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The application of automatic differentiation to problems in engineering analysis. (English)

Zbl 0842.73079
Comput. Methods Appl. Mech. Eng. 118, No. 1-2, 197-207 (1994).

Summary: Automatic differentiation is a technique of computing the derivative of a function or a subroutine written in a higher-level language such as FORTRAN or C. Significant progress has been made in this field in the last few years. Here, we get a short exposition of automatic differentiation and demonstrate its applicability to several fields of engineering analysis.

MSC:

74S30 Other numerical methods in solid mechanics (MSC2010)
76M25 Other numerical methods (fluid mechanics) (MSC2010)
65D25 Numerical differentiation

Keywords:

FORTRAN; C

Software:

ADIFOR

Full Text: DOI

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