



Mutual information as a measure of spatial correlation properties of the turbulent solar wind as seen by Wind, ACE and Cluster.

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We analyse data from the period 1998 to 2001 when Wind, ACE and Cluster were simultaneously in the solar wind, thus enabling us to explore the spatial correlation properties of solar wind turbulence. Nonlinear correlation is quantified by calculating the mutual information between measurements from pairs of spatially separated spacecraft, and we explore a range of spatial scales sufficient to determine correlation properties (see for example Matthaeus *et al* PRL **95** 2005). With this method we can examine the relative degree of correlation between different solar wind bulk parameters, and also derived quantities such as Elsässer variables. The ordering of mutual information with respect to signal propagation relative to the background magnetic field direction is discussed in relation to current models and understanding of anisotropic solar wind turbulence.