Du
27
NOV.
2021

16h00
-
17h00

SÉMINAIRE BOURBAKI

Uli Wagner — High-Dimensional Expanders after Gromov, Kaufman, Kazhdan, Lubotzky, and others

IHP
Hermite

INSCRIPTION

Expander graphs (sparse but highly connected graphs) have, since their inception, been the source of deep links between Mathematics and Computer Science as well as applications to other areas. In recent years, a fascinating theory of high-dimensional expanders has begun to emerge, which is still in a formative stage but has nonetheless already lead to a number of striking results. Unlike for graphs, in higher dimensions there is a rich array of non-equivalent notions of expansion (coboundary expansion, cosystolic expansion, topological expansion, spectral expansion, etc.), with differents strengths and applications. In this talk, we will survey this landscape of high-dimensional expansion, with a focus on two main results. First, we will present Gromov's Topological Overlap Theorem, which asserts that coboundary expansion (a quantitative version of vanishing mod cohomology) implies topological expansion (roughly, the property that for every map from a simplicial complex to a manifold of the same dimension, the images of a positive fraction of the simplices have a point in common). Second, we will outline a construction of bounded degree -dimensional topological expanders, due to Kaufman, Kazhdan, and Lubotzky.

URL de la page : https://www.ihp.fr/fr/agenda/uli-wagner-high-dimensional-expanders-after-gromo kaufman-kazhdan-lubotzky-and-others



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HORAIRES

L'institut :
• lundi au vendredi de 8h30 à 18h,
• fermé les jours fériés.

Le musée - Maison Poincaré :
• lundi, mardi, jeudi et vendredi
de 9h30 à 17h30,
• samedi de 10h à 18h,
• fermé le mercredi et le dimanche.