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## Simulating stochastic diffusion in critical and near-critical fluids in (3+1) dimensions

We describe numerical simulations of stochastic fluid dynamics with a conserved charge coupled to the momentum density of the fluid. This theory is known as model H, and it is expected to describe universal dynamics in the vicinity of a possible critical endpoint in the QCD phase diagram. We verify dynamical scaling, and compute the scaling exponent and the renormalized viscosity. We also describe exploratory simulations that include a relativistic background fluid.

### Category

Theory

### Collaboration (if applicable)

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**Track Classification:** QCD phase diagram & critical point