1063-46-120   **Marius Junge*** (`junge@math.uiuc.edu`), 1408 West Green Street, Urbana, IL 61801, and **Eric Ricard** and **Dimitri Shlyahktenko**. *Noncommutative diffusion semigroups.* Preliminary report.

In the theory of semigroups on commutative spaces diffusion semigroups are characterized by Bakry/Emry as those with local generator or equivalently with a solution of the martingale problem admitting almost everywhere continuous trajectories. We will show that for symmetric semigroups there always exists a Markov dilation. Moreover, assuming in additional a normal derivation the trajectories can be shown to have almost uniform continuous path. Therefore noncommutative diffusion groups provide tools such as an Ito formula way beyond the classical setting. (Received August 11, 2010)