Contribution ID: **175** Type: **Poster**

Reconstruction of the deep air shower using Top-Down Reconstruction algorithm

Thursday, 20 February 2025 20:15 (5 minutes)

An extensive air shower with a particularly large depth of maximum development, Xmax, (~1200) was observed at the Pierre Auger Observatory. With the help of the Top-Down Reconstruction chain, we aim at further studying this air shower. The Top-Down chain is a Monte Carlo simulation scheme which focuses on reconstructing the observed air shower while accounting for the well-known discrepancy in the number of muons between the observed and simulated showers. We have modified this reconstruction chain to analyse the unique event taking proton as the primary particle. The Top-Down simulation best matching the observed shower is presented as results. It implies that proton origin of the deep event cannot be excluded.

Presenter: MOGARKAR, Megha (Institute of Nuclear Physics (IFJ PAN))

Session Classification: Reception and poster session

Track Classification: Cosmic Rays