ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

16. Applications

1991 MS Classification: 35, 65
Schlundt, Rainer, WIAS Berlin, Germany:
On the Computation of Systems of Linear Algebraic Equations for Monolithic Microwave Integrated Circuits.
The scattering matrix describes monolithic integrated circuits that are connected to transmission lines in terms of their wave modes. Using a finite-volume method a three-dimensional boundary value problem for the Maxwellian equations in the frequency domain can be solved. This results in the solution of a large-scale system of linear equations with indefinite symmetric matrices. The high-dimensional system of linear algebraic equations is solved using iterative methods. A commonly used approach for solving large sparse linear systems is to find sets of unknowns which are independent.