Abstract Submitted
for the 4CF14 Meeting of
The American Physical Society

**Using Direct Cherenkov light to detect Ultra-Heavy cosmic rays**
DAVID KIEDA, Univ of Utah — The Direct Cherenkov (DC) Technique has been recently used to allow Imagining Atmospheric Cherenkov Telescopes (IACTs) such as HESS and VERITAS to cleanly identify the primary iron component of the cosmic ray flux near the knee of the cosmic ray spectrum. The DC Technique allows measurement of primary charge with a resolution of $\Delta Z/Z \approx 10\%$ for nuclei heavier than carbon, with essentially no dependence on the assumed nuclear interaction model. In this talk I will describe the possibility of using the DC technique to detect Ultra-Heavy (UH, $Z \gg 26$) cosmic rays at energies approaching 1 PeV ($10^{15}$ eV). I will also describe what can be learned about the origin and propagation of cosmic rays through the observation of PeV UH cosmic rays.

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Date submitted: 11 Sep 2014 Electronic form version 1.4