Abstracts

Hybrid multilevel/multigrid potential preconditioner for fast finite element modeling

Yu Zhu and A.C. Cangellaris. "Hybrid multilevel/multigrid potential preconditioner for fast finite element modeling." 2002 Microwave and Wireless Components Letters 12.8 (Aug. 2002 [MWCL]): 290-292.

A robust hybrid multilevel/multigrid potential preconditioner is introduced for the fast and robust finite-element modeling of electromagnetic structures. The proposed preconditioning process combines the advantages of the hierarchical multilevel preconditioner and the nested multigrid potential preconditioner into a novel preconditioner with superior computational versatility. Numerical experiments from the application of the new preconditioner to the finite-element analysis of microwave devices demonstrate its superior numerical convergence and efficient memory usage.

❑ Return to main document.