A Cutting method for finding discrete minimax with dropping of cutting planes

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Abstract

In this paper we propose a cutting method to solve a conditional minimization problem of a discrete maximum function. In the method some polyhedral set approximates the epigraph of the objective function, and to construct the following iteration point we minimize an auxiliary linear function on this set. The method does not imply the inclusion of each of approximating sets in the previous one. This feature allows us to periodically drop any additional restrictions which occur in the solution process. We describe the features of the proposed method and prove its convergence. © 2014 Pleiades Publishing, Ltd.

Keywords

approximating set, conditional minimization, convergence, cutting plane, discrete maximum function, sequence of approximations