Large time behavior of damped inviscid fluids with stochastic forcing term

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We deal with the 2D Euler equations for an inviscid fluid. Existence and uniqueness of solutions is known for bounded initial vorticity. We are interested in the asymptotic behaviour for large time. We show that adding a linear damping term and a stochastic forcing term (a time white noise), this stochastic PDE has an invariant measure.

References

 BESSAIH, HAKIMA & FERRARIO, BENEDETTA, Invariant measures for stochastic damped 2D Euler equations, Commun. Math. Phys. 377, 531-549 (2020).