



Contribution ID: 1

Type: **not specified**

Advanced Reconstruction Strategies for the Auger Engineering Radio Array

Wednesday, 11 June 2014 09:40 (20 minutes)

The Auger Engineering Radio Array (AERA) aims to detect extensive air showers caused by the interactions of ultra-high energy cosmic rays with the Earth atmosphere, providing complementary information to the Auger surface, fluorescence and muon detectors. The second stage of AERA, currently consisting of 124 radio stations, has been completed at the Pierre Auger Observatory in early 2013, comprising a larger detection area compared to the first stage of AERA (AERA-24).

The main objective for exploiting a radio detector is to precisely measure the fundamental air-shower parameters, such as the direction, energy and composition. To this end, we have developed reconstruction strategies and algorithms to measure the air-shower parameters with high efficiency.

We will discuss the reconstruction strategies developed to determine the fundamental air-shower parameters. In addition, we will present the results obtained by applying the reconstruction strategies on a fraction of the experimental data.

Primary author: Dr DOROSTI HASANKIADEH, Qader (Karlsruher Institut für Technologie (KIT);)

Presenter: Dr DOROSTI HASANKIADEH, Qader (Karlsruher Institut für Technologie (KIT);)

Session Classification: Wed AM I

Track Classification: Weds AM I - Air Shower Detail