

## **MHD TURBULENCE IN THE HELIOSPHERE**

**BRUNO BAVASSANO**

The solar wind, a collisionless plasma of solar origin that fills the heliosphere, offers a unique opportunity for studying by in-situ measurements turbulent phenomena in space. This is a relevant topic to both plasma physics and astrophysics. Here the focus is on turbulence at magnetohydrodynamic (MHD) scales. MHD turbulence strongly affects several aspects of the heliospheric behaviour, as solar wind generation and heating, particles acceleration, and cosmic rays propagation. It can also play a role in the development of geomagnetic activity. The impressive amount of observations at different solar distances and latitudes collected in the last decades has allowed of reaching a good understanding of the mechanisms driving the solar wind turbulence. The present review will examine the nature of the observed fluctuations and their evolution as the plasma flow expands into the interplanetary space. A comparison will be performed between fluctuations seen in low-latitude and in polar solar wind. Implications about processes of local generation of turbulence will be discussed.

MHD turbulence, solar wind, heliosphere

Bruno Bavassano, Rome, Italy, e-mail: [bavassano@ifsi-roma.inaf.it](mailto:bavassano@ifsi-roma.inaf.it)