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Summary of Results from the telescope Array Experiment

Tuesday 4 August 2015 18:00 (30 minutes)

The Telescope Array (TA) is the largest experiment in the northern hemisphere actively observing ultrahigh energy cosmic rays. TA is a hybrid detector system combining the precision of the air fluorescence technique with the efficiency of a surface scintillator array. Three fluorescence stations each view 108 degrees in azimuth and up to 30 degrees in elevation. They are located at the periphery of a ground array consisting of 507 plastic scintillator counters. The surface detectors are arranged in a square grid of 1.2km spacing, covering over 700 square kilometers. TA has now collected over seven years of data. We will present the cosmic ray spectra from both TA and its low energy extension (TALE), covering a range of energies from 10 PeV to over 100 EeV. We will also discuss the latest results from the measurements of mass composition by the TA group. Finally, we will present our results from the search for arrival direction anisotropy, including the observed large excess of events at the highest energies, seen in the region of the northern sky centered on Ursa Major. Based on the current results, TA is vigorously pursuing expansion of our detectors to four times its current size.

Collaboration

Telescope Array

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