

New classes of generalized convex set-valued functions defined by an embedding approach

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Abstract

A well-known result of J.-P. Crouzeix (1977) asserts that a real-valued function is convex if and only if each function obtained from it by adding a linear functional is quasiconvex.

Jointly with Daishi Kuroiwa (Shimane University, Matsue, Japan) and Matteo Rocca (University of Varese, Italy) we have extended this result for vector-valued functions and also for set-valued functions in two recent papers [Carpathian J. Math., 32 (2016) (1), to appear] and [Set-Valued Var. Anal., 23 (2015) (2), 295-304].

This work aims to establish similar results for certain classes of generalized convex set-valued functions, by an embedding approach introduced by Daishi Kuroiwa and Tetsuya Nuriya (2007).