

One cutting plane algorithm using auxiliary functions

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Abstract

© Published under licence by IOP Publishing Ltd. We propose an algorithm for solving a convex programming problem from the class of cutting methods. The algorithm is characterized by the construction of approximations using some auxiliary functions, instead of the objective function. Each auxiliary function bases on the exterior penalty function. In proposed algorithm the admissible set and the epigraph of each auxiliary function are embedded into polyhedral sets. In connection with the above, the iteration points are found by solving linear programming problems. We discuss the implementation of the algorithm and prove its convergence.

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