Krstić, M.; **Kanellakopoulos, I.**; **Kokotović, P. V.**
Adaptive nonlinear control without overparametrization. (English) Zbl 0763.93043
Syst. Control Lett. 19, No. 3, 177-185 (1992).

Summary: A new design procedure for adaptive nonlinear control is proposed in which the number of parameter estimates is minimal, that is, equal to the number of unknown parameters. The adaptive systems designed by this procedure possess stronger stability properties than those using overparametrization.

MSC:

93C40 Adaptive control/observation systems

Keywords:

design procedure; adaptive systems; overparametrization

Full Text: DOI

References:

[1] Jiang, Z. P.; Praly, L., Iterative designs of adaptive controllers for systems with nonlinear integrators, (Proc. 30th IEEE Conf. Decision Control (1991), Brighton: Brighton UK), 2482-2487

[2] Kanellakopoulos, I.; Kokotović, P. V.; Morse, A. S., Systematic design of adaptive controllers for feedback linearizable systems, IEEE Trans. Automat. Control, 36, 1241-1253 (1991) · Zbl 0768.93044

[3] Kanellakopoulos, I.; Kokotović, P. V.; Morse, A. S., Adaptive output-feedback control of a class of nonlinear systems, (Proc. 30th IEEE Conf. Decision Control (1991), Brighton: Brighton UK), 1082-1087 · Zbl 0787.93056

[4] Kokotović, P. V.; Kanellakopoulos, I.; Morse, A. S., Adaptive feedback linearization of nonlinear systems, (Kokotović, P. V., Foundations of Adaptive Control (1991), Springer-Verlag: Springer-Verlag Berlin), 311-346 · Zbl 0787.93047

[5] Marino, R.; Tomei, P., Global adaptive observers and output-feedback stabilization for a class of nonlinear systems, (Kokotović, P. V., Foundations of Adaptive Control (1991), Springer-Verlag: Springer-Verlag Berlin), 455-493 · Zbl 0787.93013

[6] Sastry, S. S.; Isidori, A., Adaptive control of linearizable systems, IEEE Trans. Automat. Control, 34, 1123-1131 (1989) · Zbl 0693.93046