

HSAOR iterative method for the finite element solution of 2D poisson equations

Abstract

This paper deliberates the use of the Half-sweep Accelerated Overrelaxation (HSAOR) method to solve 2D Poisson equations by using the half-sweep triangle finite element (FE) approximation equation based on the Galerkin scheme. In fact, formulations of the full sweep successive over relaxation (FSSOR), half sweep successive over relaxation (HSSOR), full-sweep accelerated over relaxation (FSAOR) and half-sweep accelerated over relaxation (HSAOR) triangle finite element (FE) approaches are also shown. Some numerical experiments are steered to show that the HSAOR method is loftier to the existing FSAOR, HSSOR and FSSOR methods.