Local Maximal Monotonicity of Multifunctions

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Abstract

This talk address the concept of local maximal monotonicity for set-valued mappings in Banach spaces. We show that the two well-spread notions are equivalent in reflexive Banach spaces. Using tools of variational analysis, we derive a complete characterization of local maximal monotonicity in reflexive Banach that can be viewed as a far-going local extension of the celebrated Minty theorem for the classical global monotonicity in Hilbert spaces. We also obtained characterizations of local maximal monotonicity for subgradient mappings by using advanced machinery of second-order variational analysis and generalized differentiation.

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