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Recent Highlights from the Telescope Array

Monday 25 August 2025 16:00 (25 minutes)

The Telescope Array (TA) is the largest observatory for ultra-high-energy cosmic rays (UHECRs) in the Northern Hemisphere. It investigates extensive air showers (EAS) produced by cosmic rays with energies ranging from 10^{15} eV to 10^{21} eV, using a hybrid detection system. This system includes a surface array of scintillator detectors that sample the footprint of air showers at ground level, and fluorescence telescopes that observe the ultraviolet light emitted by EAS in the atmosphere. To improve statistics at the highest energies, the TA collaboration is expanding its capabilities with the TAx4 project, which has already added new telescopes and is working to quadruple the surface detector area. Additionally, the deployment of TALE infill surface detectors has extended the energy range of hybrid observations to lower energies. We present the current status of the experiment along with recent results on the UHECR energy spectrum, composition, and anisotropy. These include the observation of a new spectral feature around 10^{19.2} eV and updated measurements of anisotropy in UHECR arrival directions.

Collaboration you are representing

The Telescope Array

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