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Magnetic Storm Associated with Energetic Particle Event of January 21, 2005

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Abstract content

A strong magnetic storm occurred in January 21st, 2005. During this magnetic storm, fluxes of electrons trapped in the radiation belt were observed simultaneously with two low altitude satellites, CORONAS-F and SERVIS-1 and some geostationary satellites, LANLs. During under developing of the magnetic storm, both of the velocity and the dynamic pressure of solar wind increased by two discrete steps. The data observed from these satellites indicated the large flux variation between the first and second increase. The flux of about 1 MeV electrons observed by LANLs decreased at both the 1st and the 2nd increase of the solar wind parameters, while the flux of about 1 MeV protons increased at the 1st step and then decreased at the 2nd step. However, the flux of 3.4 – 6.8 MeV electrons observed by SERVIS-1 satellite increased after the 1st step in only outer radiation belt, but not with lower energy ranges or other regions. Furthermore, the spatial distributions of energetic electrons observed by SERVIS-1 and COONAS-F satellites largely changed before and after the onset of the magnetic storm. Thus observed results will be discussed to find out the nature and its temporal variation of energetic particles in the magnetosphere.

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 163-166

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