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

PIETRO CERONE, SEVER S. DRAGOMIR AND EDER KIKIANTY

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.

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