

Oliver Matte

TITEL:

Differentiability properties of stochastic flows in non-relativistic QED

ABSTRACT:

Together with Batu G “{u}neysu and Jacob Schach M{o}ller we recently studied stochastic differential equations associated with the standard model of non-relativistic quantum electrodynamics (QED). In this talk we discuss differentiability properties of the corresponding stochastic flow. Furthermore, we present a Bismut-Elworthy-Li type formula for the derivatives of the semi-group generated by the non-relativistic QED Hamiltonian. This formula reveals the smoothing properties of the semi-group. Finally, we explain how to prove the smoothness of an associated Fock space operator-valued semi-group kernel.