

## Stolarsky type means related to an extension of Hölder-type inequality

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### ABSTRACT.

In this paper linear functionals related to an extension of Hölder-type inequality are defined and their  $n$ -exponential convexity is proved. Furthermore, new Stolarsky type means, using families of exponentially convex functions, are defined and their monotonicity property is proved.

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### REFERENCES

- [1] Bernstein, S. N., *Sur les fonctions absolument monotones*, Acta Math., **52** (1929), 1–66
- [2] Mitrinović, D. S. and Pečarić, J. E., *On some Inequalities for Monotone Functions*, Boll. Unione. Mat. Ital., **7** (1991), 5–13, 407–416
- [3] Mitrinović, D. S. and Pečarić, J. E., *On the Bellman generalization of Steffensen's inequality III*, J. Math. Anal. Appl., **135** (1988), 342–345
- [4] Pearce, C. E. M. and Pečarić, J. E., *On an extension of Hölder's inequality*, Bull. Austral. Math. Soc., **51** (1995), 453–458
- [5] Pečarić, J. and Smoljak, K., *Improvement of an extension of Hölder-type inequality*, Anal. Math., **38** (2012), No. 2, 135–146
- [6] Stolarsky, K. B., *Generalization of the logarithmic mean*, Math. Mag., **48** (1975), 87–92

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