

Abstract Submitted  
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**The Telescope Array's Low Energy Extension: TALE** JOHN MATTHEWS, University of Utah, TELESCOPE ARRAY COLLABORATION — A great deal of information about the sources of ultra high energy cosmic rays exists encoded in the energy spectrum. There are three spectral features in the ultra high energy regime (the second knee, the ankle, and the GZK cut-off). An important composition change also occurs in this energy range. The Telescope Array (TA) is a large area ultra high energy cosmic ray observatory built and operated by groups from the US, Japan, Korea, and Russia. The existing part of the Telescope Array already has good efficiency above the ankle ( $\sim 10^{18.5}$  eV). These detectors are already in the field collecting data. The TA Low Energy Extension (TALE) refers to the detectors devoted to the “low energy” portion of the spectrum -  $10^{16.5}$  -  $10^{19}$  eV. The aim of TA/TALE is to understand the origin of cosmic rays and to study their composition over a broad energy range. We will introduce the detector components and discuss the opportunities.

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