Abstract:

The Ginzburg-Landau lattice model is a system of stochastic differential equations that is known to converge, if properly rescaled, to a linear SPDE. When introducing an asymmetry in the model that vanishes in the limit, we prove convergence to the (semilinear) stochastic Burgers equation. The theory for this stochastic PDE is non-trivial, and we apply the theory of an energy solution. The latter was introduced by Goncalves-Jara and under a slight reformulation Gubinelli-Perkowski were recently able to show well-posedness for this equation.