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## Plasma Wave Recognition by Multipoint Filtering Techniques

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Turbulent wave fluctuations of plasma parameters obtained from the spacecraft measurements have mixed manifestations of spatial and temporal scales due to the dynamics of the considered environment. Decomposing of such plasma perturbations into frequency and spatial range have allowed us to analyse power distribution in branches of dispersion equations. We have demonstrated efficiency of each specific method in resolving  $\omega - k$  distribution in magnetospheric events. These techniques such as k-filtering, MSR (Multi-point Signal Resonator), phase difference methods yield the power spectrum  $P = P(\omega, k)$  in four-dimensional  $(\omega, k)$  space, and thereafter for a fixed value of the frequency  $\omega_0$  it is possible to study the power distribution of fluctuation in spatial dimensions.

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