



## **Inertial range turbulence of fast and slow solar wind beyond the ecliptic plane**

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We present a statistical study of the properties of inertial range turbulence for fast and slow solar wind beyond the ecliptic plane, during solar minimum and maximum. We use magnetic field measurements from Ulysses spacecraft during 1999-2001 (solar maximum) and 2007-2008 (solar minimum). For solar maximum we analyse intervals of both fast and slow solar wind, while for the minimum period we only analyse fast solar wind intervals. The data are organized in three datasets: D1MAX-fast (1999-2001), D1MAX-slow (1999-2001) and D3MIN-fast (2007-2008). The selection of the fast and slow solar wind intervals was performed within the European FP7 project STORM (<http://www.storm-fp7.eu/>). We estimate the power spectral densities (PSD) using the Welch method of averaged periodograms, and we compute the spectral slopes for an intermediate range of frequencies, between  $\sim 10^{-3}$  and  $\sim 10^{-2}$  Hz. At solar maximum we find that the fast solar wind has on average a higher level of power compared to the slow solar wind. Also, the total magnetic field, a measure of compressive effects, shows no significant difference in the level of power between the fast wind during maximum and the fast wind during minimum. We also find that the average spectral slope is shallower for fast solar wind compared to slow wind. A statistical analysis of the spectral slope for the D1MAX-fast and D3MIN-fast datasets shows rather similar values. Ulysses covers a wide range of radial distances and heliographic latitudes, thus, we have also investigated the radial and/or latitudinal variations of the spectral slopes. The PSDs computed for the total magnetic field in the fast solar wind show a steepening of the spectrum as the radial distance increases. For the slow wind dataset, the spectral slopes show no discernible radial or latitudinal dependence.