

Direct comparison of muons in ultrahigh energy EASs between Yakutsk array and Auger experiment data

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The results of direct measurements of the muon density in extensive air showers (EAS) with zenith angles $\theta \leq 45^\circ$ and energies $E_0 \geq 10^{17}$ eV obtained in the Auger experiment and at the Yakutsk array are considered. In both cases muons were registered by underground scintillation detectors with the same threshold energy $E_\mu \approx 1.0 \times \sec \theta$ GeV. The measured values are compared with the theoretical values calculated within the framework of QGSjet-II-04 hadron interaction model using the CORSIKA code. They differ from each other by the factor of $1.53 \pm 0.13(\text{stat})$. It is shown that this difference is due to the muon density overestimation by a factor of 1.22 and the primary energy underestimation by a factor of 1.25 in the Auger experiment.

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