

ESTIMATION OF THE PRIMARY COSMIC RADIATION CHARACTERISTICS

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A new method of estimating the kind (Gamma, proton, Fe...), energy and axis characteristics of primary cosmic ray particles based on the analyzing of Cherenkov light flux at given observation level is proposed and developed.

The flux is described with the model functions, defined on the basis of analysis on emulated data. The energy dependence of the function parameters were studied for Gamma, Proton (p) and Iron (Fe) primaries using CORSIKA code.

It is shown, that the detector displacement according to a new Spiral set permits one to estimate with the same precision the shower parameters but with less detectors in comparison with the usual uniform displacement. This new method can be applied for a different detector arrangements of EAS arrays.

It is state, that it is possible an accelerator experiment for testing the method and accuracy of the shower emulating codes.