

Cosmic-ray physics at CERN

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Content

In astroparticle physics, the identification and understanding of the sources of high-energy cosmic rays is one of the most important open problems. Knowing the elemental composition of cosmic ray particles arriving at Earth is of crucial importance to understand the production and propagation of cosmic rays. Unfortunately, cosmic rays can be measured only indirectly above an energy of 10^{14} eV through the cascades of secondary particles, called extensive air-showers (EAS), that they produce in the atmosphere.

With the operation of modern large-scale experiments such as accelerator experiments located underground a development of Cosmic Ray Physics program is possible at CERN. Experiments at LEP and LHC are suitable for the study of properties of atmospheric muons. In this talk we will present some of the results reported by these experiments. Plans for future experiments like MATHUSLA will be also presented.

Summary

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