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Several approaches to determination of boundaries of changing of perturbation in the global robust feedback synthesis problem. (Russian. English summary) [Zbl 1324.93051](#)

Visn. Khark. Univ., Ser. Mat. Prykl. Mat. Mekh. 1133, No. 70, 140-155 (2014).

Summary: The paper deals with the problem of the global robust feedback synthesis of bounded control for a system with unknown bounded perturbations. On the basis of *V. I. Korobov* [Mat. Sb., Nov. Ser. 109, 582–606 (1979; [Zbl 0414.49031](#))] method of controllability function, we propose several approaches to determination of boundaries of changing of perturbation. We provide a positional control which is independent of the perturbation and steers an arbitrary initial point to the origin in a finite time. An estimate from above for the time of motion is given.

MSC:

- [93B50](#) Synthesis problems
- [93C73](#) Perturbations in control/observation systems
- [93C10](#) Nonlinear systems in control theory
- [93B52](#) Feedback control
- [93B35](#) Sensitivity (robustness)

Cited in **1** Document

Keywords:

robust feedback synthesis problem; bounded control; perturbation