INTERMITTENCY OF SOLAR SYSTEM PLASMA TURBULENCE FROM OBSERVATIONS AND MULTIFRACTAL ANALYSIS

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We use a full package of analysis methods that are applied on magnetic field and/or plasma data from Ulysses, Cluster and Venus Express. We discuss and illustrate instances of intermittent turbulence and of its Rank Ordered Multifractal Analysis (ROMA) in the solar wind and in the planetary magnetosheaths. We emphasize results obtained prior and after the impact of Corotating Interaction Regions (CIR) on the planetary plasmas. In this context we discuss the role of magnetic discontinuities for the turbulent energy transfer and intermittency. The ROMA technique helps us to attempt identifying different regimes of turbulence thanks to its fundamental property to disentangle the fractal properties of fluctuations of different amplitudes/ranks.

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