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Characteristics of EAS electron-photon and hadron components detected by the facilities of the Experimental Complex NEVOD

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A multi-component approach to the study of extensive air showers (EAS) is being implemented in the Experimental Complex (EC) NEVOD (MEPhI, Moscow). The detection of the electron-photon component of air showers is carried out by the NEVOD-EAS array, which consists of 144 scintillation counters combined into 9 clusters. The air-shower hadronic component is measured using 72 neutron detectors grouped in 12 clusters of the URAN array.

In the report, characteristics of extensive air showers detected by the EC NEVOD facilities are discussed. The accuracies of reconstructing main air-shower parameters with the NEVOD-EAS and URAN arrays have been estimated. The lateral distribution functions of EAS thermal neutrons and electron-photon component have been obtained. The spectra of air-shower size based on the data of two arrays are presented, and the reconstructed energy spectrum of primary cosmic rays is given.

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