

Global solvability and stationary solutions of singular quasilinear SPDEs

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In this talk, we consider singular quasilinear stochastic PDEs with spatial white noise as a potential over 1-dimensional torus. Such singular stochastic PDEs are relative to the study of the hydrodynamic scaling limit of a microscopic interacting particle system in a random environment. Under some sufficient conditions on coefficients and noise, we study the global existence of solutions in paracontrolled sense, and we also show the convergence of the solutions to its stationary solutions as time goes to infinity. We first introduce a proper energy functional and then use the approach based on energy inequality and Poincaré inequality of it in our proofs. This talk is based on the joint work with T. Funaki.