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Optimal control and Hamilton-Jacobi-Bellman equations: Numerical methods and applications

Reconstruction of independent sub-domains for a class of Hamilton-Jacobi equations and application to parallel computing

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Abstract: A previous knowledge of the domains of dependence of a Hamilton-Jacobi equation can be useful in its study and approximation. Information of this nature is, in general, difficult to obtain directly from the data of the problem. In this talk we introduce formally the concept of *independent sub-domain* discussing its main properties and we provide a constructive implicit representation formula. Using such results we propose an algorithm for the approximation of these sets that is shown to be relevant in the numerical resolution via parallel computing.

References

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