

1099-60-273

Chia Ying Lee* (lchiaying@math.ubc.ca) and **Leila Setayeshgar**. *The large deviation principle for a stochastic Korteweg-de Vries equation with additive noise.*

We prove the large deviation principle for the law of the solutions to a stochastic Korteweg-de Vries (KdV) equation driven by a small additive noise. We appeal to the recent result of Budhiraja, Dupuis, and Maroulas, which uses the weak convergence approach to provide sufficient conditions for a uniform Laplace principle to hold in general infinite dimensional systems, and use it to show that the large deviation principle holds for the stochastic KdV equation in the space $C(0, T; H^\sigma(\mathbb{R}))$ for $3/4 < \sigma < 1$. The beauty of this approach is that it allows us to directly adapt the techniques used in the existence proofs, based on fixed point arguments and energy estimates, to deduce the large deviation principle in a concise and elegant manner. (Received February 10, 2014)