

NON-SYMMETRIC STOLARSKY MEANS

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Abstract. In this paper we construct n -exponentially convex functions and exponentially convex functions using the functional defined as the difference of the right parts of the Hermite-Hadamard inequality, for different classes of functions. Applying these results on some star-shaped functions, we derive non-symmetric means of Stolarsky type.

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REFERENCES

- [1] A. M. BRUCKNER, E. OSTROW, *Some function classes related to the class of convex functions*, Pacific J. Math., **12** (4) (1962), 1203–1215.
- [2] A. M. FINK, D. S. MITRINOVIĆ AND J. PEČARIĆ, *Classical and new inequalities in analysis*, Kluwer Academic Publishers, The Netherlands, 1993.
- [3] J. JAKŠETIĆ, J. PEČARIĆ AND ATIQ UR REHMAN, *On Stolarsky and related means*, Math. Inequal. Appl., **13** (4) (2010), 899–909.
- [4] J. PEČARIĆ AND J. PERIĆ, *Improvements of the Giaccardi and the Petrović inequality and related Stolarsky type means*, An. Univ. Craiova Ser. Mat. Inform. **39** (1) (2012), 65–75.
- [5] J. PEČARIĆ, F. PROSCHAN AND Y. L. TONG, *Convex functions, Partial Orderings and Statistical Applications*, vol. 187 of Mathematics in Science and Engineering, Academic Press, Boston, Mass, USA, 1992.
- [6] K. B. STOLARSKY, *Generalization of the logarithmic mean*, Math. Mag., **48** (1975), 87–92.
- [7] GH. TOADER, *Superadditivity and Hermite-Hadamard's inequalities*, Studia Univ. Babeş-Bolyai Math., **39** (1994), 27–32.