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Is drift-wave turbulence intermittent from a Lagrangian point of view? KAI SCHNEIDER, M2P2-CNRS & CMI Aix-Marseille University, France, BENJAMIN KADOCH[1], M2P2-CNRS & Ecole Centrale de Marseille, Marseille, France, WOUTER BOS, LMFA-CNRS, Ecole Centrale de Lyon - Universite de Lyon, Ecully, France — Lagrangian velocity statistics of dissipative drift-wave turbulence are investigated by means of direct numerical simulation in the context of the Hasegawa-Wakatani model. For large values of the adiabaticity (or small collisionality), the probability density function of the Lagrangian acceleration shows exponential tails, as opposed to the stretched exponential or algebraic tails, generally observed for the highly intermittent acceleration of Navier-Stokes turbulence. This exponential distribution is shown to be a robust feature independent of the Reynolds number. For small adiabaticity, algebraic tails are observed, suggesting the strong influence of point-vortex-like dynamics on the acceleration. A causal connection is found between the shape of the probability density function and the auto-correlation of the norm of the acceleration. For further details we refer to Bos et al., Physica D 239, 2010 and Kadoch et al., Phys. Rev. Lett., 2010, in press.

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