

Search for EeV Protons of Galactic Origin

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Three fluorescence detector experiments, HiRes, Telescope Array, and Pierre Auger, agree that the cosmic ray composition is light, probably protonic in $10^{18.0}$ to $10^{18.5}$ eV range. This energy range is well above the critical energy of the galactic magnetic field (GMF). Our simulations of the GMF field show that if these cosmic rays were of galactic origin, there would be an anisotropy in their arrival directions at the Earth. We will present a calculation of how this anisotropy should appear, show that the effect is absent in the Telescope Array surface detector data, and calculate the upper limit on the flux from the galactic protons in $10^{18.0}$ to $10^{18.5}$ eV range.

Presentation type

oral

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