

Special Issue

Stability and Optimal Control of Linear Systems

Message from the Guest Editors

The linear dynamical systems theory is not only a cornerstone of scientific and technological advancement. The tools used to design and analyze systems and processes spanning more than a century of development and application. In particular, due to the superposition property of the solutions, the field of control systems benefits from the simplicity and unification of approaches and techniques that provide stable, robust, or even safe controllers to stabilize and deliver the closed-loop performance prescribed to the plant. From industrial applications to flight control and from cruise control to biomedical systems and artificial organs, linear system tools can be applied to these tasks, even when nonlinear behavior governs the system's dynamics. Two main characteristics are paramount when the designer applies linear dynamical systems techniques: closed-loop system stability—at least on the local/regional level—and optimal performance—fast transient response and robustness, among others. This Special Issue aims to publish contributions covering topics related to the stability and optimal control of linear systems.

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Deadline for manuscript submissions

24 April 2026



Processes

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Impact Factor 2.8
CiteScore 5.5



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