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Type: Talk

Telescope Array Summary

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Telescope Array (TA) is the largest ultra-high-energy cosmic ray (UHECR) observatory in the northern hemisphere and has entered its thirteenth year of exploring astrophysical phenomena at the highest energies. It covers more than 700 km² of the Utah desert and consists of a 1.2 km spaced grid of 507 surface detector (SD) scintillation counters along with three fluorescence detector (FD) sites looking inward over the surface array. The TA Low Energy Extension (TALE) has collected over six years of data and consists of an FD site with a 400 m to 600 m spaced SD infill array that allows UHECR detection over an unprecedented five decades of energy (0.002 EeV to 200 EeV). Recent results that indicate extragalactic anisotropies in arrival directions and energies of UHECR are presented as well as updated measurements of the energy spectrum, the primary particle composition, an updated proton-air inelastic cross-section, upper limits on photon and neutrino fluxes, and terrestrial gamma-ray observations. Additionally, TA is currently expanding to TA_{x4} to cover a four times larger area for greater statistics at the highest energies. Two new FD sites are in place and more than half of the new SDs on 2.08 km spaced grid have been deployed. Preliminary observations from the new FD sites will also be shown.

Is this abstract from experiment?

Yes

Internet talk

Yes

Name of experiment and experimental site

Telescope Array

Is the speaker for that presentation defined?

Yes

Details

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