

Departamento de Matemáticas

Facial geometry of convex sets

Abstract: Faces of convex sets generalise the notion of faces of polytopes (such as vertices, edges and facets). Many structural properties of convex sets can be expressed via faces and their arrangements. In particular, some regularity conditions that guarantee good performance of optimisation methods can be expressed in terms of facial structure. I will mention some classical and recent results related to the facial structure of convex sets, and will illustrate the impact of facial structure on the performance of numerical methods using the recent counter-example to De Pierro's conjecture about the convergence of under-related cyclic projections.

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Lugar: Seminario de Matemáticas, Facultad de Ciencias.