

# Adjoint Based One-Shot Optimization with Bounded Retardation

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**Abstract:** We report on recent progress in converting simulation codes based on matrix-free fixed-point solvers to optimization codes with a similar rate of convergence. Critical issues are the preconditioning of the approximate reduced gradients obtained in the reverse mode of automatic differentiation, and the line-search with respect to a suitable merit-function. Target application is the optimization of aircraft wings and structures.

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