



Fast and slow solar wind turbulence

Raffaella D'Amicis (1), Roberto Bruno (1), Bruno Bavassano (1), Vincenzo Carbone (2), and Daniele Telloni (3)
(1) INAF - Istituto di Fisica dello Spazio Interplanetario, Rome, Italy (raffaella.damicis@ifsi-roma.inaf.it), (2) Dipartimento di Fisica, Universita' della Calabria, Rende, Cosenza, Italy, (3) INAF - Osservatorio Astronomico di Torino, Pino Torinese, Torino, Italy

The solar wind is a turbulent medium, pervaded by fluctuations on a wide range of scales, from fractions of second up to several days.

Observational results (e.g. the lack of a strict self-similarity, the strong anisotropy of velocity and magnetic field fluctuations, the lack of equipartition between magnetic and kinetic fluctuations) contribute to suggest the idea that interplanetary fluctuations could possibly be due to a mixture of propagating waves (inward and outward stochastic Alfvénic fluctuations) and structures advected by the wind, partially dominated by an excess of magnetic energy. Moreover, the solar wind comes in two distinct 'flavours', fast and slow, which are characterized by a 'young' evolving turbulence and a fully developed turbulence, respectively. In this paper we discuss this point, bringing new evidence about the need of separating those two contributions, to avoid misinterpretations on the solar wind turbulence origin and evolution.