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Xmax from Auger and its interpretation

Friday, 2 July 2010 16:00 (1 hour)

Xmax, the depth of maximum number of charged particles in the atmosphere during the longitudinal development of an air shower, is a valuable parameter to understand the nature of cosmic rays. The behaviour of Xmax is closely related to the composition of the primary particle. Hadronic interaction models, which are tuned with accelerator data, are required to understand the composition. Hence past, present, and future accelerator data are crucial in shaping our understanding of cosmic rays. The southern Pierre Auger Observatory has observed nearly 4000 high quality events above 1 EeV with the fluorescence detector and at least one surface detector in coincidence. We describe the data collection criteria and the Xmax mean and fluctuations, and outline how cosmic rays can aid understanding of hadronic interactions beyond collider energy.

If this is a contributed presentation, please indicate preference for Oral (O) or Poster (P):

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