

How to hear the shape of a drum.

mercredi 10 avril 2019 10:30 (50 minutes)

The aim of the talk is to show how to recognize conformal maps between Euclidean domains as those homeomorphisms which transform multipliers of the Sobolev-Dirichlet spaces of a domain into multipliers of the other and leave invariant the fundamental tone or first nonzero eigenvalue of the Dirichlet integral with respect to the energy measures of any multiplier. Related results hold true for quasiconformal and bounded distortion maps.

In the opposite direction, we prove that the trace of the Dirichlet integral, with respect to the energy measure of a multiplier, is a Dirichlet space that only depends upon the orbit of the conformal group of the Euclidean space on the multiplier algebra.

The methods involve potential theory of Dirichlet forms (changing of speed measure, multipliers) and the Li-Yau conformal volume of Riemannian manifolds.

This is work in collaboration with Jean-Luc Sauvageot

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