

SOME MAJORISATION TYPE DISCRETE INEQUALITIES FOR CONVEX FUNCTIONS

S. S. DRAGOMIR

Abstract. Some majorisation type discrete inequalities for convex functions are established. Two applications are also provided.

Mathematics subject classification (2000): 26D15, 26D10.

Key words and phrases: Majorisation type inequalities, Convex functions.

REFERENCES

- [1] A. W. MARSHALL AND I. OLKIN, *Inequalities: Theory of Majorisation and its Applications*, Academic Press, New York, 1979.
- [2] G. H. HARDY, J. E. LITTLEWOOD AND G. PÓLYA, *Inequalities*, 2nd Ed., Cambridge University Press, England, 1952.
- [3] J. KARAMATA, *Sur une inégalité relative aux fonctions convexes*, Pub. Math. Univ. Belgrade, **7** (1932), 145–148.
- [4] D. S. MITRINOVIĆ (IN CO-OPERATION WITH P. M. VASIĆ), *Analytic Inequalities*, Springer Verlag, Berlin and New York, 1970.
- [5] L. FUCHS, *A new proof of an inequality of Hardy-Littlewood-Pólya*, Mat. Tidsskr **13** (1947), 53–54.
- [6] P. S. BULLEN, P. M. VASIĆ AND L. J. STANKOVIĆ, *A problem of A. Oppenheim*, Univ. Beograd Publ. Elek. Fak. Ser. Mat. Fiz., **412-460** (1973), 21–30.
- [7] J. E. PEČARIĆ, F. PROSCHAN AND Y. L. TONG, *Convex Functions, Partial Orderings and Statistical Applications*, Academic Press, 1992.
- [8] E. HEWITT AND K. STROMBERG, *Real and Abstract Analysis*, Springer-Verlag, 1965.
- [9] S. S. DRAGOMIR AND N. M. IONESCU, *Some converse of Jensen's inequality and applications*, Anal. Num. Theor. Approx., **23** (1994), 71–78.
- [10] C. P. NICULESCU, *An extension of Chebychev's inequality and its connections with Jensen's inequality*, J. Ineq. & Appl. **6**(4) (2001), 451–462.
- [11] S. S. DRAGOMIR, *A refinement of Čebyšev's inequality (Romanian)*, Gaz. Mat., (Bucharest), **8-9**(1990), 225–226.
- [12] S. S. DRAGOMIR AND J. E. PEČARIĆ, *Refinements of some inequalities for isotonic functionals*, Anal. Num. Theor. Approx., **18**(1989), 61–65.
- [13] M. BIERNACKI, *Sur une inégalité entre les intégrales due à Tchébyscheff*, Ann. Univ. Mariae Curie-Sklodowska, A4 (1951), 123–129.
- [14] H. BURKILL AND L. MIRSKY, *Comments on Chebysheff's inequality*, Period. Math. Hungar., **6** (1975), 3–16.
- [15] S. S. DRAGOMIR, *Majorization type inequalities for integrals and isotonic linear functionals (in preparation)*.