



Lothar-Collatz-Kolloquium für Angewandte Mathematik

Donnerstag, den 29. Januar 2026, um 14:30 Uhr, im Hörsaal 6

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On optimality conditions for nonsmooth functions

Zusammenfassung/Abstract:

Numerous optimization tasks exhibit a nonsmooth behavior. In contrast to the classical smooth case, where optimality conditions are well studied and understood, criteria to determine whether a given point is optimal or even just stationary are still the subject of ongoing research for nonsmooth functions to be minimized.

In this talk, I will first introduce already established optimality conditions based on generalized derivative concepts for unconstrained nonsmooth problems. Subsequently, we will discuss new optimality conditions for a large class of piecewise smooth functions using so-called kink qualifications. Here, the computational complexity to verify the new criteria is also covered. Finally, I will present important properties of the kink qualification LIKQ.

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