## NEW RESULTS ON SYMMETRIZED CONVEX SEQUENCES

## MOHAMED AMIN ABDELLAOUI, HOUDA MEBARKI, ZOUBIR DAHMANI AND MEHMET ZEKI SARIKAYA\*

*Abstract.* In this article, we establish new inequalities involving symmetrized convex sequences. The obtained results involve a new range of applications that contains the set of convex sequences. Some applications are given at the end of this paper.

Mathematics subject classification (2020): 30C45, 39B72, 39B82.

*Keywords and phrases*: Convex real sequences, symmetrized convex sequences, symmetrized decreasing sequences.

## REFERENCES

- [1] C. Brezinski, *The asymptotic behavior of sequences and new series transformations based on the Cauchy product*, The Rocky Mountain Journal of Mathematics, 71–84, (1991).
- [2] S. HABER, An elementary inequality, Internat. J. Math. Math. Sci., 2 (1979), no. 3, 531-535.
- [3] X. Z. KRASNIQI, On α-convex sequences of higher order, J. Numer. Anal. Approx. Theory 45 (2016), no. 2, 177–182.
- [4] Z. LATREUCH AND B. BELAIDI, New Inequalities For Convex Sequences With Applications, Int. J. Open Problems Comput. Math., vol. 5, no. 3, September 2012.
- [5] V. I. LEVIN AND S. B. STEVIKIN, *Inequalities*, Amer. Math. Soc. Transl. (2) 14 (1960), 1–29.
- [6] A. M. MERCER, Polynomials and convex sequence inequalities, J. Inequal. Pure Appl. Math, 6 (1), (2005).
- [7] A. M. MERCER, A note on the paper: An elementary inequality by S. Haber, Internat. J. Math. Math. Sci., 6 (1983), no. 3, 609–611.
- [8] D. S. MITRINOVIC, Analytic inequalities, Die Grundlehren der mathematischen Wissenschaften, Band 165, Springer Verlag, New York-Berlin, 1970, In cooperation with P. M. Vasic.
- [9] G. M. MOLNÁR AND Z. PÁLES, On convex and concave sequences and their applications, (2021), arXiv preprint arXiv:2112.10197.
- [10] M. NIEZGODA, Inequalities for convex sequences and nondecreasing convex functions, Aequationes Mathematicae, 91 (1), 1–20, (2017).
- [11] M. NIEZGODA, Sherman, Hermite-Hadamard and Fejér like inequalities for convex sequences and nondecreasing convex functions, Filomat, 31 (8), 2321–2335, (2017).
  [12] I. STANKOVIC, I. MELOVANOVIC, E. MELOVANOVIC AND T. MERKOVIC, A note on Chebyshev
- inequality for (p,q)-convex sequences, Metalurgia International, 18 (6), 116, (2013).
- [13] S. WU, L. DEBNATH, Inequalities for convex sequences and their applications, Computers & Mathematics with Applications, 54 (4), 525–534.

