

Dolfin-adjoint: Automatic Adjoint Models for FEniCS

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Abstract

dolfin-adjoint automatically derives parallel, efficient adjoint and tangent linear models from finite-element models written in the FEniCS environment. It also provides high-level tools to solve PDE-constrained optimisation and generalised stability problems.

This poster presents an overview of dolfin-adjoint, how it works and gives application examples.

References

1. P. E. FARRELL AND D. A. HAM AND S. W. FUNKE AND M. E. ROGNES. Automated derivation of the adjoint of high-level transient finite element programs. doi:10.1137/120873558.