Abstract

Convexity plays a crucial role in mathematical optimization theory. In order to extend the existing results depending on convexity, numerous attempts of generalizing the concept have been published during years. Different types of generalized convexities has proved to be the main tool when constructing optimality conditions, particularly sufficient conditions for optimality.

The purpose of this paper is to analyze the properties of the generalized pseudo- and quasiconvexities for nondifferentiable locally Lipschitz continuous functions. The treatment is based on the Clarke subdifferentials and generalized directional derivatives.

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