

## Book reviews

**Vijay Gupta, Michael Th. Rassias,**

*Moments of Linear Positive Operators and Approximation,*

Springer, 2019, viii + 96 p., ISBN 978-3-030-19454-3; 978-3-030-19455-0 (ebook).

In recent years the study of the linear methods of approximation became a strongly ingrained part of Approximation Theory. In the investigation of the linear positive operators the determination of their moments is extremely useful both in obtaining the convergence of the respective sequences in various function spaces and in establishing their asymptotic behavior.

The monograph is split into 3 chapters, each representing a specific direction aimed at studying the moments of some classes of operators. It offers coverage of classical and recent material on linear positive operators. In the first chapter the moments of 15 discrete type operators are established, among which Bernstein, Szász-Mirakjan, Baskakov, Stancu, Jain, Balázs-Szabados, Abel-Ivan, Chlodowsky operators. Further, integral operators are analyzed, such as Gamma, Post-Widder, Ismail-May, Phillips, Lupaş, Durrmeyer type operators. Also, the reader is acquainted with various mixed summation-integral operators. In the last chapter the authors approach approximation properties of certain operators, these including evaluations of the rate of convergence by using moduli of smoothness, preservation of some test functions through certain families of operators and the study of the difference between two approximation processes.

The presentation is distinguished by clarity and rigorous proofs. Also, it is essentially self-contained. The results are based on numerous published papers, the bibliography including over fifty works of the authors. The material offers information that put the reader at the forefront of current research and determines fruitful directions for future advanced study. It is addressed to researchers and graduate students specialized in pure and applied mathematics who are interested in Korovkin-type theory.

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