

## **An overview of numerical schemes for stochastic hydrodynamics**

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Stochastic hydrodynamics plays a fundamental role in modeling fluid systems subject to random perturbations, with applications ranging from turbulence modeling to biological flows and climate dynamics. The mathematical framework often involves stochastic partial differential equations (SPDEs), such as the stochastic Navier-Stokes equations, which introduce significant analytical and computational challenges.

In this talk, I will present an overview of numerical schemes designed for stochastic hydrodynamic models. Special attention will be given to temporal integration strategies, such as explicit, implicit, and semi-implicit methods, as well as splitting methods.