

# Approximating rough stochastic PDEs

Dr. J. Maas (Institut für Angewandte Mathematik, Universität Bonn)

maas@uni-bonn.de

We consider Burgers type stochastic PDEs in one space dimension driven by space-time white noise. Although these equations are perfectly well-posed, they turn out to be very unstable under approximation of the nonlinearity. In fact, we prove that solutions to different - seemingly natural - approximating equations converge to different limits. This phenomenon can be understood in the framework of rough paths theory.

This is joint work with Martin Hairer and Hendrik Weber (Warwick).