ID de Contribution: **49** Type: **Ordinary**

Latest results from the Pierre Auger Observatory

vendredi 24 mars 2017 18:40 (15 minutes)

The Pierre Auger Observatory, located near Malargue, Argentina, is the world largest Ultra High Energy Cosmic Ray Observatory. It has been operating since 2004 and its exposure reached almost 60 000 km2 sr yr, providing an unprecedented large and high quality data set that have dramatically advanced our understanding of ultra-high energy cosmic rays. The suppression of the flux around 5×10^19 eV is now confirmed without any doubt. Costraints on models of origin and propagation of cosmic rays have been placed from a combined fit of both flux and composition; moreover, "top-down"source processes were disfavoured by strong limits placed on photon and neutrino fluxes. From studies on the depth of shower maximum, a gradual shift to a heavier composition from 3×10^18 eV was observed. More information on the composition, on the fraction of primary protons, and on hadronic interactions at the highest energies would be crucial to discriminate among the model classes of origin and propagation of cosmic rays and to understand the cause of the observed flux suppression. The Observatory is starting a major upgrade, named AugerPrime, to address these goals: the upgrade will be presented and the expected performances will be discussed.

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Classification de Session: Neutrinos & Astroparticles (cont)

Classification de thématique: Experiment