Unifying local-global type properties in vector optimization

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Abstract

It is known that any local minimal point of a semistrictly quasiconvex real-valued function is a global minimal point; also, any local maximal point of an explicitly quasiconvex real-valued function is a global minimal point, provided that it belongs to the intrinsic core of the function's domain. Jointly with Ovidiu Bagdasar (University of Derby, UK) we have shown that these "local min - global min" and "local max - global min" type properties can be extended and unified by a general local-global extremality principle for generalized convex vector-valued functions with respect to two proper subsets of the outcome space.