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Dynamical model for the spatio-temporal intermittency of the turbulent energy cascade: first results and possible applications to coronal loops

F. Lepreti (1,2), V. Carbone (1,2), P. Veltri (1,2)

(1) Dipartimento di Fisica, Università della Calabria, Italy, (2) Consorzio Interuniversitario per le Scienze Fisiche della Materia (CNISM) Unità di Cosenza, Italy

High resolution observation of the solar corona show that coronal loops typically consist of several thin, fibril-like structures. The coexistence of many bright (hot) and dark (cold) fibrils represents an evidence for spatially intermittent heating. We suggest that this intermittency is produced by the turbulent dynamics of coronal loops and we propose a simple dynamical model to describe the spatio-temporal intermittent behaviour of energy dissipation rate in fully turbulent flows. After describing the main properties of the model, its future developments and possible applications to the solar corona are discussed.