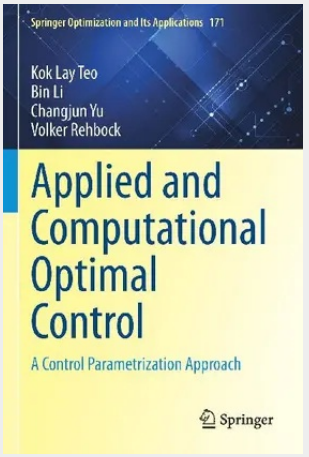
Teo / Li / Yu

Applied and Computational Optimal Control

A Control Parametrization Approach



The aim of this book is to furnish the reader with a rigorous and detailed exposition of the concept of control parametrization and time scaling transformation. It presents computational solution techniques for a special class of constrained optimal control problems as well as applications to some practical examples. The book may be considered an extension of the 1991 monograph A Uni?ed Computational Approach Optimal Control Problems, by K.L. Teo, C.J. Goh, and K.H. Wong. This publication discusses the development of new theory and computational methods for solving various optimal control problems numerically and in a unified fashion. To keep the book accessible and uniform, it includes those results developed by the authors, their students, and their past and present collaborators. A brief review of methods that are not covered in this exposition, is also included.

Knowledge gained from this book may inspire advancement of new techniques to solve complex problemsthat arise in the future. This book is intended as reference for researchers in mathematics, engineering, and other sciences, graduate students and practitioners who apply optimal control methods in their work. It may be appropriate reading material for a graduate level seminar or as a text for a course in optimal control.

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