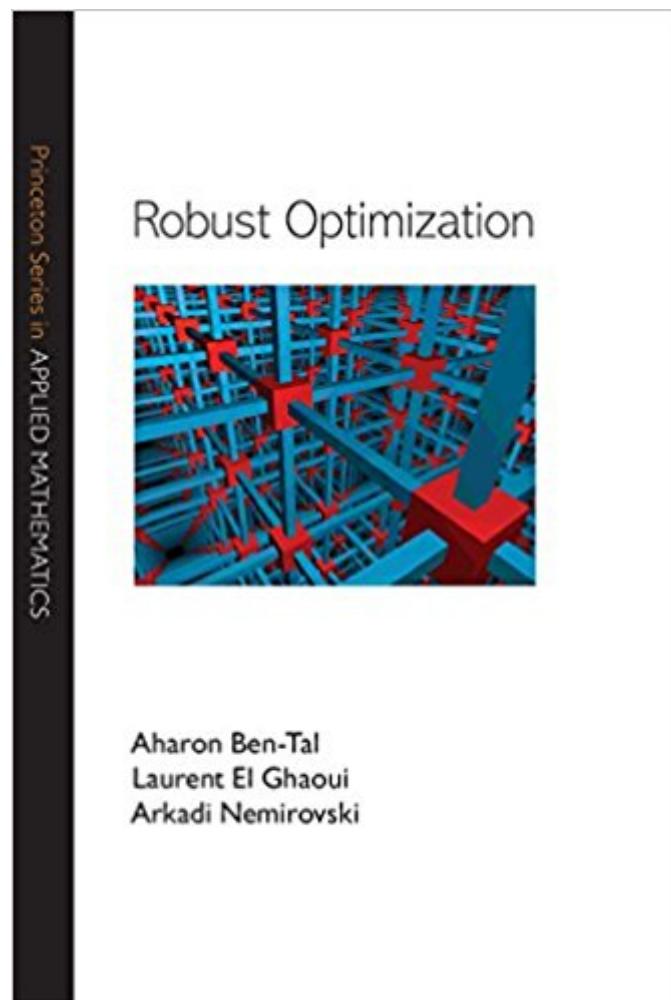


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# Robust Optimization (Princeton Series In Applied Mathematics)



## Synopsis

Robust optimization is still a relatively new approach to optimization problems affected by uncertainty, but it has already proved so useful in real applications that it is difficult to tackle such problems today without considering this powerful methodology. Written by the principal developers of robust optimization, and describing the main achievements of a decade of research, this is the first book to provide a comprehensive and up-to-date account of the subject. Robust optimization is designed to meet some major challenges associated with uncertainty-affected optimization problems: to operate under lack of full information on the nature of uncertainty; to model the problem in a form that can be solved efficiently; and to provide guarantees about the performance of the solution. The book starts with a relatively simple treatment of uncertain linear programming, proceeding with a deep analysis of the interconnections between the construction of appropriate uncertainty sets and the classical chance constraints (probabilistic) approach. It then develops the robust optimization theory for uncertain conic quadratic and semidefinite optimization problems and dynamic (multistage) problems. The theory is supported by numerous examples and computational illustrations. An essential book for anyone working on optimization and decision making under uncertainty, Robust Optimization also makes an ideal graduate textbook on the subject.

## Book Information

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## Customer Reviews

This is a poorly written book. Everything is in pieces. It reads like the authors have not fully

digested the robust optimization landscape. They do not make much attempt to slowly build up the theory, and provide easy to follow examples. They stick to the abstract whenever they can.

The books addresses key topics, but treatment and formulations of the problems are difficult to follow. It looks like a collection of the authors' papers.

Well, before spelling comments about this book, I'll talk about myself and why I bought it. I'm a civil engineer, actually studying for master's degree in hydraulic engineering, working with the creation of and model to use robust optimization for operation of hydroelectric power plants. Unfortunately there is few books that deals with robust optimization. I thought that this one would have a more practical view to apply this method. But I was mistaken. The book is indeed good in mathematical theory AND ONLY for that. There are few examples to illustrate the techniques of robust optimization, and most of this content discusses mathematical formulations. This isn't very useful for engineers, economists, biologists and any other profession that isn't used to pure mathematical formulations.

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