

WEIGHTED OSTROWSKI TYPE INEQUALITIES BY LIDSTONE POLYNOMIALS

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Abstract. We present a weighted generalization of Ostrowski type inequality for differentiable functions of class C^m presented by Lidstone interpolating polynomial.

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REFERENCES

- [1] R. P. AGARWAL, P. J. Y. WONG, *Error Inequalities in Polynomial Interpolation and Their Applications*, Kluwer Academic Publishers, Dordrecht/Boston/London, 1993.
- [2] A. AGLIĆ ALJINOVIĆ, A. ČIVLJAK, S. KOVAČ, J. PEČARIĆ, M. RIBIČIĆ PENAVA, *General Integral Identities and Related Inequalities*, Element, Zagreb, 2013.
- [3] G. ARAS-GAZIĆ, V. ČULJAK, J. PEČARIĆ, A. VUKELIĆ, *Generalization of Jensen's inequality by Lidstone's polynomial and related results*, *Math. Inequal. Appl.* **16** (2013), 1243–1267.
- [4] G. J. LIDSTONE, *Notes on the extensions of Aitken's theorem (for polynomial interpolation) to the Everett types*, *Proc. Edinburgh Math. Soc.* **2**, 2 (1929), 16–19.
- [5] D. S. MITRINOVIĆ, J. E. PEČARIĆ, AND A. M. FINK, *Inequalities for functions and their Integrals and Derivatives*, Kluwer Academic Publishers, Dordrecht, 1994.
- [6] A. OSTROWSKI, *Über die Absolutabweichung einer differentiebaren Funktion von ihrem Integralmittelwert*, *Comment. Math. Helv.* **10** (1938), 226–227.
- [7] J. PEČARIĆ, *On the Čebyšev inequality*, *Bul. Inst. Politehn. Timisoara* **25** (39) (1980), 10–11.
- [8] D. V. WIDDER, *Completely convex function and Lidstone series*, *Trans. Am. Math. Soc.* **51** (1942), 387–398.