

STUDY OF MODEL DEPENDENCE OF EAS SIMULATIONS AT $E \geq 10^{19}$ EV.

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Air shower simulation programs are essential tools for the analysis of data from present and future cosmic ray experiments, since estimates of energy and mass of the primary particle can only be obtained by comparison to model predictions and the uncertainties translate directly into systematic errors in the energy and mass determination.

While the main uncertainty of contemporary models comes from our poor knowledge of the (soft) hadronic interactions at high energies, also electromagnetic interactions, low-energy hadronic interactions and the particle transport influence details of the shower development.

We report here on a comparative analysis of simulations performed using the AIRES and CORSIKA air shower simulation programs. The model dependency of the main shower observables is discussed. We study also some aspects of the technical performance of both programs.