Definition

Let $K \subset \mathbf{R}^n$ be a proper cone. Define a relation $\preceq_K \subset \mathbf{R}^n \times \mathbf{R}^n$ by $(x, y) \in \preceq_K$ if $y - x \in K$. We call $\preceq_K$ the *cone-ordering* (or *generalized inequality*) of K.