ON A MINIMAX CONTROL PROBLEM FOR A POSITIONAL FUNCTIONAL UNDER GEOMETRIC AND INTEGRAL CONSTRAINTS ON CONTROL ACTIONS

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Within the game-theoretical approach we consider a minimax feedback control problem for a linear dynamical system with a positional quality index in the form of the norm of motion deviations at given times from given target points. Control actions are subject to both geometric and integral constraints. A procedure for the approximate calculation of the optimal guaranteed result and for the construction of a control law that ensures the result is developed. The procedure is based on the recursive construction of upper convex hulls of auxiliary program functions. Results of numerical simulations are presented.

Keywords: minimax control, differential games, integral constraints, nonterminal payoff.

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