

# The measurements of the cosmic ray energy spectrum and the depth of maximum shower development of Telescope Array Hybrid trigger events

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The Telescope Array experiment is an ultra-high energy cosmic ray observatory located in Millard County, Utah, USA. The observatory consists of 3 fluorescence detector (FD) stations and 507 surface detectors (SD) that cover an area of  $\sim 700 \text{ km}^2$ . *Hybrid trigger* is an external trigger system for the SD arrays that prompts the SD to perform data acquisition when an FD detects a shower-like event. In comparison with the SD autonomous trigger, hybrid trigger allows the SD to collect the data of an air shower that has primary energy below  $10^{18.5} \text{ eV}$ , where the efficiency of SD autonomous trigger decreases rapidly. We present the measurements of the cosmic ray energy spectrum and the depth of maximum shower development of hybrid trigger events observed from October 2010 to June 2019.

## Keywords

UHECR; Hybrid; Energy spectrum; Xmax; Telescope Array;

## Collaboration

Telescope Array

## other Collaboration

## Subcategory

Experimental Results

**Primary author:** Mr SHIN, Heungsu (ICRR, University of Tokyo)

**Co-author:** FOR THE TELESCOPE ARRAY COLLABORATION

**Presenter:** Mr SHIN, Heungsu (ICRR, University of Tokyo)

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