

Analysis of capability of detection of extensive airshowers by simple scintillator detectors

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Executive summary

In this work, we show estimation of expected results from measurement of cosmic rays made with system of several small scintillator detectors. Analysis is based on simulations of the extensive air showers (EAS). After taking into account relationship of produced particles density with energy of primary particle, its angle of incidence and total number of produced particles as well as properties of the system the probability of detection was computed. Knowing energy spectrum of primary cosmic rays allows to estimate expected number of EAS events measured by certain set of devices. After comparing results with analysis of the background and results of the first measurement one can conclude that such systems should be able to detect EAS reliably with not poor efficiency. However, those are very early results with many simplifications in its assumptions so improvements in the analysis are planned as well as further measurements.