ON THE SEMILOCAL CONVERGENCE OF STEFFENSEN’S METHOD

IOANNIS K. ARGYROS and SAÏD HILOUT

Abstract. We provide a semilocal convergence analysis of a general Steffensen’s method in a Banach space setting. In some interesting special cases, we expand the applicability of this method. A numerical example involving the solution of a nonlinear two boundary problem is also provided in this study.


Key words. Banach space, Steffensen’s method, Newton’s method, semilocal convergence analysis, majorizing sequence, Newton-Kantorovich hypothesis.

REFERENCES

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Cameron University
Department of Mathematics Sciences
Lawton, OK 73505, USA
E-mail: iargyros@cameron.edu

Poitiers University
Laboratoire de Mathématiques et Applications
Bd. Pierre et Marie Curie, Téléport 2, B.P. 30179
86962 Futuroscope Chasseneuil Cedex, France
E-mail: said.hilout@math.univ-poitiers.fr