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Integral Inequalities of the Ostrowski Type

Authors: Anthony Sofo,

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Abstract:

Integral inequalities of Ostrowski type are developed for $n-$ times differentiable mappings, with multiple branches, on the L_∞ norm. Some particular inequalities are also investigated, which include explicit bounds for perturbed trapezoid, midpoint, Simpson's, Newton-Cotes and left and right rectangle rules. The results obtained provide sharper bounds than those obtained by Dragomir [5] and Cerone, Dragomir and Roumeliotis [2].

[2] P. CERONE, S.S. DRAGOMIR and J. ROUMELIOTIS, An inequality of Ostrowski type for mappings whose second derivatives are bounded and applications, *East Asian J. of Math.*, **15**(1) (1999), 1-9.

[5] S.S. DRAGOMIR, A generalization of Ostrowski's integral inequality for mappings whose derivatives belong to L_∞ [***a, b***] and applications in numerical integration, *SUT. J. of Math.*, (in press)

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