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## Arrival directions of the highest-energy cosmic rays detected with the Pierre Auger Observatory

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We present the results of a search for small scale anisotropies in the distribution of arrival directions of ultra-high energy cosmic rays recorded at the Pierre Auger Observatory. The data set, gathered in ten years of operation, includes arrival directions with zenith angles up to  $80^\circ$ , and is about three times larger than that used in earlier studies. We update the test based on correlations with active galactic nuclei (AGNs) from the V\`eron-Cetty and V\`eron catalog, which does not yield a significant indication of anisotropy with the present data set. We perform a blind search for localized excess fluxes and for self-clustering of arrival directions at angular scales up to  $30^\circ$  and for different energy thresholds between 40 EeV and 80 EeV. We search for correlations with the Galactic Center, the Galactic Plane and the Super-Galactic Plane. We also examine the correlation of arrival directions with relatively nearby galaxies in the 2MRS catalog, AGNs detected by Swift-BAT, a sample of radio galaxies with jets and with the Centaurus A galaxy. None of the searches shows a statistically significant evidence of anisotropy. The two largest departures from isotropy that were found have a post-trial probability  $\approx 1.4\%$ . One is for cosmic rays with energy above 58 EeV that arrive within  $15^\circ$  of the direction toward Centaurus A. The other is for arrival directions within  $18^\circ$  of Swift-BAT AGNs closer than 130 Mpc and brighter than  $10^{44}$  erg/s, with the same energy threshold.

### Collaboration

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