

BACKWARD UNIQUENESS AND THE EXISTENCE OF THE SPECTRAL LIMIT FOR SOME PARABOLIC SPDES

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Asymptotic behaviour of solutions of parabolic SPDEs is an area of very active current research. In this talk we show backward uniqueness and existence of spectral limit for some class of parabolic SPDEs and relate this approach to classical results of Ghidaglia (1986) and Foias & Saut (1984) about backward uniqueness, existence of spectral limit and existence of spectral manifolds for PDEs.

Work of Le Jan, Raymond (2006) have shown that suitably defined solution of linear stochastic parabolic PDE can be nonunique in certain sense. Therefore, it becomes important to understand under what assumptions we have backward uniqueness of the solution of SPDEs. In this work we demonstrate that the classical approach can be extended to the stochastic case for linear stochastic PDEs (or if nonlinearity has no more than "linear" growth) and discuss corresponding problem for the case of SPDEs with quadratic nonlinearity such as Navier-Stokes Equation.

(This talk is based on a joint work [1] with Z. Brzeźniak)

REFERENCES

- [1] Z. Brzeźniak, M. Neklyudov *Backward Uniqueness and the existence of the spectral limit for some parabolic SPDEs*, <http://arxiv.org/abs/0806.0616v1> (2008)

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