

## About the hybrid maximum principle on stratified domains

*lundi 1 juillet 2024 15:15 (45 minutes)*

The objective of the presentation is to show how to derive the hybrid maximum principle (HMP) for optimal control problems governed by spatially heterogeneous systems. Under a strong transverse hypothesis on optimal trajectories, we first show that it is possible to use the HMP for temporal hybrid optimal control problems. When optimal trajectories fulfill only a weak transverse hypothesis, we prove thanks to a counter example that this approach is no longer valid. Nevertheless, we show how to bypass this obstruction by introducing a new notion of minimum in optimal control (called L1-square) which allows us to derive the HMP in our setting.

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