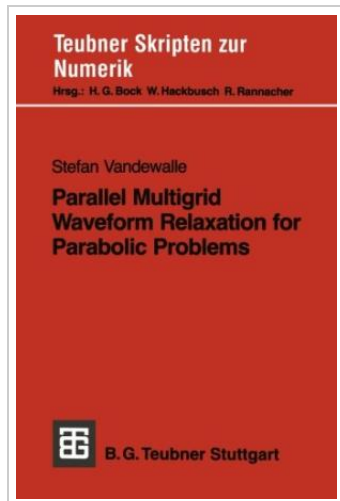



[DOWNLOAD](#)


Parallel Multigrid Waveform Relaxation for Parabolic Problems

By Vandewalle, Stefan

Condition: New. Publisher/Verlag: Vieweg+Teubner | Wetenschap is meer dan het object dat zij bestudeert. Wetenschap is ook de weg naar de ontdekking, en bovendien, wetenschap is ook het verhaal van de ontdekkingsreis. -Po Thielen Focus research, Nr 10-11, juli 1991. The numerical solution of a parabolic partial differential equation is usually calculated by using a time-stepping method. This precludes the efficient use of parallelism and vectorization, unless the problem to be solved at each time-level is very large. This monograph investigates the use of an algorithm that overcomes the limitations of the standard schemes by calculating the solution at many time-levels, or along a continuous time-window simultaneously. The algorithm is based on waveform relaxation, a highly parallel technique for solving very large systems of ordinary differential equations, and multigrid, a very fast method for solving elliptic partial differential equations. The resulting multigrid waveform relaxation method is applicable to both initial boundary value and time-periodic parabolic problems. We analyse in this book theoretical and practical aspects of the multigrid waveform relaxation algorithm. Its implementation on a distributed memory message-passing computer and its computational complexity (arithmetic complexity, communication complexity and potential for vectorization) are studied. The method has been implemented...



[READ ONLINE](#)
[8.2 MB]

Reviews

These kinds of pdf is the greatest ebook readily available. This really is for those who statte that there had not been a worthy of looking at. Your daily life period will be change when you comprehensive looking over this pdf.

-- **Dock Hodkiewicz**

Just no phrases to describe. It typically does not price an excessive amount of. It is extremely difficult to leave it before concluding, once you begin to read the book.

-- **Felton Hessel**