

A SUPPORT THEOREM FOR t -WRIGHT-CONVEX FUNCTIONS

ANDRZEJ OLBRYŚ

Abstract. The support theorems play a very important role in the theory of convex functions and have many consequences. In the present paper we give a necessary and sufficient conditions under which every t -Wright convex function has at arbitrary point a t -Wright affine support function.

Mathematics subject classification (2010): 39B62, 26A51.

Keywords and phrases: convexity, convex function in the Wright sense.

REFERENCES

- [1] R. GER, *On extension of polynomial functions*, Results in Math., **26** (1994), 281–289.
- [2] Z. KOMINEK, *A continuity result on t -Wright convex functions*, Publ. Math., **63** (2003), 213–219.
- [3] Z. KOMINEK, *Convex Functions in Linear Spaces*, Prace Naukowe Uniwersytetu Śląskiego w Katowicach nr 1087, Katowice, 1989.
- [4] Z. KOMINEK, *On additive and convex functionals*, Radovi Mat., **3** (1987), 267–279.
- [5] H. KÖNIG, *On the abstract Hahn-Banach theorem due to Rodé*, Aequationes Math., **34** (1987), 89–95.
- [6] M. KUCZMA, *An introduction to the theory of functional equations and inequalities*, Polish Scientific Publishers and Silesian University Press, Warszawa-Kraków-Katowice, 1985.
- [7] N. KUHN, *A note on t -convex functions*, General Inequalities, **4** (1984), 269–276.
- [8] K. LAJKÓ, *On a functional equation of Alsina and Garcia-Roig*, Publ. Math, **52**, 3–4 (1998), 507–515.
- [9] GY. MAKSA, K. NIKODEM, ZS. PÁLES, *Result on t -Wright convexity*, C. R. Math. Rep. Acad. Sci. Canada, **13** (1991), 274–278.
- [10] J. MATKOWSKI, *On a -Wright convexity and the converse of Minkowski's inequality*, Aequationes Math., **43** (1992), 106–112.
- [11] J. MATKOWSKI, M. WRÓBEL, *A generalized α -Wright convexity and related functional equation*, Ann. Math. Sil. No., **10** (1996), 7–12.
- [12] K. NIKODEM, *On the support of midconvex operators*, Aequationes Math., **42** (1991), 182–189.
- [13] A. OLBRYŚ, *A characterization of (t_1, \dots, t_n) -Wright affine functions*, Commentationes Math., **XLVII**, 1 (2007), 47–56.
- [14] A. OLBRYŚ, *On the measurability and the Baire property of t -Wright convex functions*, Aequationes Math., **68** (2004), 28–37.
- [15] A. OLBRYŚ, *Some conditions implying the continuity of t -Wright convex functions*, Publ. Math. Debrecen, **68**, 3–4 (2006), 401–418.
- [16] ZS. PÁLES, Z. DARÓCZY, *Convexity with given infinite weight sequences*, Stochastica, **11**, 1 (1987), 5–12.
- [17] A. W. ROBERTS, D. E. VARBERG, *Convex Functions*, Academic Press, New York and London, 1973.
- [18] G. RODÉ, *Eine abstrakte Version des Satzes von Hahn-Banach*, Arch. Math., **31** (1978).
- [19] E. M. WRIGHT, *An inequality for convex functions*, Amer. Math. Monthly, **61** (1954), 620–622.