

1035-65-357

Ioannis Konstantinos Argyros* (iargyros@cameron.edu), Professor Dr. Ioannis K. Argyros, Cameron University, Department of, Mathematical Sciences, Lawton, OK 73505. *On the Semilocal Convergence Analysis of Newton's Method.*

The most popular method for approximating a solution of an equation is undoubtedly Newton's method. The famous for its clarity and simplicity Newton-Kantorovich hypothesis (NKH) has been the basic sufficient condition for the semilocal convergence of Newton's Method. It is well known however that Newton's Method converges in case when (NKH) does not hold. Here motivated by this observation, and optimization consideration, we show how to extend the applicability of the famous Newton-Kantorovich Theorem (NKT) for solving equations. (Received September 04, 2007)