

A systematization of convexity and
quasiconvexity concepts for set-valued maps,
defined by l -type and u -type preorder relations

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Abstract

We study different classes of generalized convex/quasiconvex set-valued functions, defined by means of the l -type and u -type preorder relations, currently used in set-valued optimization. In particular, we identify those classes of set-valued functions for which it is possible to extend the classical characterization of convex real-valued functions by quasiconvexity of their affine perturbations. This work is based on a joint research with Kazuki Seto and Daishi Kuroiwa (Shimane University, Matsue, Japan).