

Uniform Logarithmic Sobolev Inequalities in Dimension for Harmonic Measures on Spheres

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Abstract: In this paper, using the method of Barthe-Zhang: reduce multi-dimensional probabilities to one dimensional probabilities, we obtain uniform Poincar inequalities and logarithmic Sobolev inequalities in dimension for harmonic measures on spheres via Muckenhoupts characterization for Poincar inequalities on real line and Barthe-Robertos characterization for logarithmic Sobolev inequalities on real line.