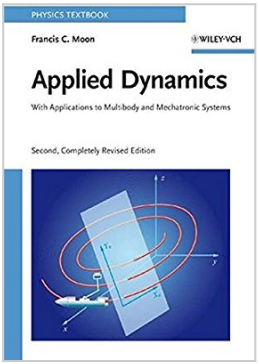

Applied Dynamics: With Applications to Multibody and Mechatronic Systems

By Francis C. Moon

Applied Dynamics: With Applications to Multibody and Mechatronic Systems By Francis C. Moon

For almost a decade now, this textbook had been at the forefront in using modern analytical and computational codes and in addressing novel developments. Already used by numerous institutions for their courses, this second edition has been substantially revised, with new sections on biomechanics and micro- and nanotechnology. There is also more coverage of robotics, multibody simulations and celestial mechanics. Numerous examples have been added and problems, partly using MATLAB, have been included.
* Free solutions manual available for lecturers at www.wiley-vch.de/supplements/

Applied Dynamics: With Applications to Multibody and Mechatronic Systems

By Francis C. Moon

Applied Dynamics: With Applications to Multibody and Mechatronic Systems By Francis C. Moon

For almost a decade now, this textbook had been at the forefront in using modern analytical and computational codes and in addressing novel developments. Already used by numerous institutions for their courses, this second edition has been substantially revised, with new sections on biomechanics and micro- and nanotechnology. There is also more coverage of robotics, multibody simulations and celestial mechanics. Numerous examples have been added and problems, partly using MATLAB, have been included. * Free solutions manual available for lecturers at www.wiley-vch.de/supplements/

Applied Dynamics: With Applications to Multibody and Mechatronic Systems By Francis C. Moon Bibliography

- Sales Rank: #260641 in Books
- Published on: 2008-10-20
- Original language: English
- Number of items: 1
- Dimensions: 9.50" h x 1.13" w x 6.72" l, 2.40 pounds
- Binding: Paperback
- 581 pages

Editorial Review

From the Publisher
This intermediate level text is written for use by an undergraduate senior or first year graduate student in a dynamics course. Provides a modern and thorough examination of dynamics with specific emphasis on physical examples and applications such as: robotics, magnetic bearings, aircraft dynamics, and microelectromagnetic machines. Also includes the development of the method of virtual velocities based on the principle of virtual power.

From the Back Cover
A Modern, Practical Treatment of Dynamics for the Intermediate Reader
Applied Dynamics presents a modern treatment of dynamics not found in any other book. It introduces concepts of multibody dynamics, mechatronic dynamics, and nonlinear dynamics as well as traditional dynamics and examines underlying principles in the context of present-day computational methods. The book offers insight into modern analytical tools such as virtual power and Lagrange`s equations through a focus on real-world examples and applications including robotic systems, magnetic bearings, aerospace dynamics, and microelectromagnetic machines (MEMS).
Based on Francis C. Moon`s successful Intermediate Dynamics course at Cornell University, Applied Dynamics meets the growing need for an intermediate text that will help students develop practical problem-solving skills. This timely and useful volume:
l introduces the modern method of virtual power (Kane/Jourdain methods) and traditional methods of Newton-Euler and Lagrange equations
- illustrates applications and phenomena of modern dynamics with numerous examples, graphics, and homework problems
- demonstrates the solution of dynamics problems using modern software tools such as MATLAB and Mathematica
- explains the derivation of equations of motion in electromechanical systems, including MEMS and NEMS devices
- reviews important phenomena associated with the nonlinear equations of rigid body dynamics
- integrates modeling, derivation of equations, and solutions of equations
Applied Dynamics is an ideal text for one-semester courses at the senior undergraduate or first-year graduate level. It is also useful for more advanced students seeking to enhance their understanding of modern software tools or pursue independent investigation.

About the Author

Francis C. Moon is professor of mechanical and aerospace engineering at Cornell University, NY, USA. He has been in the Sibley School of Mechanical and Aerospace Engineering since 1987, having served as its director until 1992. He also served as the Chair of Theoretical and Applied Mechanics for seven years after joining Cornell in 1975. He was Assistant Professor at Princeton University in Aerospace and Mechanical Engineering from 1967-1974.
Professor Moon has worked in a wide spectrum of problems including nonlinear and chaotic vibrations, superconducting bearings, electromagnetic launchers, smart structures, fluid-elastic vibrations, and dynamics of machines. He has written several papers on 19th century kinematic and dynamics of machines and has five patents in magneto-mechanical devices.
Professor Moon has published nearly 140 journal articles as well as 6 books and 3 edited books. He is the

author of Chaotic and Fractal Dynamics and Superconducting Bearings and Levitation, and editor of Dynamics and Chaos in Manufacturing Processes. All titles are available from Wiley. Francis Moon has won the 2007 Lyapunov Award from the American Society of Mechanical Engineers (ASME) in recognition of lifetime contributions to the field of applied nonlinear dynamics.

Users Review

From reader reviews:

Gayle Oconnell:

Reading a book tends to be new life style in this era globalization. With looking at you can get a lot of information that could give you benefit in your life. With book everyone in this world can share their idea. Ebooks can also inspire a lot of people. A lot of author can inspire all their reader with their story as well as their experience. Not only the storyplot that share in the publications. But also they write about advantage about something that you need illustration. How to get the good score toefl, or how to teach children, there are many kinds of book that you can get now. The authors nowadays always try to improve their proficiency in writing, they also doing some analysis before they write to their book. One of them is this Applied Dynamics: With Applications to Multibody and Mechatronic Systems.

Dale Randolph:

People live in this new day time of lifestyle always attempt to and must have the free time or they will get lots of stress from both lifestyle and work. So , once we ask do people have time, we will say absolutely without a doubt. People is human not really a huge robot. Then we inquire again, what kind of activity are you experiencing when the spare time coming to an individual of course your answer will unlimited right. Then ever try this one, reading publications. It can be your alternative within spending your spare time, often the book you have read is usually Applied Dynamics: With Applications to Multibody and Mechatronic Systems.

Kate Vasquez:

Reading can called mind hangout, why? Because if you find yourself reading a book specially book entitled Applied Dynamics: With Applications to Multibody and Mechatronic Systems your brain will drift away trough every dimension, wandering in each and every aspect that maybe unfamiliar for but surely will end up your mind friends. Imaging just about every word written in a e-book then become one application form conclusion and explanation which maybe you never get prior to. The Applied Dynamics: With Applications to Multibody and Mechatronic Systems giving you another experience more than blown away the mind but also giving you useful info for your better life with this era. So now let us teach you the relaxing pattern is your body and mind will be pleased when you are finished reading through it, like winning a game. Do you want to try this extraordinary investing spare time activity?

Jessica Seymore:

You can spend your free time you just read this book this publication. This Applied Dynamics: With

Applications to Multibody and Mechatronic Systems is simple to create you can read it in the area, in the beach, train and soon. If you did not get much space to bring the actual printed book, you can buy typically the e-book. It is make you simpler to read it. You can save the book in your smart phone. Thus there are a lot of benefits that you will get when one buys this book.

Read Applied Dynamics: With Applications to Multibody and Mechatronic Systems By Francis C. Moon for online ebook

Applied Dynamics: With Applications to Multibody and Mechatronic Systems By Francis C. Moon 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 Applied Dynamics: With Applications to Multibody and Mechatronic Systems By Francis C. Moon books to read online.

Online Applied Dynamics: With Applications to Multibody and Mechatronic Systems By Francis C. Moon ebook PDF download

Applied Dynamics: With Applications to Multibody and Mechatronic Systems By Francis C. Moon Doc

Applied Dynamics: With Applications to Multibody and Mechatronic Systems By Francis C. Moon Mobipocket

Applied Dynamics: With Applications to Multibody and Mechatronic Systems By Francis C. Moon EPub

OAYTF67PJZS: Applied Dynamics: With Applications to Multibody and Mechatronic Systems By Francis C. Moon