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*Constrained and impulsive Linear Quadratic control problems*

The aim of this talk is to show some results concerning the value function of a time-continuous linear quadratic optimal control problem with input and state constraints. No coercive assumptions are made, which leads to optimal control problems whose trajectories are of bounded variation rather than merely absolutely continuous. Our approach is based on classical convex analysis, and we establish a Legendre-Fenchel type equality between the value function of the linear quadratic problem and its dual problem. Furthermore, we present a characteristic method for describing the Hamiltonian evolution of the subgradients of the value function.