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A LINEAR DIFFERENTIAL GAME OF PURSUIT WITH IMPULSE AND INTEGRALLY CONSTRAINED CONTROLS OF THE PLAYERS

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Sufficient conditions of pursuit termination are proposed for a linear differential game of pursuit when one of the players applies an impulse-type control and the other player applies an integrally constrained control. Methods for finding the pursuer's controls that guarantee the termination of pursuit in a finite time are presented. At the end of the paper, we give examples illustrating the results. The method used in the second example provides an alternative: the space \mathbb{R}^m is divided into two parts so that the pursuit can be terminated from any point of the first part and the pursuit cannot be terminated from any point of the second part.

Keywords: resolving function, impulse control, pursuit, pursuer, evader, integral constraint, terminal set.

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