

The efficiency of convergence rate for IMSS2-5D procedure

ABSTRACT

A new iterative procedure is formulated in this paper known as the interval midpoint symmetric single-step IMSS2-5D procedure. In this paper, we consider this new procedure in order to describe the rate of convergence of the IMSS2-5D procedure. It is analytically proven that the IMSS2-5D procedure has a higher convergence rate than ISS2 and ISS2-5D, verifying the rate of convergence to be at least 12. Hence, computational time is reduced since this procedure is more efficient for bounding simple zeros simultaneously. Hence, it would be effective to use this procedure in determining the zeros of polynomial simultaneously.

Keyword: IMSS2-5D procedure; Convergence rate