TRUDY INSTITUTA MATEMATIKI I MEKHANIKI UrO RAN

Vol. 21 No. 3 **2015**

ON AN INVERSE LINEAR PROGRAMMING PROBLEM

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Received May 14, 2015

A method for solving the following inverse linear programming (LP) problem is proposed. For a given LP problem and one of its feasible vectors, it is required to adjust the objective function vector as little as possible so that the given vector becomes optimal. The closeness of vectors is estimated by means of the Euclidean vector norm. The inverse LP problem is reduced to a problem of unconstrained minimization for a convex piecewise quadratic function. This minimization problem is solved by means of the generalized Newton method.

Keywords: linear programming, inverse linear programming problem, duality, unconstrained optimization, generalized Newton method.

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Cite this article as:
G. A. Amirkhanova, A. I. Golikov, Yu. G. Evtushenko, On an inverse linear programming problem, *Tr. Inst. Mat. Mekh. UrO RAN*, 2015, vol. 21, no. 3, pp. 13–19 .