

QUALITATIVE INVESTIGATION OF HYBRID SYSTEM ON THE PLANE

We consider the linear hybrid system on a plane is set

$$\{(S_i, L_i), G, i = \overline{0, N}\},$$

where

$$S_i : \begin{cases} \dot{x} = a_{11}^i x + a_{12}^i y \\ \dot{y} = a_{21}^i x + a_{22}^i y \end{cases}, i = \overline{0, N}.$$

- are systems determining continuous part,

$L_i = \{l_i^1, l_i^2, \dots, l_i^{N_i}\}$, $N_i \in \mathbb{N}$ - are the set of possible switchings.

G - is the oriented graph of switching, determining the logic of transitions from one subsystem to other.

We assume the switching be occurred under the condition of switching lines attainability by the solution of the system.

The switching lines definite

$$l_i : x = d_1^i x, y = d_2^i x, i = \overline{0, N}, 0 \leq x < +\infty.$$

In this paper the terms of switching lines l_i attainability by the solution of hybrid system are obtained.

References:

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