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The Cosmic Ray light component spectrum in the 10-1000 TeV energy range measured by the ARGO-YBJ experiment by using a bayesian approach

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The ARGO-YBJ experiment is a full coverage air shower detector operated at the Yangbajing international cosmic ray observatory. The detector has been in stable data taking in its full configuration since November 2007 to February 2013. The high altitude and the high segmentation and spacetime resolution offer the possibility to explore the cosmic ray energy spectrum in a very wide range, from a few TeV up to 5000 TeV. The high segmentation allows a detailed measurement of the lateral distribution, which can be used in order to discriminate showers produced by light and heavy elements. In this work we present the measurement of the cosmic ray light component spectrum in the energy range 10-1000 TeV. The analysis has been carried out by using a two-dimensional unfolding method based on the bayes theorem.

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