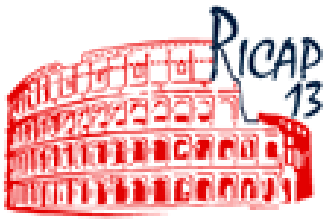

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Measurement of the energy spectrum of cosmic rays at the highest energies using data from Pierre Auger Observatory

Thursday, 23 May 2013 16:45 (20 minutes)

We report a measurement of the cosmic ray energy spectrum based on the
high statistics collected by the surface detector of the Pierre Auger Observatory. Based on the combination of fluorescence detector (FD) and surface detector (SD) and do not rely on detailed numerical simulation or any assumption about the chemical composition. The energy calibration of the observables, which exploits the correlation of surface detector data with fluorescence measurements in hybrid events, is presented in detail. Besides presenting statistical uncertainties, we address the impact of systematic uncertainties. We also summarize the combined energy spectrum obtained using the showers detected with zenith angles between 60 and 80 degrees, and the hybrid data which extends the spectrum towards lowers energies.

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