

Forbidden Vertices

Citation

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Abstract

In this work, we introduce and study the forbidden-vertices problem. Given a polytope P and a subset X of its vertices, we study the complexity of linear optimization over the subset of vertices of P that are not contained in X . This problem is closely related to finding the k -best basic solutions to a linear problem. We show that the complexity of the problem changes significantly depending on the encoding of both P and X . We provide additional tractability results and extended formulations when P has binary vertices only. Some applications and extensions to integral polytopes are discussed.

- forbidden vertices vertex enumeration extended formulation k -best solution all-different polytopes