

E010-001

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A simple model of weak turbulence by multiply coupled triplets: intermittency and power-law

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Behavior of a nonlinear system (such as space plasma) is often discussed via evolution of eigenmodes of associated linearized system and nonlinear interactions among them. A minimum unit for representing such a nonlinear interaction is a triplet of eigenmodes, which satisfies the resonance condition. We have constructed a simple model of weak turbulence by multiply coupling such triplets. Numerical study shows that the system exhibits intermittency and long time evolution is controlled by self-organized criticality.