

Critical points for vector-valued functions

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Abstract

This paper contains a mountain pass theorem for continuous mappings, defined on a complete metric space and taking values in a real Banach space, ordered by a closed convex cone. We use the concept of critical point introduced by Degiovanni, Lucchetti and Ribarska, and we furnish a variant of their result, allowing for a localization both of the critical point and of the critical value.

Key words: weak slope, critical point, Palais-Smale condition, mountain pass theorem, Pareto optimum.