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The Telescope Array experiment

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The Telescope Array (TA), located in Millard County, Utah, US (39.3° N, 112.9° W, 1400 m a.s.l.), is the largest cosmic ray detector in the Northern Hemisphere.
Its main array for the study of cosmic rays with the highest energies (up to 100 EeV and beyond) consists of 507 surface detector (SD) stations on a 1.2 km-spacing square grid overlooked by 38 fluorescence detector (FD) telescopes at three sites at the edge of the array.
Its sensitivity is extended to energies down to 1 PeV by the Telescope Array Low-energy Extension (TALE), consisting of 103 extra SD stations with tighter spacing overlooked by 10 extra FD telescopes with higher elevation, making it the first single experiment capable of measuring cosmic rays across five orders of magnitude in energy.
In this presentation, I will review the latest results from TA, in particular on the distribution of UHECR arrival directions and possible associations with extragalactic sources. I will also describe TAx4, an extension of TA currently under construction, which is going to greatly increase the expected number of detected events and hence the statistical sensitivity to anisotropies in their distribution.

Are you presenting on behalf of collaborations or institutions?

Telescope Array collaboration

Primary author: Dr DI MATTEO, Armando (ULB, Brussels, Belgium)

Presenter: Dr DI MATTEO, Armando (ULB, Brussels, Belgium)

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