

## A MAPPING ASSOCIATED TO $h$ -CONVEX VERSION OF THE HERMITE–HADAMARD INEQUALITY WITH APPLICATIONS

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*Abstract.* This paper deals with a real mapping  $L(t)$  related to the  $h$ -convex version of the Hermite–Hadamard inequality. In special cases some generalized form of the Hermite–Hadamard inequality for convex functions are obtained. Also, as an application some inequalities for special means are given.

*Mathematics subject classification (2010):* 26D15, 26A51, 52A01.

*Keywords and phrases:*  $h$ -convex function, Hermite–Hadamard inequality, special means.

### REFERENCES

- [1] W. W. BRECKNER, *Stetigkeitsaussagen für eine Klasse verallgemeinerter konvexer funktionen in topologischen linearen Räumen*, Publ. Inst. Math. **23** (1978), 13–20.
- [2] S. S. DRAGOMIR, D. S. MILOŠEVIĆ AND J. SÁNDOR, *On some refinements of Hadamard's inequalities and applications*, Univ. Belgrad, Publ. Elek. Fak. Sci. Math., **4** (1993), 21–24.
- [3] S. S. DRAGOMIR AND C. E. M. PEARCE, *Selected topics on Hermite–Hadamard inequalities and applications*, RGMIA Monographs, Victoria University, 2000. (online: <http://ajmaa.org/RGMIA/monographs.php/>)
- [4] S. S. DRAGOMIR, J. PEČARIĆ, L. E. PERSSON, *Some inequalities of Hadamard type*, Soochow J. Math. **21** (1995), 335–341.
- [5] E. K. GODUNOVA, V. I. LEVIN, *Neravenstva dlja funkcii širokogo klassa, soderžaščego vypuklye, monotonye i neko-torye drugie vidy funkcii*, in: Vyčislitel. Mat. i Mat. Fiz. Mežvuzov. Sb. Nauč. Trudov, pp. 138–142, MGPI, Moskva, 1985.
- [6] J. PEČARIĆ, F. PROSCHAN, Y. L. TONG, *Convex Functions, Partial Orderings and Statistical Applications*, Academic Press, Inc., 1992.
- [7] M. ROSTAMIAN DELAVAR AND M. DE LA SEN, *Some generalizations of Hermite–Hadamard type inequalities*, SpringerPlus, **5**:1661 (2016).
- [8] M. ROSTAMIAN DELAVAR AND S. S. DRAGOMIR, *On  $\eta$ -convexity*, Math. Inequal. Appl. **20** (2017), 203–216.
- [9] M. ROSTAMIAN DELAVAR, M. KIAN, *On extension of an inequality including Arithmetic and Logarithmic means via generalized Hermite–Hadamard inequality*, submitted.
- [10] M. Z. SARIKAYA, A. SAGLAM AND H. YILDIRIM, *On Some Hadamard-Type Inequalities for  $h$ -Convex Functions*, Journal of Mathematical Inequalities. **2**(3) (2008), 335–341.
- [11] S. VAROŠANEC, *On  $h$ -convexity*, J. Math. Anal. Appl. **326** (2007), 303–311.