

Abstract Submitted  
for the 4CF12 Meeting of  
The American Physical Society

**Energy Spectrum and Composition of Ultra High Energy Cosmic Ray Showers Using Hybrid Analysis from Telescope Array** MONICA ALLEN, TAREQ ABU-ZAYYAD, BENJAMIN T. STOKES, University of Utah, TELESCOPE ARRAY COLLABORATION — The Telescope Array studies ultra high energy cosmic rays using a hybrid detector. Fluorescence telescopes measure the longitudinal development of the extensive air shower generated by a primary cosmic ray particle, while scintillator detectors measure the lateral distribution of secondary particles that hit the ground. The Middle Drum (MD) fluorescence telescope consists of 14 refurbished telescopes from the High Resolution Fly's Eye experiment (HiRes), providing a direct link back to the HiRes experiment and data. Using the scintillator detector data in conjunction with the MD data improves the geometrical reconstruction of the showers significantly, and hence, provides a more accurate reconstruction of the energy of the primary particle. The Middle Drum hybrid spectrum will be presented. In addition, a MD hybrid composition study was also performed, and results will be shown.

Monica Allen  
University of Utah

Date submitted: 12 Sep 2012

Electronic form version 1.4