Convergence properties of pth order diagonally implicit block backward differentiation formulas

ABSTRACT

This paper investigates the convergence properties for diagonally implicit 2-point block backward differentiation formulas of order two, three and four. The formulation of the method is reviewed from the literature. The order of the method is verified. The concepts of consistency and zero stability are considered to prove the convergence of the method.

Keyword: Order; Diagonally implicit; Block method; Consistency; Zero stability; Convergence