

# **Anomalous transport in plasmas: what we understand and what we don't**

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## *Abstract*

Anomalous transport refers to the nonlinear growth of the mean square displacement with time, and can result in superdiffusion or subdiffusion. We show how anomalous diffusion can be found both in laboratory and astrophysical plasmas. We present the results of numerical simulations and we discuss the differences between Levy flights and Levy walks. The use of fractional derivatives in the diffusion equation is also discussed, and directions of future investigations are indicated.