

Half-sweep modified successive overrelaxation for solving two-dimensional Helmholtz equations

ABSTRACT

The main purpose of this article is to examine the effectiveness of the Half-sweep Modified Successive OverRelaxation (HSMSOR) in solving the sparse linear systems generated from discretization of the two-dimensional Helmholtz equations. In addition, the application and formulation of the HSGS iterative method also presented. Some illustrative examples are given to point out the efficiency of the proposed method.

Keyword: Helmholtz equations; Finite difference scheme; Half-sweep iteration; Modified successive overrelaxation (MSOR) method