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Measurement of the energy spectrum of cosmic rays with 4 years of data recorded by the TALE-SD array

The Telescope Array Low-energy Extension (TALE) experiment observes cosmic rays with 10 atmospheric fluorescence telescopes and an array of 78 surface detectors (SDs) distributed over an area of $21\,\mathrm{km}^2$. The SD array consists of 40 SDs spaced at $400\,\mathrm{m}$ and 38 SDs spaced at $600\,\mathrm{m}$. One of the goals of TALE-SD is to observe cosmic rays with energies down to $10^{16.5}\,\mathrm{eV}$ to resolve the origin of the second knee and the energy of a galactic-extragalactic transition. TALE-SD was completed in February 2018 and has been in continuous operation since then. In this presentation, we will show the cosmic ray energy spectrum from the actual data obtained by the TALE-SD array.

Collaboration(s)

Telescope Array collaboration

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