

Solving directly general third order ordinary differential equations using two-point four step block method

ABSTRACT

Two-point four step direct implicit block method is presented by applying the simple form of Adams- Moulton method for solving directly the general third order ordinary differential equations (ODEs) using variable step size. This method is implemented to get the solutions of initial value problems (IVPs) at two points simultaneously in a block using four backward steps. The numerical results showed that the performance of the developed method is better in terms of maximum error at all tested tolerances and lesser total number of steps as the tolerances getting smaller compared to the existence direct method.

Keyword: Block method; Higher order ordinary differential equations; Two point