Smoothing by intermittency in multifractal Kraichnan Flows

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We propose a multifractal extension of the Kraichnan model, which couples a whitein-time monofractal random flow to a frozen-in-time Gaussian multiplicative chaos (GMC). By characterizing the phases of the two-particle separation process, we report on a smoothing-by-intermittency effect, highlighting a correspondence with multiplicative versions of the Liouville Brownian motion--a diffusion process evolving in a random GMC landscape, originally introduced in the context of Liouville quantum gravity. This is joint work with André Considera.