ICRC2015

ICRC
The Astroparticle Physics Conference
34th International Cosmic Ray Conference
July 30 - August 6, 2015
The Hague, The Netherlands

Contribution ID: **966** Type: **Poster contribution**

Astrophysical expectations for the variation of the UHECR composition across the sky

Thursday, July 30, 2015 3:30 PM (1 hour)

Using an integrated propagation code that takes into account particle energy losses, nuclear photo-dissociation and deflections by Galactic and extragalactic magnetic fields, we simulate representative sky maps of ultra-high-energy cosmic rays over the entire sky, for a wide range of astrophysical scenarios, with different source density, spectrum and composition. We analyze these sky maps from the point of view of composition variations in different regions of the sky, and present a statistical analysis of the significance of such variations. In particular, we apply the study to the typical differences that might be expected between the northern and southern hemispheres.

Collaboration

– not specified –

Registration number following ”ICRC2015-I/”

560

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Session Classification: Poster 1 CR

Track Classification: CR-TH