



Contribution ID : 644

Type : Oral

The EEE Project

Tuesday, 10 July 2007 13:05 (0:12)

Abstract content

The EEE (/Extreme Energy Event/) Project is an experiment for the study of very high-energy extensive air showers, actually starting in Italy. It is based on the detection of the shower muon component by means of a network of tracking detectors, installed in Italian High Schools.

The Project, supported by the Ministero dell'Università e della Ricerca (MIUR), Istituto Nazionale di Fisica Nucleare (INFN), European Organization for Nuclear Research (CERN) and Museo Storico della Fisica e Centro Studi e Ricerche "E. Fermi" has been conceived by its leader Professor Antonino Zichichi.

In its first phase the detector telescopes will be installed in 21 High Schools in 7 piloting cities all over Italy. The network will soon be heavily upgraded by increasing the number of High Schools and cities.

The single tracking telescope is composed by 3 large ($\sim 2 \text{ m}^2$) Multi-gap Resistive Plate Chambers (MRPC), realized with float glass electrodes. The use of particle detectors based on such MRPCs will allow to determine with a very high accuracy the direction of the axis of cosmic ray showers initiated by primaries of ultra-high energy, together with a high temporal resolution.

The first MRPC telescope, installed in the Liceo Scientifico "B.Touschek" in Grottaferrata near the LNF-INFN site (nearby Rome), is successfully running. By the end of year 2007, the installation of the other telescopes will open the way for the first search of high-energy cosmic rays distant coincidences.

In the future, serving many High Schools scattered all over the Italian territory, the EEE Project will also allow to investigate coincidences between multiple primaries producing distant showers. Here we present the experimental apparatus and its tasks.

If this papers is presented for a collaboration, please specify the collaboration

EEE Extreme Energy Events

Summary

Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 5 (HE part 2), pages 977-980

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Session Classification : HE 1.5

Track Classification : HE.1.5