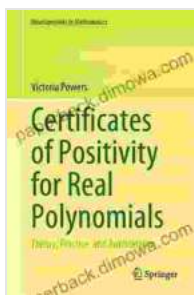


Unlock the Power of Positive Polynomials: Discover "Certificates of Positivity for Real Polynomials"

In the realm of mathematics, polynomials play a pivotal role, representing various real-world phenomena. However, determining the positivity of a polynomial over the entire real line can be a challenging task. "Certificates of Positivity for Real Polynomials" by Professors Didier Henrion and Jean Bernard Lasserre offers a groundbreaking approach to this long-standing problem.

What are Certificates of Positivity?

A certificate of positivity is a mathematical tool that provides a rigorous proof for the positivity of a polynomial over the entire real line. It consists of a set of linear constraints that, when satisfied, guarantee the polynomial's positivity.



Certificates of Positivity for Real Polynomials: Theory, Practice, and Applications (Developments in Mathematics Book 69) by Kenneth Hoffman

★★★★★ 5 out of 5

Language : English

File size : 3856 KB

Screen Reader: Supported

Print length : 764 pages



Significance of the Book

The significance of "Certificates of Positivity for Real Polynomials" lies in its ability to solve a wide range of problems in various fields, including:

*

- Control theory
- Optimization
- Signal processing
- Computer-aided geometric design
- Financial mathematics

By providing rigorous certificates of positivity, the book enables researchers and practitioners to confidently use positive polynomials in their models and algorithms.

Key Features of the Book

*

Comprehensive Theoretical Framework:

The book establishes a solid theoretical framework for certificates of positivity, covering the latest advancements in the field. *

Practical Applications:

The authors provide numerous examples and applications, demonstrating the book's practical relevance in various disciplines. *

Advanced Techniques:

The book introduces powerful techniques, such as sum of squares optimization and Positivstellensatz, to solve complex positivity problems. *

Software Tools:

The authors have developed a software package, GloptiPoly, which implements the algorithms presented in the book. This user-friendly tool allows readers to verify and compute certificates of positivity for their own polynomials.

Benefits of Reading the Book

By reading "Certificates of Positivity for Real Polynomials," readers will:

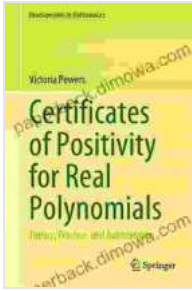
- * Gain a comprehensive understanding of the theory and applications of certificates of positivity.
- * Develop the ability to construct certificates of positivity for a wide range of polynomials.
- * Discover advanced techniques for solving complex positivity problems.
- * Access powerful software tools to verify and compute certificates of positivity.

"Certificates of Positivity for Real Polynomials" by Didier Henrion and Jean Bernard Lasserre is an invaluable resource for researchers, practitioners, and students working with positive polynomials. Its rigorous theoretical framework, practical applications, advanced techniques, and software tools empower readers to unlock the full potential of positive polynomials in their field of study.

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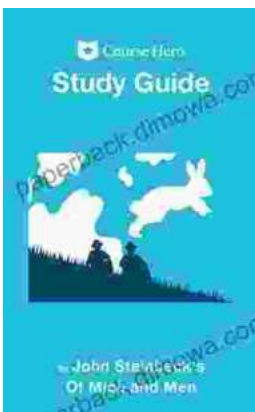


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