



Properties of turbulence in the reconnection exhaust: numerical simulations compared with observations

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The properties of the turbulence which develops in the outflows of magnetic reconnection have been investigated using self-consistent plasma simulations, in three dimensions. As commonly observed in space plasmas, magnetic reconnection is characterized by the presence of turbulence. Here we provide a direct comparison of our simulations with observations of reconnection event in the magnetotail investigating the properties of the electromagnetic field and the energy conversion mechanisms. In particular, simulations show: the development of a turbulent cascade consistent with spacecraft observations, statistics of the the dissipation mechanisms in the turbulent outflows similar to the one observed in reconnection jets in the magnetotail, and that the properties of turbulence vary as a function of the distance from the reconnecting X-line.