

Title: Mazur's type problem for convexity of higher orders

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I. LABUDA and R. D. MAULDIN [4] have solved in affirmative the following S. MAZUR's problem posed about 1935 (see [6]):

“In a space E of type (B) , there is given an additive functional $F(x)$ with the following property: if $x(t)$ is a continuous function in $0 \leq t \leq 1$ with values in E , then $F(x(t))$ is a measurable function. Is $F(x)$ continuous?”

In [1], we showed that the same remains true in the case where F is a Jensen-convex functional on an open and convex subdomain of a real Banach space. In the present paper, we study the possibilities of an extension of this result to convexity of higher orders.

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