

Operator inequalities of ostrowski and trapezoidal type

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Abstrak

The first chapter recalls some fundamental facts concerning bounded Selfadjoint operators on complex Hilbert spaces. The author also introduces and explores the fundamental results for polynomials in a linear operator, continuous functions of selfadjoint operators that will play a central role throughout the book. The following chapter is devoted to the Ostrowski's type inequalities, which provide sharp error estimates in approximating the value of a function by its integral mean and can be used to obtain a priori error bounds for different quadrature rules in approximating the Riemann integral by different Riemann sums. The author also presents recent results extending Ostrowski inequality in various directions for continuous functions of selfadjoint operators in complex Hilbert spaces. The final chapter illustrates recent results obtained in extending trapezoidal type inequality in various directions for continuous functions of selfadjoint operators in complex Hilbert spaces. Applications for mid-point inequalities and some elementary functions of operators as also provided.