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FORECAST OF THE SOLAR PROTON EVENTS ACCORDING TO THE RIGIDITY SPECTRUM VARIATIONS OF COSMIC RAYS

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Abstract content

According to the time variations of the cosmic ray (CR) rigidity spectrum parameters the dynamic processes are researched in the interplanetary space, and it is found that the variation of electromagnetic characteristics of heliosphere begins before the sporadic phenomena on the Sun. In particular, it is shown that before the sporadic phenomena the decrease of generation of local polarization electric fields and magnetic field intensity in small-scale heliosphere structures as well as the increase of potential difference between the pole and the plane of the ecliptic take place. Use of the combination of given features allows carrying out the forecast of solar proton events with the advance time from several hours to several tens of hours with a high degree of reliability.

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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 127-130

Primary author(s) : Dr. DVORNIKOV, Valery (Mikhailovitch)

Co-author(s) : Ms. KRAVTSOVA, Marina (Vladimirovna); Ms. LUKOVNIKOVA, Anna (Aleksandrovna); Dr. SDOBNOV, Valery (Evgenevitch); Dr. KRYAKUNOVA, Olga (Institute of Ionosphere of Ministry for Education and Sciences of Republic)

Presenter(s) : Dr. KRYAKUNOVA, Olga (Institute of Ionosphere of Ministry for Education and Sciences of Republic)

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