Título:

Autor: Karl Johan Aström   **Precio:** $790.00

Editorial: **Año:** 2008

Tema: **Edición:** 1ª

Sinopsis   **ISBN:** 9780691135762

This book provides an introduction to the mathematics needed to model, analyze, and design feedback systems. It is an ideal textbook for undergraduate and graduate students, and is indispensable for researchers seeking a self-contained reference on control theory. Unlike most books on the subject, Feedback Systems develops transfer functions through the exponential response of a system, and is accessible across a range of disciplines that utilize feedback in physical, biological, information, and economic systems.

Karl Åström and Richard Murray use techniques from physics, computer science, and operations research to introduce control-oriented modeling. They begin with state space tools for analysis and design, including stability of solutions, Lyapunov functions, reachability, state feedback observability, and estimators. The matrix exponential plays a central role in the analysis of linear control systems, allowing a concise development of many of the key concepts for this class of models. Åström and Murray then develop and explain tools in the frequency domain, including transfer functions, Nyquist analysis, PID control, frequency domain design, and robustness. They provide exercises at the end of every chapter, and an accompanying electronic solutions manual is available. Feedback Systems is a complete one-volume resource for students and researchers in mathematics, engineering, and the sciences.

Covers the mathematics needed to model, analyze, and design feedback systems
Serves as an introductory textbook for students and a self-contained resource for researchers
Includes exercises at the end of every chapter
Features an electronic solutions manual
Offers techniques applicable across a range of disciplines