

MSC: 93B03, 92B52, 93C10

DOI: 10.21538/0134-4889-2016-22-2-122-128

**ON THE EXISTENCE OF A LIPSCHITZ FEEDBACK CONTROL  
IN A CONTROL PROBLEM WITH STATE CONSTRAINTS**

Received March 12, 2016

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We consider a nonlinear control system with state constraints given as a solution set for a finite system of nonlinear inequalities. The problem of constructing a feedback control that ensures the viability of trajectories of the closed system in a small neighborhood of the boundary of the state constraints is studied. Under some assumptions, the existence of a feedback control in the form of a Lipschitz function of the state of the system is proved.

Keywords: state constraints, feedback control, viability problem, invariance.

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Cite this article as:

M. I. Gusev. On the existence of a Lipschitz feedback control in a control problem with state constraints, *Trudy Inst. Mat. Mekh. UrO RAN*, 2016, vol. 22, no. 2, pp. 122–128.