

# Energy spectrum and the shower maxima of cosmic rays above the knee region measured with the NICHE detectors at the TA site

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The Non-Imaging Cherenkov Array (NICHE) is a low energy extension to Telescope Array (TA) using an array of closely spaced (~100 m) light collectors covering an area of ~2 square km. It is being deployed in the field-of-view of the FD for the TA Low Energy Extension (TALE) and overlaps with the TALE FD in the energy range above 2 PeV. Cosmic ray air showers with energies 1-100 PeV will be reconstructed using the Lateral Distribution of Cherenkov light from the air showers. This method allows shower energy and the maximum of shower depth (Xmax) to be determined. A prototype of the array, j-NICHE, has been making routine observations with 14 detectors since May, 2019. We will present the latest results of NICHE including the energy spectrum and the shower maximum distribution around the cosmic ray knee.

## Keywords

## Collaboration

Telescope Array

## other Collaboration

## Subcategory

Experimental Results

**Primary author:** OMURA, Yugo (Osaka City University)

**Co-authors:** Prof. BERGMAN, Douglas (University of Utah); KRIZMANIC, John (4NASA/Goddard Space Flight Center); Mr TSUDA, Ryosuke (Osaka City University); Prof. TSUNESADA, Yoshiki (Osaka City University)

**Presenter:** OMURA, Yugo (Osaka City University)

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