

Cosmic ray modulations near the heliospheric current sheet

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Abstract. Cosmic ray modulations near the heliospheric current sheet is studied. Physical situations in the vicinity of heliospheric current sheet is considered. Emphasis is on solar minimum condition and near equatorial situation during different polarity states of the heliosphere; in such situations drifts are more likely to be significant. Difference in modulations during two polarity states of the heliosphere, $A > 0$ and $A < 0$ epochs, are evident in cosmic ray data examined. The

observed pattern appears inconsistent with three-dimensional model prediction from drift model of cosmic ray modulations. Variations of solar wind velocity and interplanetary magnetic field strength near the heliospheric current sheet are also considered and compared with the observed pattern in cosmic ray intensity. A possible explanation that can account for the observed results is discussed.