Contribution ID : **1201** Type : **Oral**

Propagation of High-Energy Cosmic Rays through the Galaxy: Discussion and Interpretation of TRACER Results

Thursday, 5 July 2007 11:06 (0:12)

Abstract content

The long-duration balloon flights of TRACER have provided new measurements of the intensities and energy spectra of the arriving cosmic-ray nuclei with $5 \leq Z \leq 26$ at high energies. In order to determine the particle composition and energy spectra at the cosmic-ray sources, changes occurring during the interstellar propagation of cosmic rays must be known. We use a simple propagation model with energy-dependent pathlength and derive constraints on the propagation parameters from a self-consistent fit to the measured energy spectra. We use the model to obtain the relative abundances of the cosmic ray nuclei at the acceleration site and compare these with the "universal" abundance scale.

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

Summary

Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 2 (OG part 1), pages 215-218

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Session Classification : OG 1.2, OG 1.3

Track Classification : OG.1.3