INVARIANT MEASURES FOR STOCHASTIC HEAT EQUATIONS

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Abstract: The paper is concerned with the asymptotic behaviour of solutions to the nonlinear stochastic heat equations, with spatially homogeneous noise, in the whole space. Sufficient conditions for the existence of invariant measures, in weighted spaces of locally square-integrable functions, are given.

For linear equations with multiplicative noise an invariant measure, supported by positive functions, is constructed. The existence of a stationary solution to the vector Burgers equations is obtained as an application of the general theory.

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