

Sufficient Optimality Conditions and Strong Subregularity for ODE and PDE Optimal Control

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Strong metric subregularity (SMsR) of mappings is a fundamental property in the analysis of approximation methods for Variational Inequalities (VIs), such as finite-dimensional approximations, gradient projection methods, Newton-type methods, etc. VIs arise, in particular, when considering the system of first-order optimality conditions for control-constrained optimal control problems. There is a relation (sometimes even coincidence) between the known sufficient optimality conditions and the conditions for SMsR. The talk will present such conditions for VIs associated with ODE or PDE optimal control problems. The focus will be on problems that are affine with respect to the control.

The talk is based on joint papers with A. Corella, N. Jork, and N. Osmolovskii.

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