Electronic Journal: Southwest Journal of Pure and Applied Mathematics Internet: http://rattler.cameron.edu/swjpam.html
ISBN 1083-0464 Issue 1 July 1998, pp. 44 – 55 Submitted: January 2, 1998. Published: July 31, 1998

NEWTON-TYPE ITERATIONS AS APPROXIMATIONS OF CHEBYSHEV'S METHOD

J. A. Ezquerro and M. A. Hernández

Abstract. This paper examines two convergence theorems, under the same assumptions, for a modification of the Chebyshev method which are based upon majorant principle and recurrence relations. It is shown that from the last we obtain better results.

1991 A.M.S. (MOS) Subject Classification Codes. 47H17, 65J15.

Key Words and Phrases. Multivariate approximation, Mejer-Konig-Zeller polynomials, positive linear operator. Nonlinear equations in Banach spaces, second-order iterations, convergence theorems, Kantorovich type assumptions, recurrence relations, a priori error bounds.

University of La Rioja. Department of Mathematics and Computation.
Luis de Ulloa s/n. 26004 Logroño. Spain.
E-mail: jezquer@siur.unirioja.es , mahernan@siur.unirioja.es