$$\diamondplus$$

Convex Sets and Halfspaces

1 Why

2 Main Result

Corollary 1. *Let $(b_i)_{i \in I}$ be a family in $\mathbf{R}^n$ and $(\beta_i)_{i \in I}$ be a family in $\mathbf{R}$. The set*

$$\{x \in \mathbf{R}^n \mid \langle x, b_i \rangle \leq \beta_i \text{ for all } i \in I\}$$

is convex.

A *polyhedral* convex set is one which can be expressed as the intersection of a finite family of closed halfspaces.