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Cosmic ray primary composition in the energy range 10-1000 TeV obtained by passive balloon-borne detector: re-analysis of the RUNJOB data

Abstract content

We present an alternative analysis of the data reported by the balloon-borne experiment RUNJOB. According to RUNJOB, the average mass number of primary cosmic ray particles is constant up to 1 PeV. Here we show that there is more than one solution, which reproduce the observational data. It is demonstrated that, contrary to the wide-spread opinion, the RUNJOB data are not inconsistent with an increase of the average mass near the knee region of the cosmic ray spectrum. Considering large statistical and systematic errors, especially in the high energy region, none of these two possibilities, heavy dominant composition, or proton dominant composition, can be completely ruled out.

If this papers is presented for a collaboration, please specify the collaboration

Summary

Reference

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