Testa Grigia CR Laboratory
Matterhorn, 3505 mt, 1955

Contribution ID: **110**   Type: **oral**

The Extreme Energy Events array: status, perspectives and results

Tuesday, 6 September 2016 12:15 (15 minutes)

The Extreme Energy Events Project is aimed to the study of Cosmic Rays and Cosmic Rays-related phenomena, via a synchronous sparse array of 50 tracing detectors (growing), deployed over a broad area covering 10 degrees in latitude and 11 in longitude.

The array is composed by both clusters and stand-alone stations, each made of three Multigap Resistive Plate Chambers (MRPC), with a 100 ps single station time resolution and 50 ns UTC time resolution.

Data collected by the single stations are sent to the CNAF center, the biggest computing facility of the italian National Institute of Nuclear Physics (INFN), where they are stored, reconstructed and made available for being analysed. At present the experiment is performing the "RUN 2", ending in May 2016; the whole data set collected since fall 2014 has already exceeded 20 billions of muon tracks.

The main fields of investigation extend over a broad energy range and topics.

From the study of local muon flux dependance on solar activity to the investigation of the upward-going component of muon flux traversing the EEE stations; from the search for anisotropies at the the sub-TeV scale to the observation of km-scale EAS. In addition, the broad distribution of EEE telescope clusters allows the search for possible long distance EAS correlations.

The EEE Project has also an educational and outreach aim, involving high school students and teachers in constructing and taking care of the stations, while also accessing the data for educational purposes.

EEE is a rapidly growing experiment, in terms of both surface coverage and scientific topics, addressed by using a tracking and high resolution timing technique. The status of the array, main analysis results and oncoming development and plans are being presented.

Primary author: GNESI, Ivan (TO)

Presenter: GNESI, Ivan (TO)

Session Classification: Parallel