

Analytical properties for stochastic transport models - an overview

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In this talk I will present some recent results related to existence and uniqueness of the solution of some stochastic PDEs for geophysical fluid dynamics models. This is joint work with O. Lang, D Goodair and É. Mémin.

Relevant papers:

- [1] O Lang, D. Crisan, Dan; É. Mémin, Analytical properties for a stochastic rotating shallow water model under location uncertainty, *J. Math. Fluid Mech.* 25, no. 2, 2023.
- [2] D Crisan, O Lang, Well-posedness Properties for a Stochastic Rotating Shallow Water Model, *Journal of Dynamics and Differential Equations*, 1-31, 6, 2023
- [3] D Goodair, D Crisan, O Lang, Existence and uniqueness of maximal solutions to SPDEs with applications to viscous fluid equations, *Stochastics and Partial Differential Equations: Analysis and Computations*, 1-64, 3, 2023.
- [4] O Lang, D Crisan, Well-posedness for a stochastic 2D Euler equation with transport noise, *Stochastics and Partial Differential Equations: Analysis and Computations* 11, 13, 2023.