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The energy cascade in solar wind turbulence

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A turbulent energy cascade has been identified in the solar wind by using a Yaglom relation (1). This relation is verified at low-frequency, indicating that the interplanetary space represents a natural wind tunnel where turbulence and scaling can be investigated. Using the Yaglom law we directly estimate the turbulent energy transfer rate, and we show that a turbulent cascade is the main source of the heating of solar wind.

(1) L. Sorriso-Valvo et al., Phys. Rev. Lett. 99, 115001 (2007)