From Generalized Nash Inequality to Off-diagonal Upper Bound Estimate

Zhenqing CHEN *University of Washington, USA*, E-mail: zchen@math.washington.edu

Abstract: In their 1987's paper, Carlen, Kusuoka and Stroock extended Davis' method to general symmetric Markov processes and obtained an upper bound transition density function estimate. That formula requires the on-diagonal estimate to be of polynomial decay rate. In this talk, I will report recent progress on the off-diagonal heat kernel upper bound estimates for general symmetric Markov processes that allows non-polynomial on-diagonal decay rates, via generalized Nash inequality.