

# Recent progress on Hamilton-Jacobi Equations and Deterministic Control Problems with Discontinuities

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The theory of viscosity solutions has provided a very satisfactory framework for dealing with a wide variety of deterministic control problems by the dynamic programming approach. But this theory is only really effective when the dynamics and costs are continuous, even if some more general cases can be treated. Recently, much effort has been made to understand more systematically situations where discontinuities appear. After recalling these different types of problems (networks, regional or stratified problems), our aim is to describe the main results for regional control problems and some examples of results for standard or not standard stratified problems.