**On the Inverse Linear Optimization Problem with Minimum Perturbation in the RHS Vector**

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**Abstract**

Due to wide applications of inverse optimization problems in the real world problems, in this talk, we first introduce the inverse problem of linear optimization in which we would like to adjust the right hand side vector as less as possible so that the current operating plan becomes optimal. Using KKT conditions, the equivalent formulation of this problem contains some equilibrium constraints which make the problem hard to solve in general. We present an algorithm based on interior point methods structure behind the LOQO software in order to solve the problem. Our numerical results show the efficiency and effectiveness of the proposed approach.

**Keywords:** Linear Optimization, Inverse Optimization, KKT Optimality Conditions, Interior Point Methods