

A Close Correlation of TA Hotspot Events with Filaments of Galaxies Connected to the Virgo Cluster

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The hotspot feature of ultra-high-energy cosmic rays (UHECRs) was reported by the Telescope Array (TA) experiment in 2014. To study the nature and origin of the TA hotspot, we search structures in the local universe, within 50 Mpc. We identify filaments of galaxies around the TA hotspot area, which are connected to the Virgo cluster. By the anisotropy test, we find a close correlation of the arrival direction distribution of TA hotspot events with the filaments of galaxies. We discuss our finding and its implications.

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