

Stanford Department of Mathematics Colloquium

INTEGRATED HARNACK INEQUALITIES

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Abstract

If $p_t(x)$ is the standard heat kernel on \mathbb{R}^d , then a simple computation shows, for all $y \in \mathbb{R}^d$ and $1 \leq p < \infty$, that

$$\left(\int_{\mathbb{R}^d} \left[\frac{p_t(x-y)}{p_t(x)} \right]^p p_t(x) dx \right)^{1/p} = \exp \left(-\frac{(p-1)}{2t} |y|^2 \right).$$

In this talk we will explain what happens to this equality when \mathbb{R}^d is replaced by a unimodular Lie group. If time permits, I will explain how the results of this talk can be viewed as the first step towards proving parabolic regularity in infinite dimensional contexts. (This is joint work with Masha Gordina.)

Thursday, November 29

4:15 p.m.
Room 380-F

<http://math.stanford.edu/coll/0708/>