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Advanced Nonlinear Optimal Control for Cyber, Physical, and Life Systems

Guest Editor:

Prof. Desineni Subbaram Naidu
Minnesota Power Jack Rowe Endowed Chair & Professor in Electrical Engineering, University of Minnesota Duluth (UMD), Minnesota, 55812, USA

dsnaidu@d.umn.edu

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Message from the Guest Editor

Optimal control (both open loop and closed loop) of linear systems is now a well-established area of study and already implemented in various fields of science and engineering. However, if the system is highly nonlinear, the optimal controller designed based on the linearized system does not provide a satisfactory performance. In particular, the closed-loop optimal control of the nonlinear system has been of interest using state-dependent Riccati equations (SDRE) for both regulation and tracking problems.

Manuscripts are invited in the areas of advanced, nonlinear, open-loop and closed-loop, optimal control techniques with applications to cyber, physical, and life systems. Further, from the point of view of the cyber component, focus is on cyber security, resiliency, with applications to infrastructure systems like electric grid and green energy.

Keywords

- Nonlinear optimal control: regulation and tracking
- State dependent Riccati equation (SDRE)
- Cyber, physical, and life systems
- Cyber security and resiliency

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Editor-in-Chief

Prof. José A. Tenreiro Machado
Department of Electrical Engineering, Institute of Engineering, Polytechnic Institute of Porto, 4249-015 Porto, Portugal

Message from the Editor-in-Chief

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Mathematics
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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