as a test bench, the GP300 array is expected to realise techniques of autonomous radio detection such as identification and reconstruction of nearly horizontal cosmic-ray (CR) air showers. In addition, the GP300 array is at a privileged position to study the transition between Galactic and extragalactic origins of cosmic rays, due to the large effective area and the precise measurements of both energy and mass composition for CRs with energies ranging from 30 PeV to 1 EeV. Using the GP300 array we will also investigate the potential sensitivity for radio transients such as Giant Radio Pulses and Fast Radio Bursts at 100-200 MHz range.

Keywords

Neutrino; Radio; Cosmic ray

Collaboration

other (fill field below)

other Collaboration

GRAND collaboration

Subcategory

Experimental Methods & Instrumentation

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Session Classification: Discussion

Track Classification: Scientific Field: NU | Neutrinos & Muons