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# EAS Maximum Depth from the Space-Time Structure of Cherenkov Light Based on the TAIGA-HiSCORE Data

A new simulation using the CORSIKA code without accelerating coarsening of the results was performed for the energy range of 1-100 PeV, taking into account pulse formation at the input of the optical station of the TAIGA-HiSCORE array. Refined relationships between the steepness parameter of the lateral distribution function (LDF) and the light pulse FWHM at distances of 200-400 m and the relative position of the EAS maximum have been obtained. The application of the new simulated relationships to measure the EAS maximum depth ($X_{max}$) by the data of the 3 seasons of the TAIGA-HiSCORE observations (2021 – 2024) are shown.

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