QSMSOR Method Iterative Method for the Solution of 2D Homogeneous Helmholtz Equations

Abstract

In this paper, we consider the numerical solutions of homogeneous Helmholtz equations of the second order. The Quarter-Sweep Modified Successive Over-Relaxation (QSMSOR) iterative method is applied to solve linear systems generated form discretization of the second order homogeneous Helmholtz equations using quarter sweep finite difference (FD) scheme. The formulation and implementation of the method are also discussed. In addition, numerical results by solving several test problems are included and compared with the conventional iterative methods.