State and Disturbance Observer for Robust Motion Control

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Ashitosh D. Chavan ; Aniket D. Gundecha ; Kaliprasad A. Mahapatro ; Prasheel V. Suryawanshi All Authors

Abstract

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Abstract: The paper proposes a combination of sliding mode control (SMC) strategy with state and disturbance observer (SDO) technique. In most of the applications all the states of... **View more**

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Abstract:
The paper proposes a combination of sliding mode control (SMC) strategy with state and disturbance observer (SDO) technique. In most of the applications all the states of the plant are not available for measurement. In that case SDO is used to estimate the plant states along with matched as well as mismatched uncertainties. The estimates of SDO is used in proposed control law to improve the output tracking. The proposed control can effectively regulate the motor speed, even in the presence of uncertainties