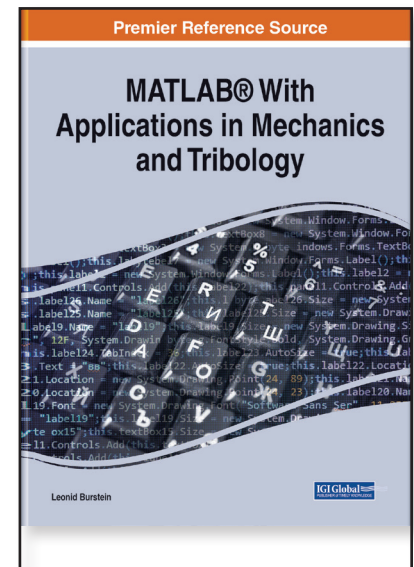# MATLAB® With Applications in Mechanics and Tribology

Part of the Advances in Systems Analysis, Software Engineering, and High Performance Computing Book Series

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Description:

Among the wide range of programming tools available, the technical analysis and calculations are realized by MATLAB®, which is recognized as a convenient and effective tool for modern science and technology. Thus, mastering its latest versions and practical solutions is increasingly essential for the creation of new products in mechanics, electronics, chemistry, life sciences, and modern industry. Modern mechanical and tribology sciences specialists widely use computers and some special programs, but need a universal tool for solving, simulating, and modeling specific problems from their area. There is plenty of information available on MATLAB® for the general engineer, but there is a gap in the field for research that applies MATLAB® to two wide, interdisciplinary, and topical areas: tribology and mechanics.

MATLAB® With Applications in Mechanics and Tribology explores how MATLAB® is used as a tool for subsequent computer solutions, applying it to both traditional and modern problems of mechanics and materials sciences. The problem solving in this book includes calculations of the mechanical parts, machine elements, production process, quality assurance, fluid mechanics parameters, thermodynamic and rheological properties of the materials as well as the state equations, descriptive statistics, and more. This book is ideal for scientists, students and professors of engineering courses, self-instructing readers, programmers, computer scientists, practitioners, and researchers looking for concise and clear information on learning and applying MATLAB® software to mechanics, tribology, and material physics.

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- Differential Equations
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- MATLAB®
- Mechanics
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Subject: Computer Science and IT	**Classification:** Authored Reference
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