

1044-60-38

Michael Hinz* (mhinz@minet.uni-jena.de), Friedrich-Schiller-University Jena, Math. Institute, Ernst-Abbe-Platz 2, 07737 Jena, Germany, and **Martina Zähle**, Friedrich-Schiller-University Jena, Math. Institute, Ernst-Abbe-Platz 2, 07737 Jena, Germany. *Stochastic partial differential equations with fractal noise.*

In the talk, we present a pathwise approach to parabolic partial differential equations perturbed by additive or multiplicative noises of fractional Brownian type (with sufficiently large Hurst indices). For instance, we study one-dimensional heat equations driven by anisotropic fractional Brownian sheets. Tools are fractional calculus, semigroup theory and some Fourier analysis. For higher space dimensions, models involving 'low order directed noises' are proposed. The results are joint with Martina Zähle, Jena. (Received July 29, 2008)