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**Stochastic advection and Landau damping in a collisionless plasma** ANJOR KANEKAR, Univ of Maryland-College Park, ALEXANDER SCHEKOCHEV, Oxford University, WILLIAM DORLAND, Univ of Maryland-College Park, GREG HAMMETT, Princeton University, NUNO LOUREIRO, IPFN Lisbon — We consider a simple model of passive chaotic advection of a kinetic field in a collisionless plasma. We test the fluctuation dissipation theorem for a kinetic field, without stochastic advection as a first result. We then present results discussing the effect of stochastic advection on the evolution of the kinetic field— specifically, the efficiency of linear Landau damping in this simple model. We observe that the free energy is scattered through phase space, allowing a possibility of return of energy from small velocity scales to large. This is interpreted as a manifestation of the “plasma echo” phenomenon in a 3-d nonlinear stochastic system.

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