

Extensive air showers event reconstruction using spatial and temporary particle distribution at Horizon-T experiment.

Horizon-T (HT) is a newly completed (Oct. 2016) innovative detector system constructed to Extensive Air Showers (EAS) in the energy range above $\sim 10^{16}$ eV coming from a wide range of zenith angles ($0^\circ - 80^\circ$). The system is located at Tien Shan high-altitude Science Station of Lebedev Physical Institute of the Russian Academy of Sciences at approximately 3340 meters above the sea level. It currently consists of eight charged particle detection points separated by the distance up to one kilometer. The ability to record each detector response with accuracy of few ns gives HT ability to study the temporary structure of EAS disk and apply the results to the event reconstruction. The reconstruction is therefore based on chronotron (< 0.5 ns), spatial and temporary distribution of charged particles within the detected EAS event.

The poster will show the simulated time distribution of charged particles in the EAS disk vs. distance from the axis and the correspondence to the data. A flow of the reconstruction of standard EAS events and the event display will be presented as well as recent HT results.

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