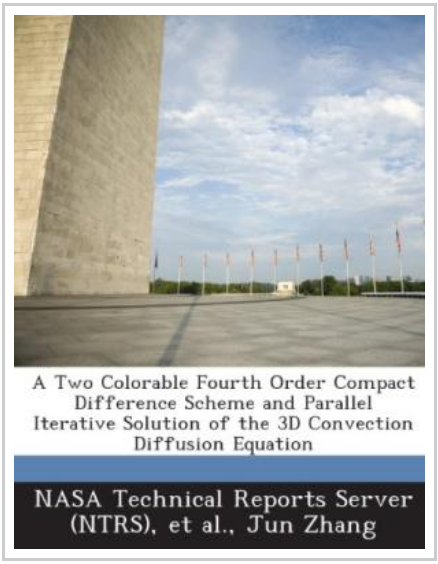

A Two Colorable Fourth Order Compact Difference Scheme and Parallel Iterative Solution of the 3D Convection Diffusion Equation

By Jun Zhang

BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 22 pages. Dimensions: 9.7in. x 7.4in. x 0.1in.A new fourth order compact difference scheme for the three dimensional convection diffusion equation with variable coefficients is presented. The novelty of this new difference scheme is that it Only requires 15 grid points and that it can be decoupled with two colors. The entire computational grid can be updated in two parallel subsweeps with the Gauss-Seidel type iterative method. This is compared with the known 19 point fourth order compact differenCe scheme which requires four colors to decouple the computational grid. Numerical results, with multigrid methods implemented on a shared memory parallel computer, are presented to compare the 15 point and the 19 point fourth order compact schemes. This item ships from La Vergne,TN. Paperback.

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