

[2009-0273] Output-feedback stabilization for stochastic high-order nonlinear systems with a ratio of odd integers power

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摘要

关键词

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[2009-0273] Output-feedback stabilization for stochastic high-order nonlinear systems with a ratio of odd integers power

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Abstract

This paper investigates the problem of output-feedback control for a class of stochastic high-order nonlinear systems with a ratio of odd integers power. By extending the adding a power integrator technique, introducing a new rescaling transformation, and choosing an appropriate Lyapunov function, an output-feedback controller is constructed to render the closed-loop system globally asymptotically stable in probability and the output can be regulated to the origin almost surely. Furthermore, we address the problem of inverse optimal stabilization in probability. A simulation example is provided to show the effectiveness of the design.

Key words

[Stochastic high-order nonlinear systems](#) [a ratio of odd integers power](#) [output-feedback control](#) [inverse optimal stabilization](#)

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