



Instantaneous wave vector of low frequency waves in the turbulent Magnetosheath

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We extracted different oscillatory modes reflecting a non-linear behaviour from magnetosheath magnetic field data observed by FGM instrument of Cluster 11 mission which offers four point measurements. We used empirical mode decomposition (EMD) technique to extract the intrinsic modes functions (imf) of the data representing the different wave modes. The frequency decomposition of the resulting wave modes is based on Simple Hilbert Transform (SHT) leading to instantaneous frequencies. Every instantaneous local wavenumber associated with the instantaneous frequencies were then determined.