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Stochastic Burgers equation from six vertex model.

We study the six vertex model, and prove that the one-dimensional family of stochastic Gibbs states for the symmetric six vertex model converge under a suitable scaling to the stationary solution to the stochastic Burgers equation.

The proof relies on connections to the KPZ equation and stochastic heat equation. We achieve the proof through a new Markov duality method which shows how duality can be leveraged to prove previously inaccessible results in hydrodynamics and SPDE limits. (Received January 04, 2019)