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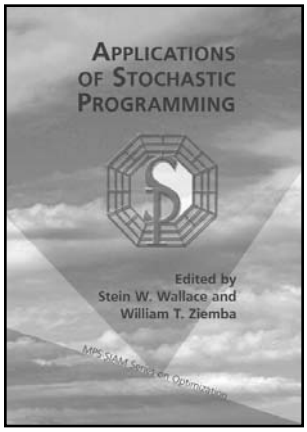

Applications of Stochastic Programming

Edited by Stein W. Wallace and William T. Ziemba

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Research on algorithms and applications of stochastic programming, the study of procedures for decision making under uncertainty over time, has been very active in recent years and deserves to be more widely known. This is the first book devoted to the full scale of applications of stochastic programming and also the first to provide access to publicly available algorithmic systems. The 32 contributed papers in this volume are written by leading stochastic programming specialists and reflect the high level of activity in recent years in research on algorithms and applications. The book introduces the power of stochastic programming to a wider audience and demonstrates the application areas where this approach is superior to other modeling approaches.

Applications of Stochastic Programming consists of two parts. The first part presents papers describing publicly available stochastic programming systems that are currently operational. All the codes have been extensively tested and developed and will appeal to researchers and developers who want to make models without extensive programming and other implementation costs. The codes are a synopsis of the best systems available, with the requirement that they be user-friendly, ready to go, and publicly available.

The second part of the book is a diverse collection of application papers in areas such as production, supply chain and scheduling, gaming, environmental and pollution control, financial modeling, telecommunications, and electricity. It contains the most complete collection of real applications using stochastic programming available in the literature. The papers show how leading researchers choose to treat randomness when making planning models, with an emphasis on modeling, data, and solution approaches.

Audience

Researchers in stochastic programming will find this book an excellent source of publicly available codes. Those interested in creating their own applications, and those looking for real applications to introduce stochastic programming in the classroom, will find the book a valuable resource.

About the Editors

Stein W. Wallace is Professor of Quantitative Logistics at Molde University College, Norway. He has held visiting positions at institutions in both Europe and the United States. He is co-author, with Peter Kall of Zürich, of the first textbook in stochastic programming, and he has published more than 50 articles in refereed journals.

William T. Ziemba is Alumni Professor of Financial Modeling and Stochastic Optimization at the Sauder School of Business at the University of British Columbia. He has held visiting positions at universities in Europe, the United States, and Asia and is a consultant in the financial and investment industries. He has served as CORS editor of INFOR and department of finance editor of Management Science. He is author or editor of over 20 books and has published over 200 papers in refereed journals.