

Optimal control of PDEs – from optimality conditions to numerical methods

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The talk surveys basic numerical ideas for solving optimal control problems governed by elliptic equations. Necessary optimality conditions and related numerical methods are explained in parallel for problems with increasing difficulty. Starting from convex problems for linear elliptic equations without additional constraints, finally nonconvex problems with semilinear equation and some inequality constraints are considered. In particular, gradient methods, primal-dual active set strategies, SQP- and interior point methods are addressed.

References

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