



Foreshock and magnetosheath waves at Mercury studied with wavelet analysis

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In this paper we use the wavelet transform to analyze non-stationary features in the foreshock and magnetosheath waves at Mercury's magnetosphere. High-resolution magnetic field data during Mariner-10 first and third Mercury flybys are analyzed with the Morlet wavelet transform. Spectral properties of the magnetic field fluctuations are compared during the different crossings. We have found that the magnetic field oscillations are highly non-stationary and the main frequency intervals found are: ~5-40 s (magnetosheath), and 0.2-0.5 s and 5-30 s (foreshock waves).