

An efficient quarter-sweep modified SOR iterative method for solving helmholtz equation

Abstract

The aim of this article is to describe the formulation of quarter-sweep Modified Successive Over-relaxation (QSMSOR) method using the finite difference approach for solving two-dimensional Helmholtz equation. The concept of QSMSOR method is inspired via the combination between quarter-sweep iterative and modified successive over-relaxation (MSOR) method. In addition, the formulation and the implementation of the QSMSOR method are also presented. Some illustrative examples are given to benchmark the effectiveness of the proposed method.