

*Numerical simulation of stochastic evolution equations with
non-commutative noise*

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We consider the problem of approximating mild solutions of stochastic evolution equations in the mean-square sense. Therefore, an infinite dimensional version of a Runge-Kutta type scheme for the time discretization is proposed. The introduced scheme can be applied to a certain class of semilinear stochastic partial differential equations (SPDEs) with commutative as well as non-commutative noise. In case of non-commutative noise, iterated stochastic integrals of the driving Q-Wiener process have to be approximated. Finally, the order of convergence and the efficiency of the new scheme will be discussed.

This is joint work with Claudine von Hallern (Universität Hamburg)