

Recent results from the Pierre Auger Observatory on the mass composition and hadronic interactions of the ultra-high energy cosmic rays

Alexey Yushkov for the Pierre Auger Collaboration

Abstract

We report on the recent studies of the mass composition and hadronic interactions of the ultra-high energy cosmic rays performed at the Pierre Auger Observatory. By comparing results on the mass composition obtained from characteristics of the longitudinal and lateral profiles of the electromagnetic and muonic air-shower components we infer conclusions on drawbacks of the current LHC-tuned hadronic models.