Abstract

SMOOTH and NONSMOOTH NEWTON METHODS for SOLVING SEMI-INFINITE PROGRAMMING

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In the thesis, a new numerical method which is based on non-smooth Newton method to solve semi-infinite programming is studied. For the smooth Newton method, the results from finite programming is extended to semi-infinite programming. It will be explored that theoretically and numerically whether the non-smooth approach can lead to a practically efficient solution method for semi-infinite programming.

Keywords: semi-infinite programming, generalized semi-infinite programming, Karush-Kuhn-Tucker systems, first order optimality conditions, NCP functions, Newton method, generalized Newton method, semismooth functions.