

The Carpet-3 EAS array for investigation of gamma-radiation with energy $E > 100\text{TeV}$

Wednesday, 9 June 2021 12:40 (15 minutes)

Abstract. The Carpet-3 experiment for investigation of gamma-radiation with energy above 100 TeV is currently being prepared at the Baksan Neutrino Observatory of the Institute for Nuclear Research, Russian Academy of Sciences. At present the plastic scintillation counters with a total continuous area of 410 m² are installed in the muon detector (MD) underground tunnel, and they are totally equipped with electronics. The counters' gains and thresholds have been adjusted. Fifteen modules of shower detectors are placed on the surface of the MD absorber. Ten of them contain 9 standard plastic counters with an area of 1 m² each. Also 24 modules without counters are arranged on the territory of the array. These modules will accomplish a surface part of the Carpet-3 array. The preliminary estimates show that the new array will have the best sensitivity to the flux of primary gamma rays with energy in region 100TeV-1PeV. The increased area of the surface part of the array will allow one to have larger area of location of shower axes, thereby increasing the statistics of detected events and decreasing the energy threshold for primary cosmic radiation. The Carpet-3 experiment will start at the end of 2021.

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Session Classification: TeV-PeV gamma rays

Track Classification: TeV-PeV gamma rays