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Evidence of Intermediate-Scale Energy Spectrum Anisotropy of Cosmic Rays E$\geq$10$^{19.2}$ eV with the Telescope Array Surface Detector JON LUNDQUIST, University of Utah - Telescope Array, TELESCOPE ARRAY COLLABORATION — An intermediate-scale energy spectrum anisotropy has been found in the arrival directions of ultra-high energy cosmic rays of energies above $10^{19.2}$ eV in the northern hemisphere, using 7 years of Telescope Array surface detector data. A relative energy distribution test is done comparing events inside oversampled spherical caps of equal exposure, to those outside, using the Poisson likelihood ratio. The center of maximum significance is at 9^h16^m, 45, and has a deficit of events with energies $10^{19.2}\leq E<10^{19.75}$ eV and an excess for $E\geq10^{19.75}$ eV. The post-trial probability of this energy anisotropy, appearing by chance anywhere on an isotropic sky, is found by Monte Carlo simulation to be 9×10^{-5} ($3.74\sigma_{global}$).

Jon Lundquist
University of Utah - Telescope Array

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