

Weak convergence rates for Galerkin approximations of the stochastic Burger's equation

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We establish weak convergence rates for spectral Galerkin approximations of the stochastic viscous Burgers equation driven by additive trace-class noise. Our results complement the known results regarding strong convergence; we obtain essential weak convergence rate 2. As expected, this is twice the known strong rate. The main ingredients of the proof are novel regularity results on the solutions of the associated Kolmogorov equations.