



ID de Contribution: 41

Type: Non spécifié

# Anisotropies studies in the arrival directions of Ultrahigh-Energy Cosmic Rays

*mardi 6 décembre 2022 16:32 (12 minutes)*

The study of ultrahigh-energy cosmic rays contributes to a better understanding of the Universe. In particular, the study of anisotropy in their arrival directions is of key importance to unraveling the sources of such particles. The Pierre Auger Observatory, the largest cosmic ray observatory in the world, collected an unprecedentedly large data set over 17 years of operation. In this work, we describe anisotropy-related results obtained by using such events. These are the large-scale searches in the arrival direction of events detected with energies above 4 EeV and the analysis of arrival directions of the highest-energy events, exceeding 32 EeV. A remarkable dipolar modulation in right ascension for energies above 8 EeV is observed, as previously reported, with a statistical significance of  $6.6\sigma$  as well as evidence of anisotropy at intermediate angular scale with  $\sim 15^\circ$  Gaussian spread at  $4\sigma$  significance level for cosmic-ray energies above  $\sim 40$  EeV.

**Auteur principal:** MENEZES DE ALMEIDA, Rogerio (Universidade Federal Fluminense)

**Classification de Session:** Poster session

**Classification de thématique:** Poster Session: Poster 1