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Continuity of the Conic Hull

In a real Hilbert space V, the conic hull of $G \subseteq V$ is the set $\operatorname{cone}(G)$ consisting of all nonnegative linear combinations of elements of G. Many optimization problems are sensitive to the changes in $\operatorname{cone}(G)$ that result from changes in G itself. Motivated by one such problem, we derive necessary and sufficient conditions for the continuity of the conic hull.

Keywords: Cone, conic hull, positive hull, continuity, maximal angle.

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