

Bobtsov, Alexey

A note to output feedback adaptive control for uncertain system with static nonlinearity.
(English) [Zbl 1100.93507](#)
Automatica 41, No. 12, 2177-2180 (2005).

Summary: The problem of control design for a system represented as linear stationary and static nonlinear parts is considered. It is assumed that the linear part is unknown and strictly minimum phase. The nonlinear part is known inaccurately, it is irreducible to an input of the linear block, and generally does not satisfy sector restrictions. An adaptive regulator ensuring asymptotic stability is synthesized. The output of a control system, but not its derivatives, is used as a measured variable.

MSC:

93C40 Adaptive control/observation systems

93B52 Feedback control

93C41 Control/observation systems with incomplete information

Cited in **2** Documents

Keywords:

[Adaptive control](#); [Nonlinear systems](#); [Complex systems](#); [Nonlinear control](#); [Output feedback](#)

Full Text: [DOI](#)

References:

- [1] Arcak, M.; Kokotovic, P., Feasibility conditions for circle criterion design, *Systems and control letters*, 42, 5, 405-412, (2001) · [Zbl 0974.93049](#)
- [2] Arcak, M.; Larsen, M.; Kokotovic, P., Circle and Popov criteria as tools for nonlinear feedback design, *Automatica*, 39, 4, 643-650, (2003) · [Zbl 1034.93050](#)
- [3] Fradkov, A.L., Synthesis of adaptive system of stabilization of linear dynamic plants, *Automation and remote control*, 35, 12, 1960-1966, (1974) · [Zbl 0307.93024](#)
- [4] Fradkov, A.L.; Miroshnik, I.V.; Nikiforov, V.O., *Nonlinear and adaptive control of complex systems*, (1999), Kluwer Academic Publishers Dordrecht · [Zbl 0934.93002](#)
- [5] Qian, C.; Lin, W., Output feedback control of a class of nonlinear systems: A nonseparation principle paradigm, *IEEE transactions on automatic control*, 47, 10, 1710-1715, (2002) · [Zbl 1364.93720](#)
- [6] Qian, C., Schrader, C.B., & Lin, W., 2003. Global regulation of a class of uncertain nonlinear systems using output feedback. In *Proceedings of American control conference* (pp. 1542-1547). Denver, CO.

This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.