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Search for Cross-Correlation between HiRes Stereo Events and BL-Lacertae Objects

Abstract content

One of the leading candidate sources of ultrahigh energy cosmic rays are BL-Lacertae (BL-Lac) objects. These are thought to represent Active Galactic Nuclei (AGN) whose jets are aligned with the line-of-sight toward the Earth. Previous experiments have reported small cross-correlation signals with BL-Lac objects with nominal chance probabilities in the 10^{-3} - 10^{-4} range. None of these results have been independently confirmed. At the 29th ICRC, the HiRes experiments has also presented an excess of events correlated with BL and HP objects in the Veron Catalog. This result was based on HiRes events with energies in excess of 10^{19} eV, observed before February, 2004, and has been subsequently published in the Astrophysical Journal. We will present an update to this study with the full HiRes data set. The dataset taken after February, 2004, which were not included in the previous study, will provide an independent test of the hypothesis.

If this papers is presented for a collaboration, please specify the collaboration

High Resolution Fly's Eye (HiRes)

Summary

Reference

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