Helly-type Results on Common Supports of Convex Bodies

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Abstract

Following Dawson and Edelstein, we say that a family $F$ of convex bodies in Euclidean space has the property $S$ provided there is a hyperplane that supports every member of $F$. Similarly, $F$ has the property $S(k)$ if every $k$-membered subfamily of $F$ has the property $S$. We discuss some results and problems related to the Helly-type condition when $S(k)$ implies $S$.

Keywords: Helly Theorem, Convex Bodies