A Theorem on Strict Separability of Convex Polyhedra and Its Applications in Optimization

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Abstract

We propose a new approach to the strict separation of convex polyhedra. This approach is based on the construction of the set of normal vectors for the hyperplanes, such that each one strict separates the polyhedra A and B. We prove the necessary and sufficient conditions of strict separability for convex polyhedra in the Euclidean space and present its applications in optimization. © 2010 Springer Science+Business Media, LLC.

Keywords

Distance between the polyhedra, Normal vector, Polyhedron, Separating hyperplane, Supporting hyperplane, Thickness of the separation margin