Regularization by noise and numerical approximation of stochastic Cahn-Hilliard type equations

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We consider the strong numerical approximation for a stochastic Cahn-Hilliard type SPDE driven by space-time white noise on 2-dimensional torus.
We consider its full discretisation with a spectral Galerkin scheme in space and Euler scheme in time. We show the convergence with almost spatial rate 1 and 1-temporal rate obtained mainly via ``regularization by noise"-\it{stochastic sewing} technique.

This talk is based on joint work with Johannes Rimmele and Dirk Bl\"omker (University of Augsburg) (arXiv:2501.18240).