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Analysis of joint events by means of the ProtoTREK and the NEVOD-EAS data

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The Experimental Complex NEVOD includes a number of large-scale facilities for detection of high energy cosmic rays, including the ProtoTREK and the NEVOD-EAS detectors. The coordinate detector ProtoTREK consists of 14 multiwire drift chambers with a total area of 13 m^2 and makes it possible to register and to reconstruct tracks of charged particles of extensive air showers (EAS). The NEVOD-EAS facility is an array of surface scintillation detectors covering an area of $10^4 m^2$ which are grouped in 9 clusters; the setup registers the electron-photon component of the EAS. These detectors work independently, in particular, they have different internal clocks. The ProtoTREK is located between the detector stations of the 5th cluster of the NEVOD-EAS, therefore, the events that are registered in this cluster are considered. The work presents results of the analysis of joint events. The original method for selection of events was developed. 4814 joint events on June 10 and June 11, 2021 were found and analyzed by the difference of the angles between reconstructed directions of the EAS. Thereby, the most probable angle between the reconstructed by two setups EAS arrival directions is 3.4° .

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