



Contribution ID: 188

Type: not specified

The energy spectrum measured with the Pierre Auger Observatory and its astrophysical interpretation

Wednesday, September 13, 2023 3:45 PM (15 minutes)

In this contribution, we present the energy spectrum using data acquired from the Pierre Auger Observatory. By integrating six distinct methodologies, we measured the spectrum from 6×10^{15} eV up to beyond 10^{20} eV. With an accumulated exposure of over $80,000 \text{ km}^2 \text{ sr yr}$ above the ankle region, it represents the most accurate spectrum estimation ever achieved within this energy range. Using the wide zenith angle coverage provided by the Pierre Auger Observatory and its considerable exposure, we were also able to measure the spectrum in various regions of the celestial sphere. In addition to the description of the spectrum and the various measurement techniques, we will discuss the interpretation of the observed features in light of the most up-to-date astrophysical models.

Primary author: Dr CONVENGA, Fabio (Pierre Auger Collaboration)

Presenter: Dr CONVENGA, Fabio (Pierre Auger Collaboration)

Session Classification: CCR: Charged Cosmic Ray

Track Classification: Charged Cosmic Rays