Journal of Convex Analysis 24 (2017) 305–308

C. Peppo
CFA - Université P. et M. Curie, 4 place Jussieu, Casier 232, 75252 Paris Cedex 05, France
catherine.peppo@courriel.upmc.fr

A Note on n-Subhomogeneity of Periodic Extension of Convex Functions

We prove that the T-periodic extension of a convex function $f_1 : [0;T[\to [0;+\infty[$, is n-subhomogeneous if and only if

$$A = \lim_{x \to 0^+} f_1(x) \leq n f_1(k\frac{T}{n}) \quad \text{and} \quad B = \lim_{x \to T^-} f_1(x) \leq n f_1(k\frac{T}{n})$$

for every $k = 1, 2, ..., n-1, (n \geq 2)$.

Keywords: Convexity, subhomogenity, subadditivity.

MSC: 39B62, 26A51