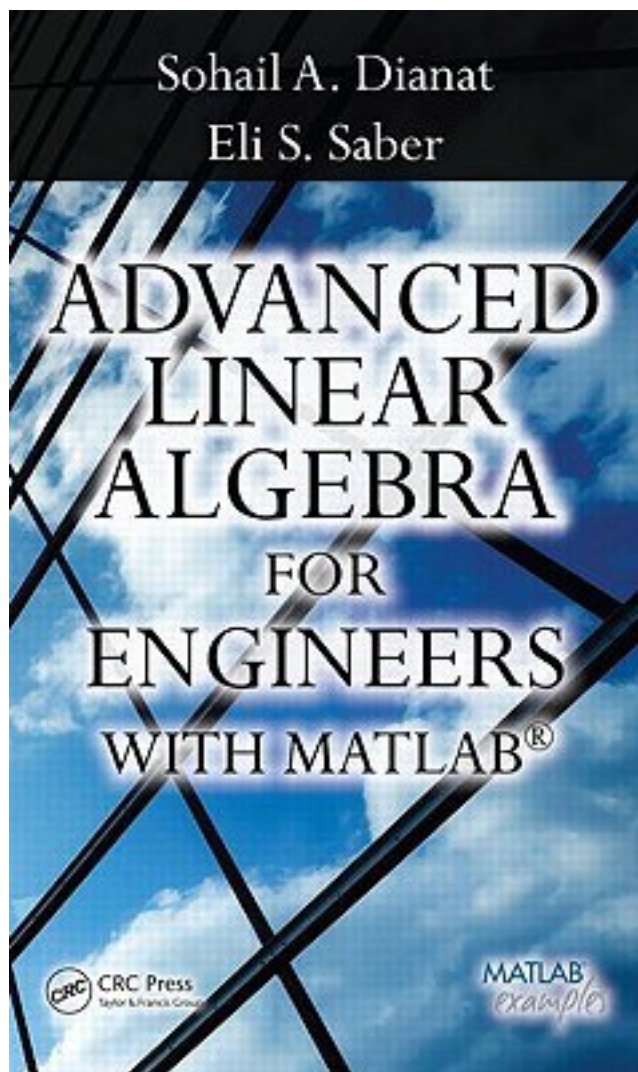


Advanced Linear Algebra for Engineers With Matlab



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Arming readers with both theoretical and practical knowledge, Advanced Linear Algebra for Engineers with MATLAB® provides real-life problems that readers can use to model and solve engineering and scientific problems in fields ranging from signal processing and communications to electromagnetics and social and health sciences.

Facilitating a unique understanding of rapidly evolving linear algebra and matrix methods, this book:

Outlines the basic concepts and definitions behind matrices, matrix algebra, elementary matrix operations, and matrix partitions, describing their potential use in signal and image processing applications

Introduces concepts of determinants, inverses, and their use in solving linear equations that result from electrical and mechanical-type systems

Presents special matrices, linear vector spaces, and fundamental principles of orthogonality, using an appropriate blend of abstract and concrete examples and then discussing associated applications to enhance readers' visualization of presented concepts

Discusses linear operators, eigenvalues, and eigenvectors, and explores their use in matrix diagonalization and singular value decomposition

Extends presented concepts to define matrix polynomials and compute functions using several well-known methods, such as Sylvester's expansion and Cayley-Hamilton

Introduces state space analysis and modeling techniques for discrete and continuous linear systems, and explores applications in control and electromechanical systems, to provide a complete solution for the state space equation

Shows readers how to solve engineering problems using least square, weighted least square, and total least square techniques

Offers a rich selection of exercises and MATLAB® assignments that build a platform to enhance readers' understanding of the material

Striking the appropriate balance between theory and real-life applications, this book provides both advanced students and professionals in the field with a valuable reference that they will continually consult.

作者介绍:

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标签

数学

信号处理

评论

本来以为会读很久的，后来发现比想象中简单。后两章讲矩阵函数和最优化还不太熟悉，前面的读下来基本上没有什么不明白的地方。例子大部分是关于信号处理的，就很典型的工科教材。

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书评

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