

# NICHE: Non-Imaging Cherenkov observation at the Telescope Array

*Tuesday, 11 October 2016 15:40 (30 minutes)*

The Non-Imaging Cherenkov Array (NICHE) is a low energy extension to Telescope Array and TALE using an array of closely spaced (70–100 m) light collectors covering an area of up to 1/4 square km. The target is cosmic rays with energies above the “knee”, including the “transition region” above which Galactic cosmic rays are no more confined by the galactic magnetic field. It will be deployed in the field of view of TALE and will overlap it in energy range. TALE can observe events in the energy range 3–30 PeV by imaging air-Cherenkov, so NICHE and TALE will observe imaging/non-imaging Cherenkov hybrid events. NICHE itself will use both the Cherenkov Lateral Distribution and the Cherenkov time-width Lateral Distribution in measuring cosmic-ray air showers. These two methods will allow shower energy and  $X_{\max}$  to be determined. A prototype of the array with 15 counters, called j-NICHE, is currently being built and will be deployed within the coming year. We will present the design and plans of the experiment, performances, and the status of the prototype development.

## Presentation type

poster

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