

## AN EXTENSION OF THE LUPAŞ THEOREM FOR HERMITE–HADAMARD FUNCTIONALS

IOAN GAVREA

*Abstract.* In this paper we investigate a representation theorem of Lupaş type for Hermite–Hadamard functionals. We use the obtained results by considering integral mean values with respect to certain signed measures.

*Mathematics subject classification (2000):* 26A51, 26D15.

*Keywords and phrases:* Convex functions, linear functionals, Borel measure, Hermite–Hadamard functional,  $P_n$ -simple functional.

### REFERENCES

- [1] P. CZINDER AND Z. PÁLES, *Hadamard-type inequality and an application for Gini and Stolarsky means*, JIPAM, **5** 2 (42) (2004).
- [2] P. CZINDER, *A weighted Hermite–Hadamard-type inequality for convex-concave symmetric functions*, Publ. Math. Debrecen, **68** (2006), 215–224.
- [3] L. FEJÉR, *Über die Fourierreihen, II*, Math. Naturwiss. Anz. Ungar. Akad. Wiss., **24** (1906), 369–390.
- [4] A. M. FINK, *A best possible Hadamard Inequality*, Math. Inequal. Appl., **1** (1998), 223–390.
- [5] A. FLOREA AND C. P. NICULESCU, *A Hermite–Hadamard inequality for convex-concave symmetric functions*, Bull. Soc. Sci. Math. Roum., **50** 98 (2) (2007), 149–156.
- [6] A. LUPAŞ, *Mean value theorems for positive linear transformation (Romanian)*, Rev. Anal. Numer. Teor. Approx., **3** 2 (1974), 121–140.
- [7] D. S. MITRINOVIĆ, J. E. PEČARIĆ AND A. M. FINK, *Classical and New Inequalities in Analysis*, Kluwer Academic Publishers, Dordrecht, 1993.
- [8] T. POPOVICIU, *Notes sur les fonctions convexes d'ordre supérieur, IX. Inégalités linéaires et bilinéaires entre les fonctions convexes. Quelques généralisations d'une inégalité de Tchebycheff*, Bull. Math. Soc. Roumaine Sci., **43** (1941), 85–141.