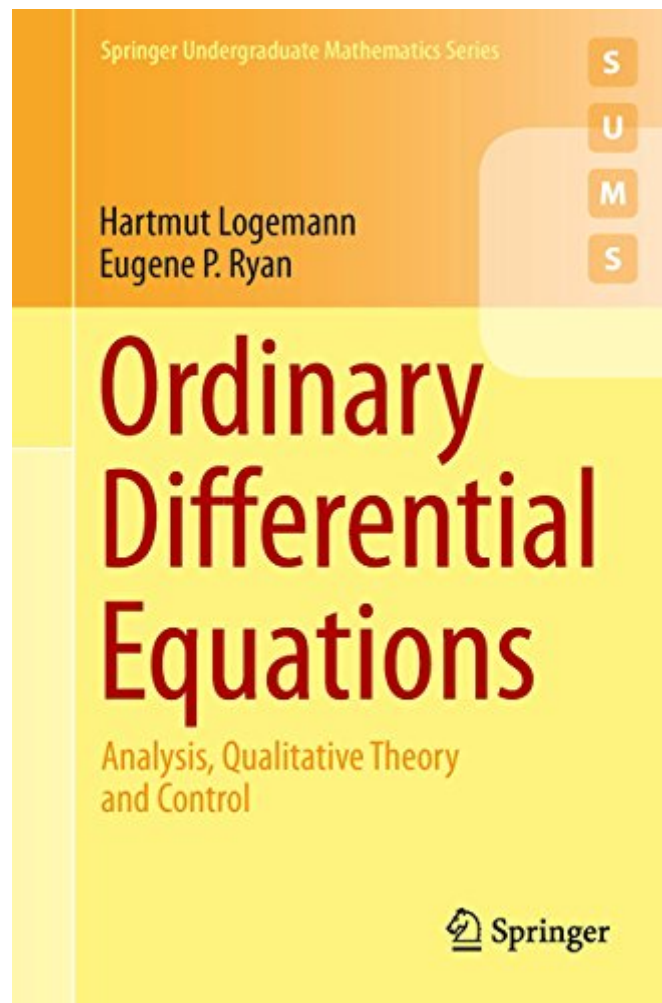# Ordinary Differential Equations: Analysis, Qualitative Theory And Control (Springer Undergraduate Mathematics Series)

Synopsis

The book comprises a rigorous and self-contained treatment of initial-value problems for ordinary differential equations. It additionally develops the basics of control theory, which is a unique feature in current textbook literature.The following topics are particularly emphasised:â ¢ existence, uniqueness and continuation of solutions,â ¢ continuous dependence on initial data,â ¢ flows,â ¢ qualitative behaviour of solutions,â ¢ limit sets,â ¢ stability theory,â ¢ invariance principles,â ¢ introductory control theory,â ¢ feedback and stabilization.The last two items cover classical control theoretic material such as linear control theory and absolute stability of nonlinear feedback systems. It also includes an introduction to the more recent concept of input-to-state stability.Only a basic grounding in linear algebra and analysis is assumed. Ordinary Differential Equations will be suitable for final year undergraduate students of mathematics and appropriate for beginning postgraduates in mathematics and in mathematically oriented engineering and science.

Book Information

File Size: 7860 KB

Print Length: 333 pages

Publisher: Springer; 2014 edition (July 8, 2014)

Publication Date: July 8, 2014

Sold by:Â Digital Services LLC

Language: English

ASIN: B00PFMW5II

Text-to-Speech: Not enabled

X-Ray: Not Enabled

Word Wise: Not Enabled

Lending: Not Enabled

Enhanced Typesetting: Not Enabled

Best Sellers Rank: #1,145,906 Paid in Kindle Store (See Top 100 Paid in Kindle Store)   #108 inÂ Kindle Store > Kindle eBooks > Nonfiction > Science > Mathematics > Applied > Differential Equations   #117 inÂ Kindle Store > Kindle eBooks > Nonfiction > Science > Physics > System Theory   #167 inÂ Kindle Store > Kindle eBooks > Nonfiction > Science > Mathematics > Chaos & Systems

Customer Reviews

Excellent book and excellent service!

Ordinary Differential Equations: Analysis, Qualitative Theory and Control (Springer Undergraduate Mathematics Series) Applied Partial Differential Equations with Fourier Series and Boundary Value Problems (5th Edition) (Featured Titles for Partial Differential Equations) Student Solutions Manual for Differential Equations: Computing and Modeling and Differential Equations and Boundary Value Problems: Computing and Modeling Differential Equations and Boundary Value Problems: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) Differential Equations: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) Fundamentals of Differential Equations and Boundary Value Problems (6th Edition) (Featured Titles for Differential Equations) Fundamentals of Differential Equations (8th Edition) (Featured Titles for Differential Equations) Finite Difference Methods for Ordinary and Partial Differential Equations: Steady-State and Time-Dependent Problems (Classics in Applied Mathematics) An Introduction to Ordinary Differential Equations (Dover Books on Mathematics) Ordinary Differential Equations (Dover Books on Mathematics) Introduction to Partial Differential Equations (Undergraduate Texts in Mathematics) Mathematics for Finance: An Introduction to Financial Engineering (Springer Undergraduate Mathematics Series) A First Course in Discrete Mathematics (Springer Undergraduate Mathematics Series) A Course in Ordinary Differential Equations, Second Edition Transformations Of Coordinates, Vectors, Matrices And Tensors Part I: LAGRANGE'S EQUATIONS, HAMILTON'S EQUATIONS, SPECIAL THEORY OF RELATIVITY AND CALCULUS ... Mathematics From 0 And 1 Book 16) Dictionary of Analysis, Calculus, and Differential Equations (Comprehensive Dictionary of Mathematics) An Introduction to Laplace Transforms and Fourier Series (Springer Undergraduate Mathematics Series) MathematicaÃ Â®: A Problem-Centered Approach (Springer Undergraduate Mathematics Series) Vector Calculus (Springer Undergraduate Mathematics Series) Hyperbolic Geometry (Springer Undergraduate Mathematics Series)