Call for Papers

Control Theory and Technology

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A Special Issue on ADRC:

New ADRC developments in Ibero-America

Guest Editors: Hebertt Sira-Ramírez, Mario Ramírez-Neria, Alberto Luviano-Juárez, John Cortés-Romero and Jaime González-Sierra

From the Guest Editors: Announcing yet another special issue on ADRC

Since its introduction, the Active Disturbance Rejection Control (ADRC) philosophy has attracted worldwide attention from academic and industrial communities. Although most ADRC contributors come from Asia, a growing control community in Ibero-America has adopted ADRC as a control paradigm in several dynamic systems, such as robotics, mechatronics, biological systems, switched power converters, and motor drives. The possibility to synthesize simple, robust controllers to provide accurate trajectory tracking manipulations through the differential flatness property, the disturbance parametrization through the principles of ultra-local models (inspired in the model-free control introduced by M. Fliess), the synergistic combination with differential algebraic procedures for identification and control, among others, are some of the ADRC features that have come up with the Ibero-American community. Furthermore, there are still some open perspectives that can be combined with the ADRC to ensure better overall performance, optimization, robustness, adaptability, and learning, such as the geometric control and non-minimum phase systems, as well as the practical aspects for the proper deployment and implementation of ADRC which includes noise management, saturation, and robust design specifications, among others.

This special issue is aimed at students, teachers, researchers, and industry professionals worldwide. Nevertheless, publication priority will be given to authors from Ibero America or those who conduct their activities in an institution in Ibero America. The special issue aims to disseminate the advances and results of educational, research, technological development, and industrial applications projects that use the ADRC methodology and minimize the gap between theory and practice.

Topics of interest, which are not limited to those mentioned here, include:

- Flatness-based ADRC
- Flat filtering Control
- Model Free Control
- Power Converters
- Time Delay Systems
- Mobile robotics
- Collaborative robots
- ADRC in industry
- Multi-Agent Systems
- Manipulator robotics
- Processes
- Power systems
- Electric Motor Drives
- Educational robotics
- Medical robotic
- Mechatronics
- Automotive systems
- Renewable energy sources
- Biologic and biomedical systems
- ADRC implementation
- Modeling, estimation, identification and control of linear and nonlinear systems
- Areas related to the design and application of the ADRC

We hope to receive your contributions by **February 1st, 2025**, submitted through the manuscripts system at

https://mc03.manuscriptcentral.com/ctt

Please clarify in the cover note that the paper is submitted to this special issue.

Deadline	Notification	Publication
February 1st, 2025	**May 1st, 2025**	**June (online)/August (print) 2025**

For further Information about paper submissions, please contact jcta@scut.edu.cn

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