

Measurement of the energy spectrum of cosmic rays with the Pierre Auger Observatory

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The flux of cosmic rays has been measured with unprecedented precision at the Pierre Auger Observatory. We report on the recent update of the all-sky flux of cosmic rays above 3×10^{17} eV obtained by combining four independent high-quality data sets collected for more than 10 years, with a total exposure exceeding 50,000 km²sr yr. These measurements are based on data from the surface detector arrays (divided into two sets according to the shower zenith angle), from a nested, denser, detector array, and hybrid events measured simultaneously with both the fluorescence detector and the surface detector. The spectral features are presented in detail and the systematic uncertainties are addressed.

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