

Cerenkov Radiation of Cosmic Ray Extensive Air Showers.

Part 3. Longitudinal Development of Showers in the Energy Region of 10^{15} , 10^{17} eV

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The longitudinal development of showers in the energy region of $10^{15} \div 10^{17}$ eV has been reconstructed by using the lateral distribution of EAS Cerenkov light and the zenith dependence of the parameter N_s at the fixed energy. Thereby, the adaptive method algorithm in solution of the inverse tasks is used. The cascade curve from the EAS development maximum up to sea level has been reconstructed. Further, a dependence of $N_s(E_0, \theta)$ is applied. Thus, it became possible to trace the development of shower in its maximum as well as far beyond the maximum. Taking into account it, the absorption path lengths of particles in a shower at a different stage of its development have been found. This parameter can be used in testing of the hadron interaction models at $E_0 > 10^{15}$ eV and the mutual calibration of all compact EAS arrays.