

RADIAL EVOLUTION OF SOLAR WIND TURBULENCE: RELATIVE ORDERING AND THE S-THEOREM

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In the past we assisted at a growing interest on complexity in space plasmas with a special emphasis to the case of interplanetary and magnetospheric turbulent plasma media. In a recent work I have investigated the relative degree of order for the radial evolution of the intensity fluctuations of solar wind magnetic field, using the criterion contained in the S-Theorem introduced by Yu. L. Klimontovich. The preliminary results have suggested that in the case of magnetic field intensity fluctuations order increases with the radial distance, a fact that could reflect the formation or the increasing relevance of coherent structures. Here, I present the results on the radial evolution of the degree of order in the case of the Alfvénic turbulent fluctuations. The results are discussed in terms of decaying turbulence towards the formation of a less ordered state.