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Guang Yang* (guang.yang@uconn.edu). *A version of Hörmander's theorem for semimartingales.*

In this talk, we study the properties of the solution of a rough differential equation driven by semimartingale. In particular, we will give an explicit formula for the Malliavin derivative of the solution and prove the solution has a smooth density when the vector fields satisfy the Hörmander's condition. A main difficulty is to give estimations to the Malliavin matrix. (Received January 18, 2020)