

Call for Papers

Journal of Systems Science and Complexity

Special Issue on New Directions in Nonlinear and Distributed Control

Guest Editors

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Nonlinearity is ubiquitous in engineering and natural systems. The development of nonlinear control can be traced back to decades ago. To date, the research has reached the stage that emphasizes developing methodologies that can handle the complexity characterized by uncertainty, nonlinearity, time-varying dynamics, delays and interconnections. The new trend of seamless integration of controls, communication and computation motivates quite a few new interesting control problems including quantized control, networked control, distributed control, and event-based control. For cyber-physical systems (CPS) that involve interaction between the “cyber” and the physical processes, the current nonlinear control theory is insufficient to addressing design challenges arising from CPSs and many related engineering applications. Solving the new problems will be of special interest for the control of various practical systems such as robotic networks, electric smart grids, manufacturing production lines, chemical processes and biological systems, and will even contribute to the achievement of smart manufacturing, smart grids and intelligent transportation systems.

The purpose of this special issue is to solicit and report new research results that address some of the new emerging nonlinear control problems, not limited to the ones characterized above.

Topics of interest in the Special Issue include, but are not limited to, the following.

- ☐ New stability analysis tools for nonlinear systems
- ☐ Quantized control of linear and nonlinear systems
- ☐ Decentralized and distributed control subject to communication/network constraints
- ☐ Practical control applications

For further information about paper submissions, please contact Dr. Tengfei Liu at tfliu@mail.neu.edu.cn

Important Dates

Submission Due: January 15, 2017

Revision Notification Date: April 15, 2017

Final Submission Due: May 31, 2017

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Submission of Manuscript

Please visit the journal website at http://101.200.86.116/journalx_xtkxyfzx_en/authorLogOn.action and follow the instructions to prepare and submit new manuscripts. You may also directly send the manuscript to the email box of the editorial office at xtkx2@amss.ac.cn. Please specify that your submission is to the special issue.