

Cosmic rays in the dynamic heliosheath

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Cosmic rays entering the heliosphere encounter different modulation processes which are variable with time. In addition, the modulation volume is also changing dynamically due to the migration of the termination shock and due to deformation of the heliopause structure caused by the time dependent solar wind flow profile. Both effects influence the cosmic ray transport and acceleration, especially in the heliosheath. Furthermore, the dynamics of the heliospheric magnetic field and tilt angle during a solar Hale cycle causes propagating diffusion barriers. These are transported from the inner heliosphere into the heliosheath significantly influencing cosmic ray transport. An overview of these aspects, with emphasis on the dynamics of the heliosheath, is given.