

1. Record Nr.	UNINA9910790845203321
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Titolo	Matrix methods in the design analysis of mechanisms and multibody systems // John Uicker, University of Wisconsin, Madison, Pradip N. Sheth, University of Virginia, Bahram Ravani, University of California, Davis [[electronic resource]]
Pubbl/distr/stampa	Cambridge : , : Cambridge University Press, , 2013
ISBN	1-107-23314-3 1-107-25520-1 1-107-34490-5 1-107-34115-9 1-107-34740-8 1-139-03233-X 1-107-35702-0 1-107-34365-8
Descrizione fisica	1 online resource (xviii, 326 pages) : digital, PDF file(s)
Classificazione	TEC009000
Disciplina	621.8/11
Soggetti	Machinery, Dynamics of Multibody systems - Mathematical models Dynamics, Rigid - Mathematics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Machine generated contents note: 1. Concepts and definitions; 2. Topology and kinematic architecture; 3. Transformation matrices in kinematics; 4. Modeling mechanisms and multibody systems with transformation matrices; 5. Position analysis by kinematic equations; 6. Differential kinematics and numeric solution of posture equations 7. Velocity analysis; 8. Acceleration analysis; 9. Modeling dynamic aspects of mechanisms and multibody systems; 10. Dynamic equations of motion; 11. Linearized equations of motion; 12. Equilibrium position analysis; 13. Frequency response of mechanisms and multibody systems; 14. Time response of mechanisms and multibody systems; 15. Collision detection; 16. Impact analysis; 17. Constraint force

analysis.

Sommario/riassunto

This book is an integrated approach to kinematic and dynamic analysis. The matrix techniques presented are general and fully applicable to two- or three-dimensional systems. They lend themselves to programming and digital computation and can act as the basis of a usable tool for designers. Techniques have broad applicability to the design analysis of all multibody mechanical systems. The more powerful and more flexible the approach, and the less specialisation and reprogramming required for each application, the better. The matrix methods presented have been developed using these ideas as primary goals. Matrix methods can be applied by hand to such problems as the slider-crank mechanism, but this is not the intent of this text, and often the rigor required for such an attempt becomes quite burdensome in comparison with other techniques. The matrix methods have been extensively tested, both in the classroom and in the world of engineering industry.

2. **Record Nr.**

UNINA9910890848703321

Titolo

Journal of the earth simulator

Pubbl/distr/stampa

Tokyo, : Earth Simulator Center, Japan Agency for Marine-Earth Science and Technology, 2004-

ISSN

1349-2675

Descrizione fisica

1 online resource

Soggetti

Earth sciences - Computer simulation
Atmosphere - Computer simulation
Oceanography - Computer simulation
Meteorology - Computer simulation
Sciences de la terre - Simulation par ordinateur
Atmosphère - Simulation par ordinateur
Océanographie - Simulation par ordinateur
Météorologie - Simulation par ordinateur
Periodicals.

Lingua di pubblicazione

Inglese

Formato

Materiale a stampa

Livello bibliografico

Periodico

Note generali

Title from cover.