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Energetic neutral atom observations and their implications on modeling the heliosheath

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Abstract content

Since 1996, energetic hydrogen and helium atoms (ENAs) have been identified and their fluxes are monitored by the High-Energy Suprathermal Time-of-Flight sensor (HSTOF) of the Charge, Element, and Isotope Analysis System (CELIAS) on the Solar and Heliospheric Observatory (SOHO) near the Lagrangian point L1. ENAs, neutralized via charge transfer reactions, move along ballistic trajectories unaffected by the interplanetary magnetic field. ENAs originate in the heliosphere from CIRs, solar energetic particle events, pre-accelerated pickup ions and low-energy (up to few hundred keV) anomalous cosmic ray (ACR) ions in the outer heliosphere, in the vicinity and beyond the solar wind termination shock. The observed ENA fluxes set upper limits on the fluxes of energetic particles in the outer heliosphere and on the modelling parameters of the heliospheric plasma simulations.

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 837-840

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