

## ONE PROOF OF THE GHEORGHIU INEQUALITY

BOŽIDAR IVANKOVIĆ

*Abstract.* The Gheorghiu inequality is a reverse Hölder's inequality. In this article, the Gheorghiu inequality is proven by using a property of a two – variable function. Original Gheorghiu's result is presented and compared with obtained result.

*Mathematics subject classification (2010):* 26D15, 26D99.

*Keywords and phrases:* Convex functions, linear functionals, Jensen's inequality, reverse Jensen's inequality, reverse Hölder's inequality, Gheorghiu inequality.

### REFERENCES

- [1] V. CSISZÁR AND T. F. MÓRI, *The convexity method of proving moment-type inequalities*, Statistics and Probability Letters **66**, 1 (2004), 303–313.
- [2] V. ČULJAK, B. IVANKOVIĆ AND J. E. PEČARIĆ, *On Jensen-McShane's inequality*, Periodica Mathematica Hungarica **58**, 2 (2009), 139–154.
- [3] B. IVANKOVIĆ, S. IZUMINO, J. E. PEČARIĆ AND M. TOMINAGA, *On Jensen-McShane's inequality*, Journal of Inequalities in Pure and Applied Mathematics **8**, 3 (2007), 88–97.
- [4] B. IVANKOVIĆ, *Konverzije i poboljšanja Jensenove nejednakosti za funkcije više varijabli*, Doctoral thesis Zagreb, 2010 (croatian).
- [5] S. IZUMINO AND M. TOMINAGA, *Estimations in Hölder's type inequalities*, Mathematical Inequalities and Applications **4**, 1 (2001), 163–187.
- [6] J. MATKOWSKI, *A Converse of the Hölder Inequality Theorem* *Mathematical Inequalities and Applications*, **12**, 1 (2009), 21–32.
- [7] D. MITRINOVIĆ, J. E. PEČARIĆ AND A. M. FINK, *Classical and New Inequalities in Analysis*, Kluwer. Acad. Pub., Boston Dordrecht, 1993.
- [8] J. E. PEČARIĆ, F. PROSCHAN, AND Y. L. TONG, *Convex Functions, Partial Orderings, and Statistical Applications*, Academic Press, Inc. San Diego, 1992.
- [9] M. SERBAN AND A. GHEORGHIU, *Note sur une Inégalité de Cauchy*, Bull. Math. Soc. Rommaine des Sciences **35**, 1 (1933), 117–119.