

Ulysses Observations of Latitudinal Gradients in the Heliospheric Magnetic Field

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As Ulysses has traveled below the ecliptic enroute to the Sun's south polar region, the principal magnetic field parameters reveal clear evidence of their dependence on latitude. The field magnitude and radial component decrease monotonically. On the other hand, the ratio of the variances in the components to the field magnitude rises rapidly with latitude. Long-term averages of the north-south component reveal statistically significant deviations from zero. The spiral angle decreases (unwinds) more rapidly than would be expected from the decrease in angular rate of solar rotation. The large scale structure in the **field** is drastically reduced by the time the spacecraft reaches **50°**. These changes in the field will be described in detail and their implications will be discussed.

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