



## CRA 2023

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## Cosmic Ray Anisotropy with the Telescope Array

Ultra-high energy cosmic rays (UHECRs) are charged particles that are extremely energetic, with  $E > 10^{18}$  eV. They impinge on the Earth's atmosphere from outer space. The Telescope Array experiment, the largest UHECR observatory in the northern hemisphere, is situated in the western desert of Utah, USA, and has been collecting data continuously since May 2008. It is designed to detect extensive air showers (EAS) which are a cascade of subatomic particles induced by a primary UHECR particle interacting with the atmosphere. The Telescope Array uses two types of detectors: fluorescence detectors (FDs) and scintillator surface detectors (SDs). The FDs measure the scintillation light produced when the shower travels through the atmosphere's gas while the SDs sample the EAS's footprint at ground level. To understand the origin of UHECRs, we analyze the distribution of their arrival directions, looking for indications of anisotropic patterns. In this presentation, we summarize the results of the anisotropy study of UHECR events observed by the Telescope Array SD array, taking full advantage of its high duty cycle.

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