ARENA 2014



Contribution ID: 25

Type: not specified

Radio detection of Cosmic Rays in the GHz band at the Pierre Auger Observatory

Tuesday, 10 June 2014 12:10 (30 minutes)

Observations of microwave radiation emitted by low energy electrons left after the passage of a high energy electron beam in accelerator experiments offered new possibilities of Ultra High Energy Cosmic Rays (UHECR) detection techniques based on microwave radiation. This would bring a tenfold increase in detector duty cycle compared to the standard fluorescence technique.

The emission mechanism interpreted as Molecular Bremsstrahlung Radiation (MBR) is expected to produce an unpolarized and isotropic signal. Motivated by the expected full duty cycle of such a technique and to its insensitivity to atmospheric attenuation, three microwave detectors; EASIER, MIDAS and AMBER are implemented in Auger.

The status and results of these microwave detectors are reported.

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Session Classification: Tues AM II

Track Classification: Tues AM II - Air Shower Experiment