

Helly-type theorems on support lines for convex bodies in the plane

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Abstract

We will discuss several Helly-type results and open problems on the existence of common support lines for disjoint families of convex bodies in the plane. Following the approach of Robert Dawson, we will show how these geometric problems can be reduced to pure combinatorial problems on covering a given set by 3-element subsets.

Keywords: Euclidean plane, Convex bodies, Helly type theorems.