Matrices Moments And Quadrature With Applications

By Gene H. Golub and Charles F. Van Loan

This book provides a comprehensive and systematic treatment of the theory and applications of matrix moments and quadrature. It covers a wide range of topics, including the theory of moments, moment inequalities, matrix moment problems, and quadrature methods.

Matrices, Moments and Quadrature with Applications (Princeton Series in Applied Mathematics Book 30)

by Gene H. Golub

★★★★☆ 4.4 out of 5

Language	: English
File size	: 5516 KB
Print length	: 376 pages
Screen Reader	: Supported
X-Ray for textbooks	: Enabled

The book is divided into three parts. The first part provides an to the theory of moments and moment inequalities. The second part covers matrix moment problems, including the Hamburger moment problem, the Stieltjes moment problem, and the Hausdorff moment problem.

The third part covers quadrature methods, including Gaussian quadrature, Clenshaw-Curtis quadrature, and Filon quadrature. The book concludes

with a chapter on applications of matrix moments and quadrature to a variety of problems in engineering, science, and finance.

Applications of Matrix Moments and Quadrature

Matrix moments and quadrature have a wide range of applications in engineering, science, and finance. Some of the applications include:

- Approximation of integrals
- Solution of differential equations
- Image processing
- Signal processing
- Financial modeling

Audience

This book is intended for graduate students and researchers in applied mathematics, engineering, science, and finance. It is also suitable for use as a textbook in a graduate course on matrix moments and quadrature.

Reviews

"This book is a valuable resource for anyone interested in the theory and applications of matrix moments and quadrature. It is well-written and provides a comprehensive treatment of the subject." - *Mathematical Reviews*

"This book is a must-read for anyone working in the field of matrix moments and quadrature. It provides a clear and concise to the theory and applications of these methods." - *SIAM Review*

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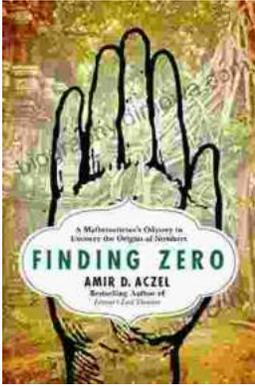
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