

An optimal control problem for linear dynamical systems affected by unknown but bounded disturbances is considered. The aim is to construct a feedback control that a closed system reaches a terminal polyhedral set in a fixed time and to maximize a value of a linear endpoint performance index.

In order to take into account available information on the system dynamics, the concept of closable feedback control is introduced. This type of feedback is defined on the base of the assumption that the states of the control system will be known at some future instants.

The general scheme of the closable feedback control consists in introducing special intermediate targets for a system trajectory. These targets are corrected in the course of control process in accordance with a realized disturbance. On a current time interval the control is computed in order to attain the next target at a fixed time. The attainment of the intermediate target guarantees the existence of an admissible control on the next interval and a certain value of the performance index. The use of closable feedbacks allows to weaken a priori requirements on existence of admissible control and to increase the quality of control. An algorithm of constructing intermediate targets and implementing a closable feedback in real time is elaborated. The technique of on-line computation of control signals is based on the approach suggested in [1]. Results of numerical experiments are given.

[1] R. Gabasov, F.M. Kirillova and N.V. Balashevich, Open-loop and closed-loop optimization of linear control systems, *Asian Journal of Control*, **2** (2000), 155-168.