

عنوان مقاله:

Reduction of Network Effects On Control System Performance by Controller Design

محل انتشار:

مجله مهندسی برق مجلسی، دوره 1، شماره 2 (سال: 1386)

تعداد صفحات اصل مقاله: 9

نویسنده:

خلاصه مقاله:

This paper discusses the impact of network architecture on control performance in a class of distributed control systems called Networked Control Systems (NCSs) and provides design considerations related to control quality. Then, we discuss the framework for controller design NCSs where sensors, actuators, and controllers are distributed and interconnected by a common communication network. Multiple distributed communication delays as well as multiple inputs and multiple outputs are considered in the discretetime modeling algorithm. The proposed NCS model is used as a foundation for optimal controller design to compensate for the multiple time delays. The proposed control algorithm utilizes the information of delayed signals and improves the control performance of a control system with distributed communication delays. Several simulation studies are provided to evaluate the control performance of the proposed controller design.

کلمات کلیدی:

networked control systems, en, Network architecture, Multiple distributed communication, Delay

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