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Tev Cosmic Ray Anisotropy in Milagro

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Using the Milagro data from 2000 to 2007 containing more than 95 billion events (the largest such data set in existence), we performed a harmonic analysis of the large-scale cosmic-ray anisotropy. We observe an anisotropy with a magnitude around 0.1% for cosmic rays with a median energy of 6 TeV. The dominant feature is a deficit region of depth 0.25% in the direction of the Galactic North Pole centered at 189 degrees right ascension. In addition, we made an unexpected discovery of a localized cosmic-ray anisotropy, showing up as two high significance regions of excess cosmic rays. Recently, both Tibet AS Gamma and ARGO have confirmed similar excesses co-located with the Milagro regions. These features appear on an angular scale of ~ 10 degrees and have a harder than the background cosmic ray distribution, and the spectrum appears to cut off around 10 TeV. In this talk these results will be discussed as well as possible explanations for this surprising result.

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