

TA, TALE and TAx4, Latest Results

Tuesday, 31 August 2021 14:00 (15)

The Telescope Array (TA) is an ultra-high energy cosmic ray detector, the largest in the Northern Hemisphere, sensitive to cosmic rays with energies from 1 PeV to above 100 EeV. The main detector is a hybrid detector consisting of an array of 507 surface detectors covering 700 km² overlooked by three fluorescence telescope detector stations. The energy range has been extended at the low end by the TA Low Energy (TALE) extension consisting of fluorescence detector stations with higher elevation viewing angle and an infill array of surface detectors. At the lowest energies, around 1 PeV, the TALE fluorescence telescopes operate as imaging air Cherenkov telescopes and work in hybrid with the Non-Imaging Cherenkov (NICHE) array for hybrid Cherenkov observation. TA is also being extended at the highest energies by increasing the covered area by a factor of four in the TAx4 project. In this presentation, we will present the latest results from TA including a measurement of the spectrum and anisotropy studies, nuclear composition results from TALE, and the first results from TAx4.

Reference to paper (DOI or arXiv)

Your gender (free text)

Primary author(s) : BERGMAN, Douglas (University of Utah)

Presenter(s) : BERGMAN, Douglas (University of Utah)

Session Classification : Hot topic HE astrophys. & CRs/Multi-messenger astronomy

Track Classification : High Energy Astrophysics, Cosmic Rays and Multimessenger Astronomy