



Control Design and Analysis for Underactuated Robotic Systems

Xin Xin, Yannian Liu

Download now

[Click here](#) if your download doesn't start automatically

Control Design and Analysis for Underactuated Robotic Systems

Xin Xin, Yannian Liu

Control Design and Analysis for Underactuated Robotic Systems Xin Xin, Yannian Liu

The last two decades have witnessed considerable progress in the study of underactuated robotic systems (URSs). *Control Design and Analysis for Underactuated Robotic Systems* presents a unified treatment of control design and analysis for a class of URSs, which include systems with multiple-degree-of-freedom and/or with underactuation degree two. It presents novel notions, features, design techniques and strictly global motion analysis results for these systems. These new materials are shown to be vital in studying the control design and stability analysis of URSs.

Control Design and Analysis for Underactuated Robotic Systems includes the modelling, control design and analysis presented in a systematic way particularly for the following examples:

- 1 directly and remotely driven Acrobots
- 1 Pendubot
- 1 rotational pendulum
- 1 counter-weighted Acrobot
- 2-link underactuated robot with flexible elbow joint
- 1 variable-length pendulum
- 1 3-link gymnastic robot with passive first joint
- 1 n-link planar robot with passive first joint
- 1 n-link planar robot with passive single joint
- double, or two parallel pendulums on a cart
- 1 3-link planar robots with underactuation degree two
- 2-link free flying robot

The theoretical developments are validated by experimental results for the remotely driven Acrobot and the rotational pendulum.

Control Design and Analysis for Underactuated Robotic Systems is intended for advanced undergraduate and graduate students and researchers in the area of control systems, mechanical and robotics systems, nonlinear systems and oscillation. This text will not only enable the reader to gain a better understanding of the power and fundamental limitations of linear and nonlinear control theory for the control design and analysis for these URSs, but also inspire the reader to address the challenges of more complex URSs.

 [Download Control Design and Analysis for Underactuated Robo ...pdf](#)

 [Read Online Control Design and Analysis for Underactuated Ro ...pdf](#)

Download and Read Free Online Control Design and Analysis for Underactuated Robotic Systems Xin Xin, Yannian Liu

From reader reviews:

Kevin Ortiz:

Why don't make it to be your habit? Right now, try to ready your time to do the important behave, like looking for your favorite e-book and reading a publication. Beside you can solve your problem; you can add your knowledge by the publication entitled Control Design and Analysis for Underactuated Robotic Systems. Try to make book Control Design and Analysis for Underactuated Robotic Systems as your pal. It means that it can to be your friend when you really feel alone and beside that of course make you smarter than previously. Yeah, it is very fortunated for you. The book makes you a lot more confidence because you can know almost everything by the book. So , let us make new experience and also knowledge with this book.

Jody Vinson:

Typically the book Control Design and Analysis for Underactuated Robotic Systems has a lot details on it. So when you check out this book you can get a lot of help. The book was authored by the very famous author. Mcdougal makes some research prior to write this book. This particular book very easy to read you may get the point easily after scanning this book.

Carole Houston:

Would you one of the book lovers? If so, do you ever feeling doubt when you find yourself in the book store? Attempt to pick one book that you find out the inside because don't determine book by its handle may doesn't work here is difficult job because you are afraid that the inside maybe not since fantastic as in the outside search likes. Maybe you answer might be Control Design and Analysis for Underactuated Robotic Systems why because the amazing cover that make you consider with regards to the content will not disappoint a person. The inside or content is fantastic as the outside or even cover. Your reading sixth sense will directly guide you to pick up this book.

John Damm:

That book can make you to feel relax. That book Control Design and Analysis for Underactuated Robotic Systems was bright colored and of course has pictures on the website. As we know that book Control Design and Analysis for Underactuated Robotic Systems has many kinds or variety. Start from kids until teens. For example Naruto or Private eye Conan you can read and think you are the character on there. Therefore not at all of book tend to be make you bored, any it offers you feel happy, fun and relax. Try to choose the best book for you personally and try to like reading which.

**Download and Read Online Control Design and Analysis for
Underactuated Robotic Systems Xin Xin, Yannian Liu
#W8ONR1AJ2LZ**

Read Control Design and Analysis for Underactuated Robotic Systems by Xin Xin, Yannian Liu for online ebook

Control Design and Analysis for Underactuated Robotic Systems by Xin Xin, Yannian Liu Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Control Design and Analysis for Underactuated Robotic Systems by Xin Xin, Yannian Liu books to read online.

Online Control Design and Analysis for Underactuated Robotic Systems by Xin Xin, Yannian Liu ebook PDF download

Control Design and Analysis for Underactuated Robotic Systems by Xin Xin, Yannian Liu Doc

Control Design and Analysis for Underactuated Robotic Systems by Xin Xin, Yannian Liu Mobipocket

Control Design and Analysis for Underactuated Robotic Systems by Xin Xin, Yannian Liu EPub