

Quantitative and colorful combinatorial geometry

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Abstract

We review some classic results in combinatorial geometry from a quantitative perspective. In other words, we look for variants of Helly's, Caratheodory's and Tverberg's theorem guaranteeing that the size of the sets involved and their intersections are large. We will discuss what proof methods work for the colorful extensions of some of these results, and how they change depending on what function we use to measure our convex sets.