

## Kinetic Alfvén Wave Localization and Turbulent Spectrum

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**Abstract :** The localization of Kinetic Alfvén Wave (KAW) caused by finite amplitude background density fluctuations has been studied in intermediate beta plasma. KAW breaks up into localized large amplitude structures when perturbed by MHD fluctuations of the medium which are in the form of magnetosonic waves. Numerical simulation has been performed to analyse the localized structures and resulting turbulent spectrum of KAW applicable to magnetopause. Simulation results reveal that power spectrum deviates from Kolmogorov scaling at the transverse size of KAW, equal to ion gyroradius. Steepening of power spectrum at shorter wavelengths may be accountable for heating and acceleration of the plasma particles. The obtained results are compared with observations collected from the THEMIS spacecraft in magnetopause.

**Keywords :** Kinetic Alfvén Wave (KAW), localization, turbulence, turbulent spectrum

**Conference Title :** ICNPS 2014 : International Conference on Nuclear and Plasma Sciences

**Conference Location :** London, United Kingdom

**Conference Dates :** November 28-29, 2014