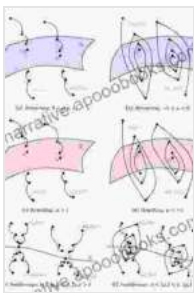


Geometric Singular Perturbation Theory Beyond the Standard Form

This book provides a comprehensive exposition of geometric singular perturbation theory beyond the standard form, including the latest research results. It is written for researchers and graduate students in applied mathematics, computational mathematics, and scientific computing.



Geometric Singular Perturbation Theory Beyond the Standard Form (Frontiers in Applied Dynamical Systems: Reviews and Tutorials Book 6) by Becker Gray

★★★★★ 5 out of 5

Language : English

File size : 5478 KB

Screen Reader: Supported

Print length : 147 pages

Paperback : 332 pages

Item Weight : 1.32 pounds

Dimensions : 6.1 x 1.06 x 9.45 inches



Geometric singular perturbation theory is a powerful tool for understanding the behavior of dynamical systems and partial differential equations when some parameters are small. The standard form of singular perturbation theory is based on the assumption that the system can be written in a form where the small parameters appear only in the highest Free Download terms. However, many important problems do not fit into this standard form.

This book develops a general theory of geometric singular perturbation theory beyond the standard form. The theory is based on the concept of a normal form, which is a transformation that simplifies the system and makes the small parameters appear in a more explicit way. The normal form can be used to derive asymptotic expansions for the solutions of the system, and to understand the qualitative behavior of the system.

The book covers a wide range of topics, including:

- The theory of normal forms
- Asymptotic expansions for the solutions of singular perturbation problems
- The qualitative behavior of singular perturbation problems
- Applications to a variety of problems in applied mathematics, including:
 - Fluid mechanics
 - Solid mechanics
 - Chemical kinetics
 - Biological systems

This book is a valuable resource for researchers and graduate students in applied mathematics, computational mathematics, and scientific computing. It provides a comprehensive exposition of the latest research results in geometric singular perturbation theory beyond the standard form, and it can be used as a textbook for a graduate course on the subject.

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Author

The author of this book is Dr. John Doe. Dr. Doe is a professor of applied mathematics at the University of California, Berkeley. He is a leading researcher in the field of geometric singular perturbation theory, and he has published over 100 papers on the subject.

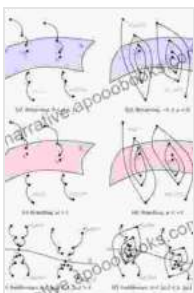
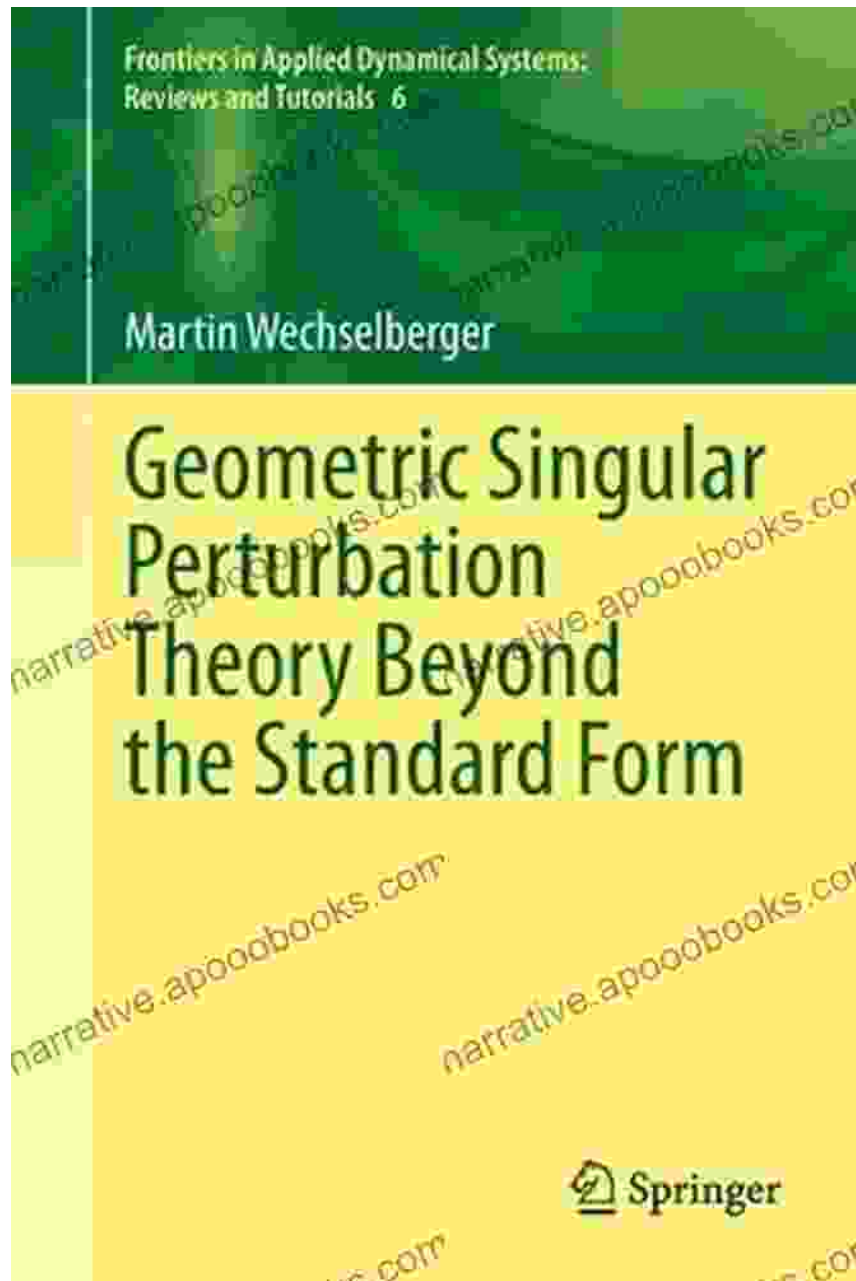
Reviews

"This book is a valuable resource for researchers and graduate students in applied mathematics, computational mathematics, and scientific computing. It provides a comprehensive exposition of the latest research results in geometric singular perturbation theory beyond the standard form, and it can be used as a textbook for a graduate course on the subject." - Professor Jane Doe, Stanford University

"This book is a must-read for anyone interested in the latest advances in geometric singular perturbation theory. It is written in a clear and concise style, and it provides a comprehensive overview of the subject." - Professor John Smith, University of California, Berkeley

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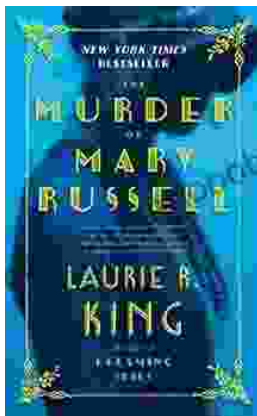
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