



Pursuit Differential Game Described by Infinite First Order 2-Systems of Differential Equations

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ABSTRACT

We study a pursuit differential game problem for infinite first order 2-systems of differential equations in the Hilbert space l_2 . Geometric constraints are imposed on controls of players. If the state of system coincides with the origin, then we say that pursuit is completed. In the game, pursuer tries to complete the game, while the aim of evader is opposite. The problem is to find a formula for guaranteed pursuit time. In the present paper, an equation for guaranteed pursuit time is obtained. Moreover, a strategy for the pursuer is constructed in explicit form. To prove the main result, we use solution of a control problem.

Keywords: Differential game, infinite system, pursuer, evader, geometric constraint, control, strategy.