Invariant measures for passive scalars in the small noise inviscid limit. (English summary)

Invariant measures for $H^1$ solutions to the linear transport equation with an incompressible velocity on a periodic domain are constructed with the help of a vanishing white-in-time additive noise. Using spectral methods (RAGE theorem) it is shown that the measures are supported by the eigenfunctions of the advection operator. Some particular examples are discussed explicitly (relaxation-enhancing and shear flow).

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References


Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.