OSTROWSKI AND TRAPEZOID TYPE INEQUALITIES RELATED TO POMPEIU’S MEAN VALUE THEOREM WITH COMPLEX EXPONENTIAL WEIGHT

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Abstract. We present some inequalities of Ostrowski and trapezoid type with complex exponential weight, for complex-valued absolutely continuous functions. These inequalities are related to Pompeiu’s mean value theorem. Special cases of these inequalities are applied to obtain (i) some approximation results for the finite Fourier and Laplace transforms; (ii) refinements of the Ostrowski and trapezoid inequalities; and (iii) new Ostrowski and trapezoid type inequalities.


Keywords and phrases: Ostrowski inequality, trapezoid inequality, complex exponential weight, Laplace transform, Fourier transform.

REFERENCES


