Hamilton Institute

State Constrained Optimal Control

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Abstract:
Estimates on the distance of a nominal state trajectory from the set of state trajectories that are confined to a closed set have an important unifying role in optimal control theory. They can be used to establish non-degeneracy of optimality conditions such as the Pontryagin Maximum Principle, to show that the value function describing the sensitivity of the minimum cost to changes of the initial condition is characterized as a unique generalized solution to the Hamilton Jacobi equation, and for numerous other purposes. We discuss the validity of various presumed distance estimates and their implications, recent counter-examples illustrating some unexpected pathologies and pose some open questions.

Venue: Seminar Room, Hamilton Institute, Rye Hall, NUI Maynooth

Time: 1.00pm - 2.00pm

Travel directions are available at www.hamilton.ie

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