

Solution of a linear pursuit-evasion differential game with closed and convex terminal set.

ABSTRACT

A linear two-person zero-sum pursuit-evasion differential game is considered. Control functions of players are subject to integral constraints. Terminal set is a closed convex subset of The Pursuer tries to bring the state of the system to the terminal set and the Evader prevents bringing of the state to the terminal set where control resource of the Pursuer is greater than that of Evader. We obtain a formula for the optimal pursuit time and construct optimal strategies of the players in explicit form.

Keyword: Differential game; Control; Strategy; Pursuit-evasion.