

Large scale distribution of arrival directions of cosmic rays above ~100 PeV

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Scrutiny of the large scale distribution of arrival directions of cosmic rays with energies above ~100 PeV is one important observable to provide key elements for understanding the end of Galactic cosmic rays, and for establishing at which energy the flux of extragalactic cosmic rays starts to dominate the cosmic ray energy spectrum. Using the large amount of data collected by the Pierre Auger Observatory, upper limits on the dipole component in the equatorial plane obtained in different energy ranges above ~100 PeV are presented, being below 2% at 99% CL for EeV energies. Even though the measured amplitudes are within the statistical fluctuations, an apparent consistency of the phases in adjacent energy bins is observed and discussed.

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