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ACE/Wind multispacecraft analysis of anisotropic solar wind fluctuations

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Abstract content

The propagation of galactic and solar cosmic rays in the solar wind (SW) can be strongly influenced by the SW fluctuations properties. Magnetohydrodynamic (MHD) scale fluctuations in the solar wind are usually highly anisotropic, and have also been found to exhibit different properties in regions of high and low solar wind speed. We analyze here the anisotropy properties of the solar wind fluctuations from single (assuming Taylor frozen-in hypothesis) and multispacecraft analysis (observing the pure spatial structures). From the single spacecraft analysis (5 years of observations from ACE) we found that the fast solar wind contains fluctuations (magnetic, velocity and cross helicity fluctuations) with wave numbers mostly parallel to the mean magnetic field, while in the slow wind the fluctuations are mostly perpendicular. In this work we compare these previous results with a multispacecraft analysis using combined observations of ACE-Wind.

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'Olive, 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 625-628

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