

Matthew C. Turner
Declan G. Bates (Eds.)

Mathematical Methods for Robust and Nonlinear Control

EPSRC Summer School



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Preface

The underlying theory on which much modern robust and nonlinear control is based can often be difficult for the student to grasp. In particular, the mathematical aspects can be problematic for students from a standard engineering background. The EPSRC sponsored Summer School which was held in Leicester in September 2006 attempted to “fill the gap” in students’ appreciation the theory relevant to several important areas of control. This book is a collection of lecture notes which were presented at that workshop and consists of, broadly, two parts. The first nine chapters are devoted to the theory behind several areas of robust and nonlinear control and are aimed at introducing fundamental concepts to the reader. The last six chapters contain detailed case studies which aim to demonstrate the use and effectiveness of these modern techniques in real engineering applications. It is hoped that this book will provide a useful introduction to many of the more common robust and nonlinear control techniques and serve as a valuable reference for the more adept practitioner.

Leicester,
May 2007

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