

Satimov, N. Yu.; Tukhtasinov, M.

On game problems for second-order evolution equations. (English. Russian original)

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From the introduction: In this paper, we consider certain problems of the theory of differential games in systems with distributed parameters. The players influence on the system with the use of control parameters contained in the right-hand side of the equation. Controls of players are chosen in the form of functions on which various constraints are imposed, so-called geometric, integral, and mixed constraints.

In the first three games, the goal of the first player is to bring the system into an unperturbed state. In the fourth game, the goal of the first player is to bring the system and its velocity into an arbitrary ℓ -neighborhood of zero. The second player in all the games has the opposite goal. We present conditions which are sufficient in order that the first player can reach the goal in a finite time. For the third game, we also consider the encounter-evasion problem.

MSC:

- 49N75 Pursuit and evasion games
- 91A23 Differential games (aspects of game theory)
- 35J25 Boundary value problems for second-order elliptic equations
- 35L05 Wave equation
- 35L15 Initial value problems for second-order hyperbolic equations

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