



Contribution ID: 249

Type: Oral

The cosmic ray flux spectrum above 300 PeV of the Pierre Auger Observatory

Wednesday 9 August 2017 16:30 (15 minutes)

The flux of cosmic rays is observed at the Pierre Auger Observatory spanning almost three decades in energy. This energy range is possible by combining the measurements from the nested 1500 m and 750 m surface detector arrays. The energy scale relies on the almost calorimetric energy measurements performed with Auger's fluorescence detectors. With a total exposure of about 52000 [km² sr yr] the observatory has accumulated large statistics which allows for a precise measurement of the flux spectrum above 300 PeV. A spectral shape, motivated by potential cosmic ray source models, is used to identify the spectral features including the ankle and the suppression at the highest energies. The shape of the spectrum is discussed along with its implications.

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Session Classification: Cosmic rays

Track Classification: Cosmic rays