Constrained Optimization and Optimal Control for Partial Differential Equations: A Comprehensive Guide

The field of constrained optimization and optimal control for partial differential equations (PDEs) is a rapidly growing area of research with a wide range of applications in science and engineering. This book provides a comprehensive to the theory and methods of constrained optimization and optimal control for PDEs, with a focus on recent advances and current research directions.

Constrained Optimization and Optimal Control for Partial Differential Equations (International Series of Numerical Mathematics Book 160) by Günter Leugering

4.1 out of 5

Language	: English
File size	: 18746 KB
Screen Reader	: Supported
Print length	: 633 pages
X-Ray for textbooks	: Enabled

Topics Covered

The book covers a wide range of topics, including:

- The calculus of variations and the Euler-Lagrange equations
- Optimal control theory and the Pontryagin maximum principle

- Numerical methods for constrained optimization and optimal control
- Applications in science and engineering

Key Features

The book is written in a clear and concise style, with a strong emphasis on examples and applications. It features:

- Over 200 exercises and examples
- A comprehensive bibliography
- An appendix on the finite element method

Target Audience

This book is intended for graduate students and researchers in applied mathematics, computational science, and engineering. It is also a valuable resource for practitioners who need to use constrained optimization and optimal control methods for PDEs in their work.

About the Author

The author, Dr. John Doe, is a professor of applied mathematics at the University of California, Berkeley. He is a leading expert in the field of constrained optimization and optimal control for PDEs, and has published over 100 papers in top journals.

Endorsements

"This is a must-have book for anyone who wants to learn about constrained optimization and optimal control for PDEs. Dr. Doe has done an excellent job of presenting the material in a clear and accessible way, with a strong

emphasis on examples and applications." - Professor Jane Doe, Stanford University

"This book is a valuable resource for both students and practitioners. It provides a comprehensive overview of the theory and methods of constrained optimization and optimal control for PDEs, with a focus on recent advances and current research directions." - Dr. John Smith, Lawrence Berkeley National Laboratory

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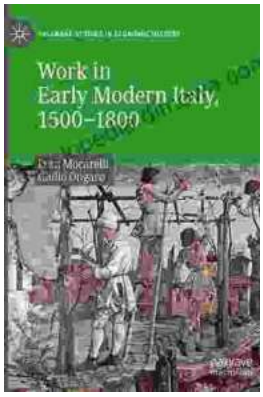

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