Contribution ID : **725** Type : **Oral**

OBSERVATIONS OF IMPULSIVE NITRATE ENHANCEMENTS ASSOCIATED WITH GROUND-LEVEL COSMIC RAY EVENTS 1-4 (1942-1949)

Saturday, 7 July 2007 10:30 (0:12)

Abstract content

A direct comparison of impulsive nitrate enhancements observed in multiple polar ice cores from both hemispheres is presented for the years 1940-1950. During that time period, four ground-level solar cosmic ray events (GLEs) were recorded by ionization chambers. We show that large and sudden enhancements in the nitrate records from both hemispheres were observed within weeks of the dates of the GLEs. The observation of impulsive nitrate enhancements simultaneously in both hemispheres shortly after a solar proton event is strong evidence in support of a causal connection and argues strongly for rapid gravitational precipitation of atmospheric nitrates.

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. 1 (SH), pages 729-732

Primary author(s) : Dr. SHEA, Margaret (Emeritus, Air Force Research Laboratory)

Co-author(s) : Dr. SMART, Don (Emeritus, Air Force Research Laboratory); Dr. KEPKO, Larry (Boston University); Dr. SPENCE, Harlan (Boston University); Dr. DRESCHHOFF, Gisela (University of Kansas)

Presenter(s) : Dr. SMART, Don (Emeritus, Air Force Research Laboratory)

Session Classification : SH 3.6

Track Classification : SH.3.6