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Seminario de Probabilidades de Chile

Orador: Felipe Espinosa (University of Münster) (15.00 hrs.)

Título: Dynamics on the thick points of the GFF.

Resumen: In this joint work with Avelio Sepúlveda, we study two dynamics whit invariant law the GFF. As a geometric aspect of interest we focus on the set of Thick points, we will see how they behave in each Dynamic.

Orador: Andrés Rivero (Columbia University) (16.15 hrs.)

Título: Monotonicity in Quadratically Regularized Optimal Transport.

Resumen: In optimal transport, quadratic regularization is a sparse alternative to entropic regularization: the solution measure tends to have small support. Computational experience suggests that the support decreases monotonically to the unregularized counterpart as the regularization parameter is relaxed. We find it useful to investigate this monotonicity more abstractly for linear programs over polytopes, regularized with the squared norm. Here, monotonicity can be stated as an invariance property of the curve mapping the regularization parameter to the solution: once the curve enters a face of the polytope, does it remain in that face forever? We show that this invariance is equivalent to a geometric property of the polytope, namely that each face contains the minimum norm point of its affine hull. Returning to the optimal transport problem and its associated Birkhoff polytope, we verify this property for low dimensions, but show that it fails for marginals with five or more point masses. As a consequence, the conjectured monotonicity of the support fails in general, even if experiments suggest that monotonicity holds for many cost matrices. Separately, we apply our geometric point of view to a problem of Erdős, namely to characterize the doubly stochastic matrices whose maximal trace equals their squared norm

El enlace para conectarse al seminario es:

Unirse a la reunión Zoom
https://reuna.zoom.us/j/84521834914?pwd=OTZ6Y0NWM3pYTGtTbEt3c0luTG96UT09

ID de reunión: 845 2183 4914
Código de acceso: 997973

Modalidad híbrida en la sala Maryam Mirzakhani, Torre Norte Piso 6, , Beauchef 851.
Miércoles 20 de Agosto 2025.