

NOTE ON GENERALIZATION OF THE JENSEN–MERCER INEQUALITY BY TAYLOR’S POLYNOMIAL

ANITA MATKOVIĆ AND JOSIP PEČARIĆ

Abstract. We present generalizations of the Jensen–Mercer inequality for the class of n -convex functions. The results are obtained by using Taylor’s polynomial and four types of Green’s functions.

Mathematics subject classification (2010): 26D15, 26D20.

Keywords and phrases: Jensen–Mercer inequality, n -convex functions.

REFERENCES

- [1] J. BARIĆ, A. MATKOVIĆ, *Bounds for the normalized Jensen–Mercer functional*, J. Math. Inequal. 3 (4) (2009), 529–541.
- [2] S. I. BUTT, K. A. KHAN, J. PEČARIĆ, *Popoviciu type inequalities via Green function and generalized Montgomery identity*, Math. Inequal. Appl. 18(4) (2015), 1519–1538.
- [3] J. JAKŠETIĆ, J. PEČARIĆ, *Exponential convexity method*, J. Convex Anal. 20 (1) (2013), 181–197.
- [4] J. JAKŠETIĆ, J. PEČARIĆ, A. PERUŠIĆ, *Steffensen inequality, higher order convexity and exponential convexity*, Rend. Circ. Mat. Palermo. 63(1) (2014), 109–127.
- [5] M. ADIL KHAN, N. LATIF AND J. PEČARIĆ, *Generalization of majorization theorem*, J. Math. Inequal. 9 (3) (2015), 847–872.
- [6] A. MATKOVIĆ, *Generalization of the Jensen–Mercer inequality by Taylor’s polynomial*, Math. Inequal. Appl. 19(4) (2016), 1387–1398.
- [7] T. POPOVICIU, *Les Fonctions Convexes*, Hermann, Paris, 1944.
- [8] J. E. PEČARIĆ, F. PROSCHAN AND Y. L. TONG, *Convex Functions, Partial Orderings, and Statistical Applications*, Academic Press, Inc. 1992.