V Workshop in Stochastic Analysis and Applications

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On local well-posedness of the stochastic incompressible density-dependent Euler equations

Abstract

In this paper we study the stochastic inhomogeneous incompressible Euler equations in the whole space $mathbbR^3$. We show the existence and pathwise uniqueness of local solutions with a multiplicative stochastic noise. Our approach is based on reducing our problem to the random problem and some estimations for type transport equations.