# STATISTICAL PROPERTIES OF FLUCTUATIONS UP TO NON-MHD SCALES IN TURBULENT SPACE PLASMAS

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One of the central issues of the studies about the space plasma features is the occurrence of turbulent and/or stochastic scale-invariant fluctuations at the smallest scales. Recent in-situ observations of magnetic field fluctuations in different space plasmas have evidenced how turbulent fluctuations occur also in the non-MHD domain (i.e. above the ion cyclotron frequency and/or below the ion inertial length) [1, 2]. Furthermore, these small scale fluctuations are generally characterized by non-Gaussian distribution functions. This has been read as the signature of intermittence. On the other hand, recent MHD simulations have evidenced that some properties of small-scale fluctuations can be associated to multiscale coherent structures emerging out of stochasticity [3, 4]. In this presentation some of the above points are investigated. In detail, the statistical and spectral features of the magnetic field fluctuations up to the non-MHD scales are studied along with the occurrence of short-lived intermittent scale-scale coupling by means of wavelet-based techniques.

# References

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