

# BEHAVIOR OF A PASSIVE TRACER IN A LONG RANGE CORRELATED FLOW

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In our talk we consider a passive tracer particle moving in a locally self-similar,  $d$ -dimensional, Gaussian, stationary random vector field with incompressible realizations. In case when the correlations of the flow decay sufficiently fast it has been shown in [3], for time dependent flows, and in [2], for time independent ones, that the diffusively scaled particle trajectory converge in law to a Brownian motion (even without the assumption of incompressibility of trajectories). In our paper [1] we have shown that when the correlations decay, but not too fast, the laws of the trajectories under shorter than diffusive scale converge to a superdiffusive fractional Brownian motion. However, the diffusive scale reappears when we consider the relative motion of two particles, [4].

## REFERENCES

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