

Jovanović, Boško S.

On the convergence of a modified block SOR algorithm. (English) Zbl 0948.65108

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The author investigates a vector iterative alternating directions difference scheme for solving a multi-dimensional Poisson equation, reduces the scheme to a modified block successive overrelaxation (SOR) algorithm, investigates the stability and convergence of the scheme, determines the optimal iterative parameters, and estimates the error.

Reviewer: Julka Miljanović-Knežević (Zemun)

MSC:

- [65N12](#) Stability and convergence of numerical methods for boundary value problems involving PDEs
- [65N06](#) Finite difference methods for boundary value problems involving PDEs
- [35J05](#) Laplace operator, Helmholtz equation (reduced wave equation), Poisson equation
- [65F10](#) Iterative numerical methods for linear systems
- [65N15](#) Error bounds for boundary value problems involving PDEs

Keywords:

optimal parameters; vector iterative alternating directions difference scheme; multidimensional Poisson equation; error bounds; modified block successive overrelaxation algorithm; stability; convergence

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