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Cosmic Rays (Auger)

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Cosmic rays with energies as high as 10ˆ20 eV have been observed, but unveiling their origins and composition is a daunting challenge due to the rarity of events at this extreme end of the energy spectrum. I'll review some of the latest efforts on this front, focusing primarily on The Pierre Auger Observatory. This observatory was designed specifically to study such ultra-high energy cosmic rays using a giant array of particle detectors and fluorescence light telescopes. I'll describe the experimental techniques employed to infer cosmic ray properties from the extensive air showers they produce when they interact in Earth's atmosphere, and present the latest results concerning the energy spectrum, primary composition, and searches for the cosmic ray sources.

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