

Reconstruction of air shower events measured by the surface detectors of the TAx4 experiment

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The source, propagation and acceleration mechanism of Ultra High Energy Cosmic Rays (UHECRs) has been investigated since the first discovery of UHECRs to solve the mystery about the extremely-high energy universe. The Telescope Array times 4 (TAx4) experiment, which currently consists of 257 Surface Detectors (SDs) and 2 Fluorescence Detector (FD) stations, had been built in Utah, USA in 2019. The TAx4 SDs are detecting secondary particles in an extensive air shower induced by UHECRs, and we reconstructed arrival directions and energies of UHECR using the signals measured by SDs. We present the reconstruction procedure and preliminary results of the reconstructed energies and arrival directions of UHECRs detected by the TAx4 SDs.

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Subcategory

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Primary author: JEONG, Hyomin (Sungkyunkwan University)

Co-author: TELESCOPE ARRAY COLLABORATION

Presenter: JEONG, Hyomin (Sungkyunkwan University)

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