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Energy Dependence of EAS Parameters

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Abstract. Starting from discovery of EAS its initial energy E0 was evaluated by using of calculated coefficient $k = E_0/N$, where N is number of electrons at the observation level. Many calculations of EAS parameters were performed for primary particles with fixed initial energy, but in experiments showers at observation level were selected according to their size N. The using of Tien-Shan complex EAS installation which had included array for the measuring of Vavilov-Cherenkov light flux had permitted at the first time to investigate EAS parameters in dependence on primary energy. For the estimation of primary energy in the experiment the lateral distribution of Vavilov-Cherenkov photons was compared with calculations performed by Lagutin who used the QGS-model for proton initiated showers. The energy dependence of some EAS parameters are presented.