

On modified interval symmetric single-step procedure ISS2-5D for the simultaneous inclusion of polynomial zeros

ABSTRACT

In this paper, we present a new modified interval symmetric single-step procedure ISS2-5D which is the extension from the previous procedure ISS2. The algorithm of ISS2-5D includes the introduction of reusable correctors $(\delta_1, \dots, \delta_n)$ in k $\delta_i =$ for $k \geq 0$. The procedure is tested on five test polynomials and the results are obtained using MATLAB 2007 software in association with IntLab V5.5 toolbox to record the CPU times and the number of iterations.

Keyword: Interval procedure; Polynomial zeros; Symmetric single-step; Simultaneous inclusion