

Space Plasmas in the Solar System, including Planetary Magnetospheres (D)
Comparative Magnetospheres (D33)
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A STUDY OF THE LOW-FREQUENCY MAGNETIC FIELD FLUCTUATIONS IN THE MERCURY'S MAGNETOSHEATH

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The low-frequency magnetic field fluctuations in the Mercury's magnetosheath are studied in this work. In order to conduct this study, high-resolution (25 sample.s) Mariner-10 magnetic field vector data are used. Fourier (FFT) and wavelet (Morlet) transforms are employed to identify the main periodicities present in the magnetosheath intervals. The inbound and outbound crossings during both M-1 and M-3 encounters are analyzed. The quasi-periodicities found in the analysis are evaluated in relation to the proton and heavy ions (e.g Na+) gyroresonance frequencies. Further, with the wavelet analysis we can study the non-stationarity of the magnetosheath fluctuations and interpret them in terms of amplitude, frequency and proximity to the bow shock or magnetopause. The differences for the magnetosheath intervals with quasi-perpendicular and quasi-parallel bow shock crossings are also investigated.