

Date & Time

14 December 2018, Friday @ 3.15 pm

Venue

Al-Farabi Seminar Room, Second Floor,
INSPEM

Presenter

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Topic

Construction of Optimal Strategies of Players in Simple Motion Differential Games

Abstract

CONSTRUCTION OF OPTIMAL STRATEGIES OF PLAYERS IN SIMPLE MOTION DIFFERENTIAL GAMES

Abstract. We give a definition for optimal strategies of players for the simple motion differential game of one pursuer and one evader. The game is described by the equations

$$\begin{aligned}\dot{x} &= u, & x(0) &= x_0, \\ \dot{y} &= v, & y(0) &= y_0,\end{aligned}$$

where $x, x_0, y, y_0 \in \mathbb{R}^n$, u and v are the control parameters of pursuer and evader, respectively. Control functions of players are measurable functions $u(t)$, $|u(t)| \leq \rho$, and $v(t)$, $|v(t)| \leq \sigma$. For various differential games, we construct optimal strategies of players.

Key words: Differential game, control, optimal strategy, pursuer, evader.