

## **MAGNETIC TURBULENCE IS NOT OMNIPRESENT IN THE SOLAR WIND**

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The occurrence of magnetic turbulence in the solar wind is studied on the basis of a wavelet approach, a careful examination of the large-scale physical conditions and comparisons with a mathematical model. The basis of all turbulence studies in the solar wind is the assumption of weak stationarity in the second order. We show that turbulence is strongly localized and associated with large-scale structures, in particular shocks. The quiet inter-shock periods in between the localized turbulent fluctuations are found to be unrelated to turbulence or turbulent intermittency. We also demonstrate that the misinterpretations caused by the stationarity assumption in the recent literature are significant. Therefore, we think that we are reopening a question of fundamental importance proposing a revision of the basic idea of stationarity in solar wind turbulence.

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