

Full Stability of Local Solutions in Parameterized Optimization

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Abstract

Stability of solutions, with respect to possible shifts in the parameters on which an optimization problem depends, is a very important issue. It not only influences the credibility of results but also affects the design of solution algorithms. Full stability of a particular locally optimal solution, associated with a particular vector of parameters, refers to a localization with respect to which parameter vectors yield unique solution vectors and this dependence is Lipschitz continuous.

It has been known for some time that full stability can be characterized in very general circumstances in terms of coderivative conditions on certain set-valued mapping. Recently there has been further progress on calculus rules which allow the conditions to be confirmed in specific situations.