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Symmetry Breaking in a random passive scalar ZELIHA KILIC, RICHARD MCLAUGHLIN, ROBERTO CAMASSA, University of North Carolina at Chapel Hill — We consider the evolution of a decaying passive scalar in the presence of a gaussian white noise fluctuating shear flow. We focus on deterministic initial data and establish the short, intermediate, and long time symmetry properties of the evolving point wise probability measure for the random passive scalar. Analytical results are compared directly to Monte Carlo simulations. Time permitting we will compare the predictions to experimental observations.

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