

Vulcano Workshop 2014 - Frontier Objects in Astrophysics and Particle Physics



Contribution ID: 16

Type: **not specified**

AERA –The Auger Engineering Radio Array

Friday, 23 May 2014 19:35 (15 minutes)

Extensive air showers originating from ultra-high energy cosmic rays exhibit emission of electromagnetic signals in the radio frequency range. In comparison with other detection techniques, radio measurements deliver complementary information on the electromagnetic shower component with a duty cycle close to 100%. The Auger Engineering Radio Array (AERA) is located within the Pierre Auger Observatory in Argentina which is the world's largest detector for cosmic rays. It offers a well calibrated environment to test and develop future detector technologies and therefore is an optimal location for AERA. Currently, AERA constitutes the largest radio cosmic ray setup consisting of 124 autonomous radio stations and covering an area of approximately 6 km². Since 2011 continuous data taking has started with several thousand cosmic ray events recorded so far. In measurements of air showers simultaneously with radio, fluorescence light and particle detectors, the sensitivity of the radio detection to cosmic ray properties such as arrival direction, energy and mass is being investigated. In this talk the status of AERA will be presented as well as actual results concerning data analysis of radio signatures with AERA.

Primary author: KRAUSE, Raphael (for the Auger Collaboration)

Presenter: KRAUSE, Raphael (for the Auger Collaboration)

Session Classification: Cosmic Rays