A CHARACTERIZATION OF $B$-CONVEXITY AND $J$-CONVEXITY OF BANACH SPACES

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This paper is dedicated to Professor Themistocles M. Rassias.

Submitted by M. Abel

Abstract. In [K.-I. Mitani and K.-S. Saito, J. Math. Anal. Appl. 327 (2007), 898–907] we characterized the strict convexity, uniform convexity and uniform non-squareness of Banach spaces using $\psi$-direct sums of two Banach spaces, where $\psi$ is a continuous convex function with some appropriate conditions on $[0,1]$. In this paper, we characterize the $B_n$-convexity and $J_n$-convexity of Banach spaces using $\psi$-direct sums of $n$ Banach spaces, where $\psi$ is a continuous convex function with some appropriate conditions on a certain convex subset of $\mathbb{R}^n$.

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