STRONGLY $\lambda$–CONVEX FUNCTIONS AND SOME CHARACTERIZATION OF INNER PRODUCT SPACES

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Abstract. In this paper we show that each strongly $\lambda$-convex function $f : D \rightarrow \mathbb{R}$ with modulus $c > 0$, where $D$ is a nonempty convex subset of inner product space $X$ with norm $\|\cdot\|$, must be of the form $g + \|\cdot\|^2$, where $g$ is an $\lambda$-convex function. Moreover, involving the notion of strongly $\lambda$-convexity we get a new characterization of inner product space.


Keywords and phrases: Strongly convex function, strongly $\lambda$-convex function, inner product space.

REFERENCES