

Cosmic Rays from the Termination Shock to the Heliopause: the Role of the Heliospheric Current Sheet

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The large-scale heliospheric current sheet (HCS), dividing the two hemispheres of the opposite magnetic polarities is a dominant large-scale feature of the Heliosphere and is known to play a crucial role in the modulation of anomalous and galactic cosmic rays (ACRs and GCRs)..

The present work investigates how the HCS may affect the acceleration of ACRs at the solar wind termination shock (TS) and the transport of ACR and GCRs through the Inner Heliosheath (IHS). A 2D 'hoop model' model is employed, which can capture the most essential effects of the wavy HCS. We also discuss how do ACRs leave and GCRs enter the Heliosphere.

Keywords

"Anomalous Cosmic rays; Particle acceleration; drift, termination shock; Heliopause"

Collaboration

other Collaboration

Subcategory

Theoretical Results

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