

# **Matrix Analysis**





## Synopsis

Linear algebra and matrix theory are fundamental tools in mathematical and physical science, as well as fertile fields for research. This new edition of the acclaimed text presents results of both classic and recent matrix analysis using canonical forms as a unifying theme, and demonstrates their importance in a variety of applications. The authors have thoroughly revised, updated, and expanded on the first edition. The book opens with an extended summary of useful concepts and facts and includes numerous new topics and features, such as: - New sections on the singular value and CS decompositions - New applications of the Jordan canonical form - A new section on the Weyr canonical form - Expanded treatments of inverse problems and of block matrices - A central role for the Von Neumann trace theorem - A new appendix with a modern list of canonical forms for a pair of Hermitian matrices and for a symmetric-skew symmetric pair - Expanded index with more than 3,500 entries for easy reference - More than 1,100 problems and exercises, many with hints, to reinforce understanding and develop auxiliary themes such as finite-dimensional quantum systems, the compound and adjugate matrices, and the Loewner ellipsoid - A new appendix provides a collection of problem-solving hints.

### **Book Information**

Paperback: 662 pages Publisher: Cambridge University Press; 2 edition (October 22, 2012) Language: English ISBN-10: 0521548233 ISBN-13: 978-0521548236 Product Dimensions: 7 x 1.3 x 10 inches Shipping Weight: 3.1 pounds (View shipping rates and policies) Average Customer Review: 4.0 out of 5 stars Â See all reviews (11 customer reviews) Best Sellers Rank: #351,184 in Books (See Top 100 in Books) #20 in Books > Science & Math > Mathematics > Matrices #50 in Books > Science & Math > Mathematics > Pure Mathematics > Algebra > Abstract #834 in Books > Textbooks > Science & Mathematics > Mathematics > Algebra & Trigonometry

#### Customer Reviews

I think that while this book has great concepts and exercises in it, the format that these are presented is a bit bulksome and very difficult to read. His method of numbering is horrible. He has exercises (unnumbered), problems (numbered), theorems (numbered) and statements (numbered in a different format than the theorems). Finding anything in the book is a nightmare. Referring to a concept in the book usually requires something like "Go to the 45th page and then find the 3rd exercise from the bottom (exercises have no number remember). There is a line above that with the statement that you need." The whole book could use a major format overhaul. Then it would be a 5 star book.

I'd give this 5 stars if all the printing mistakes were eliminated (things like missing square root signs). I guess they're still trying to get the kinks out of the kindle electronic format. I assume these problems are not there in the regular printed edition, but I don't know. The material itself is great... very thorough. Perfect for some who has taken an introductory linear algebra course already. Plenty of exercises.

This book explained a lot of myth intrinsically using linear algebra really clearly, but sound really complicated when reading literature in the applied fields.But, I don't know whether it is the nature of the subjects or a lack of organization, you need to go back and forth through all the book several times to the really understand the subject and what the excises are looking for.

Very, very dense, and takes the long, convoluted way to explain things often. Only 1 diagram in the whole book so far, but is certainly at a graduate level and adheres to a formal language and structure.

Good book but very poorly organized. One would think that in the second edition the authors have learned from the shortcoming of the first edition but alas this is not the case.

I am using this book for a course right now and I love it. I have taken 2 other linear algebra courses and the chapter 0 (review of linear algebra) of this book is so so much better than any of the other books I used. I have nothing to compare the other chapters to but I really like it so far. I haven't gone through the entire book yet but for any professors out there wondering, your students should like this book.

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