

REGULARITY OF GENERALIZED ORNSTEIN-UHLENBECK PROCESSES

JERZY ZABCZYK
INSTITUTE OF MATHEMATICS,
POLISH ACADEMY OF SCIENCES, WARSAW, POLAND

The talk is devoted to spatial and temporal regularity of the solution X to the evolution equation

$$dX = AXdt + dZ(t), X(0) = x \in H,$$

where A generates a semigroup $(S(t), t \geq 0)$ of linear operators on a Hilbert space H and Z is a Lvy process on a larger Hilbert space U . Conditions are given under which the process X takes values in the space H or in some of its subspaces. Existence of a cdlg or of a weak cdlg modification of X is examined as well. The presentation is based on the papers listed below.

REFERENCES

- [1] Z. Brzeniak and J. Zabczyk, *Regularity of Ornstein-Uhlenbeck processes driven by a Lvy white noise*. Potential Analysis. 32(2010), 153-188.
- [2] E. Priola and J. Zabczyk, *Structural properties of semilinear SPDEs driven by cylindrical stable processes*. Probability Theory and Related Fields, 149(2011), 97-137.
- [3] S. Peszat and J. Zabczyk, *Time regularity of generalized Ornstein-Uhlenbeck processes in infinite dimensions*. Submitted.