

SPEAKER:

Jason Murphy, Missouri University of Science and Technology

TITLE:

Invariance of white noise for KdV on the line

ABSTRACT:

We consider the Korteweg de Vries (KdV) equation on the real line and study the problem of the invariance of white noise measure under the flow. This problem has previously been studied on the torus by Oh, Quastel, and Valko. In the real line case, additional difficulty arises due to the fact that white noise fails to belong to H^{-1} (the optimal space for well-posedness of KdV). To overcome this, we pass through a sequence of suitable Hamiltonian approximations that are closely connected to the complete integrability of KdV. This is joint work with R. Killip and M. Visan.