

Anomalous diffusion in superstatistical systems

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Nonequilibrium systems with a stationary state are often effectively described by a superposition of two statistics on different time scales, in short a ‘superstatistics’ [1]. These kinds of models have a broad range of applications for various complex systems [2]. Stationary densities exhibit fat tails, correlation functions can decay very slowly, and anomalous diffusion is a typical phenomenon. As an application we consider a superstatistical model of defect turbulence and compare with experimentally measured data [3].

[1] C. Beck and E.G.D. Cohen, *Physica A* **322**, 267 (2003)

[2] C. Beck, G. Benedek, A. Rapisarda, and C. Tsallis (eds.), *Complexity, Metastability, and Nonextensivity*, World Scientific, Singapore (2005)

[3] K.E. Daniels, C. Beck, and E. Bodenschatz, *Physica D* **193**, 208 (2004)