

An implicit multistep block method for fuzzy differential equations

ABSTRACT

A 2-point diagonally implicit multistep block method of order five is proposed. It is implemented to find the approximation for first-order fuzzy differential equations (FDEs) under on Seikkala derivative. This block method operates by approximating two points at y_{n+1} and y_{n+2} concurrently in a step. Both formulas are derived by using Lagrange interpolating polynomial. The method is generated by combining the predictor and corrector formulas in the PE(CE) m mode, where m is the number of iteration. The performances of the method are illustrated by solving problem and the numerical findings are compared with the existing method.

Keyword: Block method; Fuzzy differential equations; Multistep method