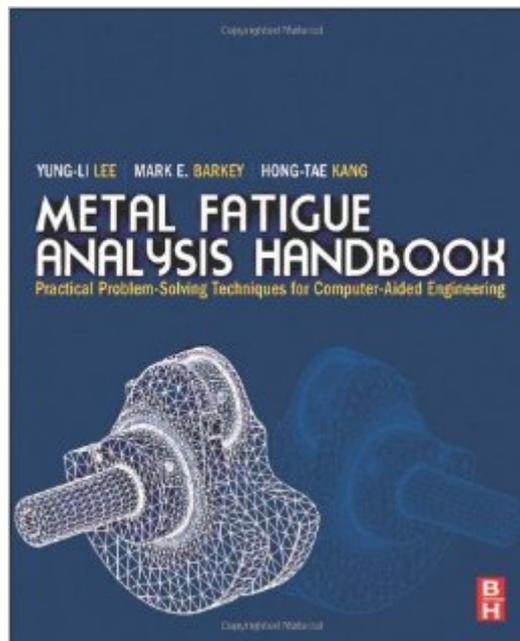


The book was found

Metal Fatigue Analysis Handbook: Practical Problem-solving Techniques For Computer-aided Engineering



Synopsis

Understand why fatigue happens and how to model, simulate, design and test for it with this practical, industry-focused reference. Written to bridge the technology gap between academia and industry, the Metal Fatigue Analysis Handbook presents state-of-the-art fatigue theories and technologies alongside more commonly used practices, with working examples included to provide an informative, practical, complete toolkit of fatigue analysis. Prepared by an expert team with extensive industrial, research and professorial experience, the book will help you to understand: Critical factors that cause and affect fatigue in the materials and structures relating to your workLoad and stress analysis in addition to fatigue damage-the latter being the sole focus of many books on the topic How to design with fatigue in mind to meet durability requirementsHow to model, simulate and test with different materials in different fatigue scenariosThe importance and limitations of different models for cost effective and efficient testing. Whilst the book focuses on theories commonly used in the automotive industry, it is also an ideal resource for engineers and analysts in other disciplines such as aerospace engineering, civil engineering, offshore engineering, and industrial engineering. The only book on the market to address state-of-the-art technologies in load, stress and fatigue damage analyses and their application to engineering design for durability. Intended to bridge the technology gap between academia and industry - written by an expert team with extensive industrial, research and professorial experience in fatigue analysis and testing. An advanced mechanical engineering design handbook focused on the needs of professional engineers within automotive, aerospace and related industrial disciplines.

Book Information

Hardcover: 632 pages

Publisher: Butterworth-Heinemann; 1 edition (August 31, 2011)

Language: English

ISBN-10: 0123852048

ISBN-13: 978-0123852045

Product Dimensions: 7.7 x 1.7 x 9.3 inches

Shipping Weight: 3.3 pounds (View shipping rates and policies)

Average Customer Review: 5.0 out of 5 stars [See all reviews](#) (3 customer reviews)

Best Sellers Rank: #883,162 in Books (See Top 100 in Books) #27 in [Books > Engineering & Transportation > Engineering > Materials & Material Science > Fracture Mechanics](#) #215 in [Books > Engineering & Transportation > Engineering > Materials & Material Science >](#)

Customer Reviews

The new book from Lee, Barkey and Kang, *Metal Fatigue Analysis Handbook*, should be in the library of everyone involved in fatigue analysis at any level. While it calls itself a handbook, it goes far beyond the scope of most handbooks by including in-depth explanations of nearly all of the analysis techniques that are likely to be employed by engineers and scientists who work on durability and fatigue issues in any ground-based transportation and machinery industries. The book is replete with example problems that are explained in much greater detail than is typically seen in books on this topic. It is also richly illustrated and thoroughly referenced. The book covers all of the issues and topics that most ground vehicle engineers will address, from the basics of stress-based uniaxial fatigue analysis, to advanced multiaxial strain-based analysis, and the very specialized and often overlooked topics of vibration fatigue, weld fatigue life-prediction and the finite element analysis (FEA) of bolted joints. There are 12 chapters in all. Chapter 1, *Road Load Analysis Techniques in Automotive Engineering*, covers the types of loads and load histories that automobiles are subjected to, and how those loads are captured and converted into component stresses and strains that can be further analyzed. It describes the standard testing and analysis procedures that are employed, the instruments that record data, and the commercial FEA models that are used to analyze the data. Chapter 2, *Pseudo Stress Analysis Techniques*, delves into the fundamentals of the linear-elastic FEA methods that are the most commonly used techniques for static stress and modal transient stress response analyses.

[Download to continue reading...](#)

Metal Fatigue Analysis Handbook: Practical Problem-solving Techniques for Computer-aided Engineering
Adrenal Fatigue: Overcome Adrenal Fatigue Syndrome, Boost Energy Levels, and Reduce Stress (Adrenal Fatigue Syndrome, Reduce Stress, Adrenal Fatigue Diet, Adrenal Reset Diet)
Self-help Treatment for Chronic Fatigue Syndrome, M.E, Fibromyalgia and Adrenal Fatigue: The Sensitive's Solution: FREE Support Group (Chronic Fatigue Syndrome, M.E, Fibromyalgia, Chronic Fatigue)
Analog Methods for Computer-Aided Circuit Analysis and Diagnosis (Electrical and Computer Engineering)
Adrenal Fatigue: Goodbye - Adrenal Fatigue! The Ultimate Solution For - Adrenal Fatigue & Adrenal Burnout: Adrenal Diet - Hormone Reset - Balance Hormones ... Reset, Addison's Disease, Low Libido)
Gut: The Key to Ultimate Health - SIBO, IBS & Fatigue (GAPS, Candida, Chronic Fatigue, Fibromyalgia, Adrenal Fatigue, SIBO, Parasites)
Adrenal Fatigue: Overcome Adrenal Fatigue Syndrome With The Adrenal Reset Diet. How To Reduce Stress,

Anxiety And Boost Energy Levels And Overcome Adrenal ... Books, Adrenal Fatigue Diet, Adrenal Reset) Adrenal Fatigue: What Is Adrenal Fatigue And How To Reset Your Diet And Your Life (Adrenal Fatigue, Reduce Stress, Boost Energy,Diet) Fatigue Design Techniques: Vol. I - High-Cycle Fatigue (Volume 1) HACKING: Beginner's Crash Course - Essential Guide to Practical: Computer Hacking, Hacking for Beginners, & Penetration Testing (Computer Systems, Computer Programming, Computer Science Book 1) Mathcad: A Tool for Engineering Problem Solving + CD ROM to accompany Mathcad (Basic Engineering Series and Tools) Metal Fatigue in Engineering A Practical Guide for Policy Analysis: The Eightfold Path to More Effective Problem Solving, 4th Edition ENGR 100: Introduction to Computer Aided Design - AutoCAD 2015 & Creo Parametric 3.0 Computer-Aided Control System Design Using Matlab Computer-Aided Electromyography (Progress in Clinical Neurophysiology, Vol. 10) Face Image Analysis by Unsupervised Learning (The Kluwer International Series in Engineering and Computer Science, Volume 612) (The Springer International Series in Engineering and Computer Science) Swift: Programming, Master's Handbook: A TRUE Beginner's Guide! Problem Solving, Code, Data Science, Data Structures & Algorithms (Code like a PRO in ... mining, software, software engineering,) Fatigue: Fight It with the Blood Type Diet: The Individualized Plan for Preventing and Treating the Conditions That Cause Fatigue Adrenal Fatigue : Adrenal Reset Diet: Understand The Symptoms And Beat Adrenal Fatigue Syndrome Forever. Lose Weight,Reduce Both Stress And Anxiety To ... Eating,Diet,Boost Metabolism)

[Dmca](#)