ON AUTOMATIC DERIVATIVES IN SENSITIVITY ANALYSIS FOR SHAPE OPTIMIZATION PROBLEMS

MATTI MEIKÄLÄINEN

Department of Mathematical Information Technology
University of Jyväskylä
P. O. Box 35
FIN-40351 Jyväskylä, FINLAND
e-mail: matti.meikalainen@yliopisto.fi

ABSTRACT

This is a LaTeX template only, not scientific paper. A hybrid approach for shape design sensitivity analysis for a class of shape optimization is presented. Hand-coded derivatives and automatic derivatives are combined in such a way that the adjoint equation technique can be utilized. This approach yields significant reduction in the memory and time required to compute derivatives if compared to the approach where automatic differentiation is applied to the whole code. Numerical example is given.

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