Anisotropic structure functions in space plasma turbulence

Luca Sorriso-Valvo (1), Emiliya Yordanova (2), Silvia Perri (3), Vincenzo Carbone (4), and Mats André (2)  
(1) LICRYL - CNR, Rende (CS), Italy (sorriso@fis.unical.it), (2) Swedish Institute of Space Physics, Uppsala, Sweden, (3) International Space Science Institute, Bern, Switzerland, (4) Dipartimento di Fisica, Università della Calabria, Rende, Italy

The presence of a background magnetic field induces anisotropy in hydromagnetic turbulence. Understanding properties of anisotropy is important to characterize turbulence power spectrum. This work presents a statistical study of anisotropy of intermittent properties, by using Cluster data collected in three different regions of the heliosphere, namely in the solar wind, and in the Earth’s foreshock and magnetosheath behind a quasi-parallel bow shock. The whole two-points structure function tensor is studied to point out the anisotropic effects on intermittency intensity in the different datasets. The results are discussed.