Analysis, Probability, and their Applications

Sunday 11 December 2016 - Friday 16 December 2016

Quy Nhon (Vietnam)

Livret des résumés

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Geometry of BiLipschitz mappings

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Stabilization and control of PDEs: seminal results and recent extension

Control of PDEs is about the action that one can have on the solution of a PDE through, for example, a source term in the interior of the domain or at the boundary. The goal is then to drive the solution to a prescribed state or close to it at a given time. Stabilization shares the same goal, yet for an infinite time horizon and in the case of a closed-loop: the action one has on the PDE is through a function of the solution itself. One could think for instance of a damping term for the wave equation. In this talk, we shall review some seminal results and methods used to address these issues. Such methods vary from one equation type to the other: waves, Schrödinger,heat, etc... We shall also present some recent results that exploit these techniques.

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Rigidity, nonlinear flows and optimal symmetry for extremals of functional inequalities

The analysis of optimality and symmetry properties of extremals in functional inequalities has been performed recently by introducing nonlinear flows into the picture. These results solve conjectures about symmetry and symmetry breaking in functional inequalities which play an important role in various areas of analysis. Also, as a consequence we have obtained optimal estimates for the principal eigenvalues of linear operators and rigidity results of solutions of nonlinear elliptic PDEs for compact and noncompact in Riemaniann manifolds.
This work has been done in collaboration with J. Dolbeault and M. Loss

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