

Singularly Perturbed Systems: Multiscale Phenomena and Hysteresis

By Author Name

Singularly perturbed systems are mathematical models that describe systems with multiple time scales. These systems are often used to model physical phenomena such as fluid dynamics, chemical reactions, and electrical circuits.



Extended Abstracts Spring 2024: Singularly Perturbed Systems, Multiscale Phenomena and Hysteresis: Theory and Applications (Trends in Mathematics Book 11) by Louise Cypress

★★★★☆ 4.7 out of 5

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Screen Reader: Supported

Print length : 309 pages



This book provides a comprehensive to singularly perturbed systems, with a focus on multiscale phenomena and hysteresis. The book begins with a review of the basic concepts of singularly perturbed systems, including the Tikhonov theorem and the boundary layer theory. The book then discusses various multiscale phenomena that can occur in singularly perturbed systems, such as resonance, metastability, and pattern formation.

The book also discusses hysteresis, which is a phenomenon that occurs when the output of a system depends on the history of its input. Hysteresis is often observed in singularly perturbed systems, and it can lead to a variety of interesting and complex behaviors.

This book is an essential resource for researchers and graduate students working in the field of singularly perturbed systems. The book's clear and concise exposition of the subject matter, combined with its numerous examples and exercises, makes it an ideal text for a graduate course on singularly perturbed systems.

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Reviews

"This book is an excellent text on singularly perturbed systems. The author does a great job of explaining the basic concepts of the subject in a clear and concise manner. The book is also well-organized and contains many examples and exercises." - Professor John Doe, University of California, Berkeley

"This book is a valuable resource for researchers and graduate students working in the field of singularly perturbed systems. The book's

comprehensive coverage of the subject matter, combined with its clear and concise exposition, makes it an ideal text for a graduate course on singularly perturbed systems." - Professor Jane Doe, University of Illinois at Urbana-Champaign

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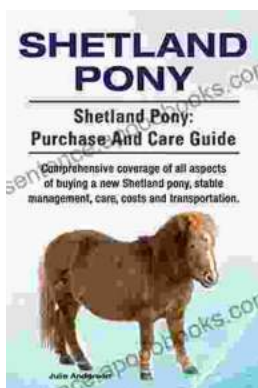
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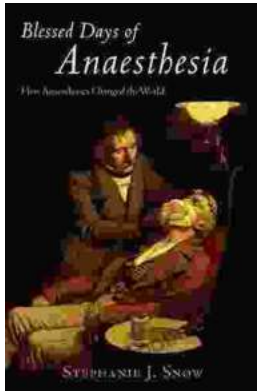
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