



Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making

Sahar Tahvili

Download now

[Click here](#) if your download doesn't start automatically

Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making

Sahar Tahvili

Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making Sahar Tahvili

Master's Thesis from the year 2014 in the subject Mathematics - Applied Mathematics, grade: A+, Mälardalen University, language: English, comment: Grade 5 (Sweden) = "excellence" (A+), abstract: The main goal of this project is to explore the use of stochastic simulation, genetic algorithms, fuzzy decision making and other tools for solving complex maintenance planning optimization problems. We use two different maintenance activities, corrective maintenance and preventive maintenance. Since the evaluation of specific candidate maintenance policies can take a long time to execute and the problem of finding the optimal policy is both non-linear and non-convex, we propose the use of genetic algorithms (GA) for the optimization. The main task of the GA is to find the optimal maintenance policy, which involves: (1) the probability of breakdown, (2) calculation of the cost of corrective maintenance, (3) calculation of the cost of preventive maintenance and (4) calculation of ROI (Return On Investment). Another goal of this project is to create a decision making model for multi-criteria systems. To find a near-optimal maintenance policy, we need to have an overview over the health status of the system components. To model the health of a component we should find all the operational criteria that affect it. We also need to analyze alternative maintenance activities in order to make the best maintenance decisions. In order to do that, the TOPSIS method and fuzzy decision making has been used. To evaluate the proposed methodology, internal combustion engine cooling of a typical Scania truck was used as a case study.

 [Download Solving Complex Maintenance Planning Optimization ...pdf](#)

 [Read Online Solving Complex Maintenance Planning Optimizatio ...pdf](#)

Download and Read Free Online Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making Sahar Tahvili

From reader reviews:

Aline Moran:

In this 21st millennium, people become competitive in each and every way. By being competitive today, people have to do something to make these people survive, being in the middle of the actual crowded place and notice simply by surrounding. One thing that occasionally many people have underestimated the idea for a while is reading. Sure, by reading a book your ability to survive improves then having a chance to stand than other is high. To suit your needs who want to start reading some sort of book, we give you this kind of Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making book as nice and daily reading e-book. Why, because this book is usually more than just a book.

Carlton Solley:

Reading a guide can be one of a lot of action that everyone in the world adores. Do you like reading a book and so. There are a lot of reasons why people are fantastic. First, reading a guide will give you a lot of new data. When you read a guide you will get new information since a book is one of numerous ways to share the information or maybe their idea. Second, reading through a book will make an individual more imaginative. When you study a book especially a hype book the author will bring someone to imagine the story how the people do it anything. Third, it is possible to share your knowledge to others. When you read this Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making, you may tell your family, friends and soon about your book. Your knowledge can inspire average, make them read a guide.

Frances Drury:

The guide with title Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making includes a lot of information that you can find out it. You can get a lot of gain after reading this book. That book exists new understanding the information that exists in this reserve represented the condition of the world at this point. That is important to you to learn how the improvement of the world. This book will bring you inside new era of the syndication. You can read the e-book with your smart phone, so you can read this anywhere you want.

Peter Christensen:

A lot of books have been printed but it is unique. You can get it by web on social media. You can choose the very best book for you, science, comedy, novel, or whatever simply by searching for it. It is identified as of book Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making. You can include your knowledge by it. Without leaving the printed book, it could possibly add your knowledge and make a person happier to read. It is most important that, you must be aware about reserve. It can bring you from one place to other place.

Download and Read Online Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making Sahar Tahvili #YMS9D5ZV7GW

Read Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making by Sahar Tahvili for online ebook

Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making by Sahar Tahvili 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 Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making by Sahar Tahvili books to read online.

Online Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making by Sahar Tahvili ebook PDF download

Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making by Sahar Tahvili Doc

Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making by Sahar Tahvili Mobipocket

Solving Complex Maintenance Planning Optimization Problems Using Stochastic Simulation and Multi-Criteria Fuzzy Decision Making by Sahar Tahvili EPub