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Probing hadronic interactions using the latest data measured by the Pierre Auger Observatory

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The Pierre Auger Observatory is the world's largest ultra-high-energy cosmic ray observatory. Its hybrid detection technique combines the observation of the longitudinal development of extensive air showers and the lateral distribution of particles arriving at the ground. In this contribution, a review of the latest results on hadronic interactions using measurements from the Pierre Auger Observatory is given. In particular, we report on the self-consistency tests of the post-LHC hadronic models using measurements of the depth of the shower maximum and the main features of the muon component at the ground. The tensions between the model predictions and the data considering different shower observables are reviewed.

In-person participation

Yes

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