

Heat kernel estimates on Riemannian manifolds

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Abstract

In this talk we will cover the following topics

1. Heat kernels for elliptic operators in \mathbb{R}^n
2. Laplace-Beltrami operator and its heat kernel. Examples.
3. Various forms of Gaussian estimates (Varadhan, Davies-Gaffney, etc)
4. Li-Yau estimate of the heat kernel.
5. On-diagonal upper bounds and functional inequalities.
6. Examples of heat kernel bounds: Cartan-Hadamard manifolds, covering manifolds, manifolds of bounded geometry.
7. Necessary and sufficient conditions for Li-Yau estimates in terms of volume doubling and Poincaré inequality.
8. Heat kernels on manifolds with ends.

Date: Friday, January 12, 2018

Time: 11:00am–12:00pm

Place: EMAGC 1.302

The talk will be delivered live at the Edinburg campus and will be streamed to the Brownsville campus at BLHSB 1.104. Refreshments will be served at 10:45am.

For further information or for special accommodations, please contact Dr. BaoFeng Feng at 665-2269 or via email at baofeng.feng@utrgv.edu.