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**Multigrid Preconditioners for Optimal Control Problems
in Fluid Flow**

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We construct multigrid preconditioners to accelerate the solution process of optimal control problems constrained by the Stokes/Navier-Stokes equations. Our approach for the Stokes control problem is to eliminate the state and adjoint variables from the optimality system and to construct efficient multigrid preconditioners for the Schur-complement of the block associated with these variables. Similar preconditioners are constructed for the reduced Hessian in the Newton-PCG method for the optimal control of the stationary Navier-Stokes equations.