



Workshop on Nonlinear Analysis and Control Theory in
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Space-and time domain decomposition of control problems for PDEs on networks

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Abstract

We consider problems of optimal control and controllability for PDEs on networked domains and discuss non overlapping space- and time domain decompositions of the corresponding optimality systems. The methods which originally go back to the classical paradigm by P.L. Lions for elliptic problems and the corresponding work by J.L. Lions result in decompositions that, in turn, can be interpreted as optimality systems for virtual control problems on a small space-time subdomain. We prove convergence of the iterative scheme and discuss a posteriori error estimates. Some numerical examples are given.