



The North-South symmetry of the heliosphere: Ulysses observations of heliospheric magnetic polarities

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The Ulysses space probe's first fast survey of the heliosphere from the Sun's South pole to its North pole under conditions of solar minimum activity in early 1995 yielded ambiguous results concerning the symmetry of the Northern and Southern halves of the heliosphere. While the magnetic field observations showed a symmetrical heliosphere, cosmic ray measurements appeared to show a southward bias in the orientation of the Heliospheric Current Sheet (HCS). We have examined the recently completed fast latitude survey that took place in 2007 also under minimum solar activity conditions. There is a clear difference in that the magnetic field showed a four-sector structure in 2007 corresponding to a different waviness of the HCS, in turn corresponding to different relative magnitudes of the solar dipole and multipole moments. We present these results as well as a fitting to a simple model which appears to show a hysteresis effect between the two successive solar minima.