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## Minisymposium 9 - Nichtlineare Evolutionsgleichungen und Probleme mit freiem Rand

### Nonlinear PDEs with noise

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The qualitative and quantitative analysis of solutions of nonlinear partial differential equations has proven to be a valuable tool in describing the behavior of complex materials. However in many situations the influence of thermal fluctuations cannot be neglected, in particular if the system is near an unstable equilibrium, or the long-time behavior is of interest. This leads to a perturbation of the nonlinear evolution equation by noise. We give examples where the highest order part of the PDE is not linear. Then analysis needs a combination of tools from the theory of nonlinear PDEs and from probability theory.