A logarithmic barrier method for linear programming based on a new minorant function

Linda Menniche[1], Djamel BENTERKI[2], and Imene Benchetta[3]

[1]University Mohammed Seddik Ben Yahia
[2]University of Ferhat Abbas Setif 1
[3]Setif-1 Ferhat Abbas University

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Abstract

This paper presents a logarithmic barrier method without line search for solving linear programming problem. The descent direction is the classical Newton's one. However, the displacement step is determined by a simple and efficient technique based on the notion of the minorant function approximating the barrier function. Numerical tests show the efficiency of this approach versus classical line search methods.

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