

Functional Inequalities for Subelliptic Diffusion Operators via Curvature Bounds

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Abstract: In this talk I shall review some recent results that were obtained by the authors in joint works with M. Bonnefont, N. Garofalo and B. Kim. Let L be a symmetric and subelliptic diffusion operator defined on a manifold M . By using the curvature dimension inequality proposed by Baudoin-Garofalo we will discuss the following properties of L that are usually addressed in a Riemannian framework by using Ricci lower bounds:

- Boundedness of the Riesz transform;
- Existence of log-Sobolev inequalities;
- Existence of isoperimetric and Gaussian isoperimetric inequalities.

References

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