

Solving boundary value problems with Neumann conditions using direct method

ABSTRACT

In this paper, the direct method is utilized for solving second order two-point boundary value problem of Neumann type. The method will obtain the solution of the second order boundary value problem directly without reducing it to first order equations. The method will be implemented using variable step size via shooting technique adapted with the Newton method. Numerical results are given to compare the efficiency of the proposed method with the `bvp4c` from the Matlab solver.

Keyword: Direct method; Neumann type; Shooting technique