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Title
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Description
Decentralized Tracking Controller Design Using Proportional-Integral Sliding Mode Control
MOHAMAD NOH AHMAD, JOHARI HS OSMAN Dept. of Robotics and Mechatronics, Faculty of Electrical Engineering, Universiti Teknologi Malaysia, 81310 UTM Skudai, Malaysia. e-mail: noh@suria.fke.utm.my MOHD RUDDIN A. GHANI Kolej Universiti Teknikal Kebangsaan Malaysia, 75450 Ayer Keroh, Melaka, Malaysia. ABSTRACT This paper proposes ...
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Decentralized Tracking Controller Design using Proportional-Integral Sliding Mode Control

M.N. Ahmad, J.H.S. Osman, and M.R.A. Ghazali (Malaysia)

Keywords
Nonlinear Systems, Decentralized Tracking Controller, Sliding Mode Control, Matched Uncertainties.

Abstract
This paper proposes a decentralized tracking controller for a class of nonlinear inter-connected uncertain systems with matched uncertainties. A robust decentralized sliding mode controller is derived such that for each sub system, the actual trajectory tracks the desired trajectory using only the local states information. The Proportional Integral (PI) sliding mode is chosen to ensure the stability of the overall dynamics during the entire period i.e. the reaching phase and the sliding phase. A simulation study is presented to illustrate the effectiveness of the proposed controller.

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