

A cluster approach to the analysis of experimental data of the NEVOD-EAS shower array

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The NEVOD-EAS array for the detection of extensive air showers in the energy range 10^{15} – 10^{17} eV is being created in MEPhI on the basis of the Experimental complex NEVOD. It is aimed at independent estimations of the size, axis position and arrival direction of EAS registered with other detectors of the complex. Since the NEVOD-EAS is being created at a densely built territory and detecting elements cannot be deployed in the same plane like in usual air shower arrays, its registering system is organized in a cluster principle, and data analysis is performed using a newly developed cluster approach. The NEVOD-EAS cluster is an independent system including 16 counters of EAS electron-photon component and registering electronics. The cluster electronics digitizes signals, selects and time-stamps local events and transfers information to the central DAQ post. Events from different clusters are then combined according to their timestamps. The features of the developed cluster approach to the analysis of the NEVOD-EAS shower array experimental data are described.

Primary author(s) : SHULZHENKO, Ivan (National Research Nuclear University MEPhI (Moscow Engineering Physics Institute))

Co-author(s) : Mr. ARDASHEV, Vladimir (National Research Nuclear University MEPhI); CHIAVASSA, Andrea (Universita agli Studi di Torino); Mr. DOBRYNCHUK, Lubim (National Research Nuclear University MEPhI); GROMUSHKIN, Dmitry (MEPhI); LIKIY, Oleg (National Research Nuclear University MEPhI (Moscow Engineering Physics Institute))

Presenter(s) : SHULZHENKO, Ivan (National Research Nuclear University MEPhI (Moscow Engineering Physics Institute))

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