

**MICROLOCAL ANALYSIS OF
SEMILINEAR HYPERBOLIC STOCHASTIC PDES
WITH POLYNOMIALLY BOUNDED COEFFICIENTS**

SANDRO CORIASCO

We study mild solutions of a class of stochastic partial differential equations, involving operators with polynomially bounded coefficients. Both linear and semilinear equations are considered, under suitable hyperbolicity hypotheses on the linear part. We provide conditions on the initial data and on the stochastic terms, namely, on the associated spectral measure, so that mild solutions exist and are unique in suitably chosen functional classes. In the linear case, random field solutions are obtained, while in the semilinear case we study function-valued solutions. In both situations, a regularity result for the solution is obtained. This is joint work with Alessia Ascanelli and André Süß.

REFERENCES

- [1] A. Ascanelli, S. Coriasco, A. Süß, Solution theory to hyperbolic stochastic partial differential equations with polynomially bounded coefficient, Preprint, arXiv:1610.01208 (2017).
- [2] A. Ascanelli, A. Süß, Random-field solutions to linear hyperbolic stochastic partial differential equations with variable coefficients, *Stochastic Processes and their Applications* (2017) (online first: <https://doi.org/10.1016/j.spa.2017.09.019>).

DIPARTIMENTO DI MATEMATICA “G. PEANO”, UNIVERSITÀ DEGLI STUDI DI TORINO, ITALY
E-mail address: `sandro.coriasco@unito.it`