Abstract

The present paper deals with a decoupled multimodel predictive control based on multi-observer for the control of discrete-time nonlinear systems with time-varying delay. For each local model, a controller based on partial predictor/observer is synthesized. A switching algorithm is established to yield the adequate partial controller ensuring the closed-loop desired performances. Simulation results are given to illustrate the significance of the proposed decoupled multimodel predictive control strategy.

References

Supervised Model Predictive Control for Discrete-time Nonlinear Systems with Time-varying Delay

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a multi-controller approach with a real-time experimentation for a robot wrist.


Index Terms

Computer Science

Information Sciences

Keywords

Predictive Control
Time-delay Systems
Multi-observer
Supervisor
Multimodel Approach