Analysis of a positivity-preserving splitting scheme for some semi-linear stochastic heat equations

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We construct and analyze a positivity-preserving Lie-Trotter splitting scheme with finite difference discretization in space for approximating the solutions to a class of nonlinear stochastic heat equations driven by multiplicative noise.

The talk is based on joint works with Johan Ulander (Chalmers University of Technology and University of Gothenburg) and Charles-Edouard Bréhier (Université de Pau et des Pays de l'Adour)