

## North-south asymmetry of sense of polarization of magnetic fluctuations at the wake boundary in the By-dominated solar wind magnetic field

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North-south asymmetries of sense of polarization of magnetic fluctuations were detected by Kaguya MAP/LMAG at the lunar wake boundary in the By-dominated solar wind magnetic field. The sense of rotation was consistent with the Kelvin-Helmholtz instability. The frequency was higher at the wake boundary and lower in the central wake. The waveform was steepened at the wake boundary, and was sinusoidal in the central wake. The magnetic field configuration is similar to that of the Earth's magnetopause, while the thickness of the transition region at the lunar wake is as small as 40km due to the steep density gradient. The thin boundary would account for that the wake did not decay in the central wake far beyond the boundary.

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