

Closed convex sets of Minkowski type

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Abstract

We provide several characterizations of the Minkowski sets, i.e. the closed, possibly unbounded, convex sets which are representable as the convex hulls of their sets of extreme points. The equality between the relative boundary of a closed convex set containing no lines and its Pareto-like associated set ensure the Minkowski property of the set. In two dimensions this equality characterizes the Minkowski sets containing no lines. We also show that the Minkowski property of the orthogonal slices of a closed convex subset of \mathbb{R}^n is equivalent to the representability of the set as the convex hull of its lowest dimensional faces.