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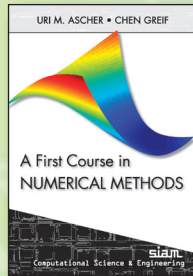
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## A First Course in Numerical Methods

Uri M. Ascher and Chen Greif  
Computational Science and Engineering 7

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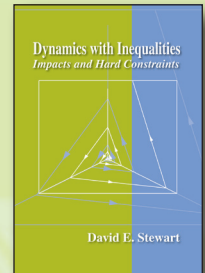


## Dynamics with Inequalities: Impacts and Hard Constraints

David E. Stewart

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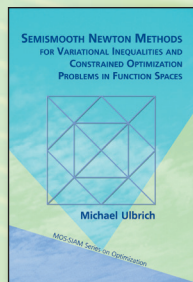


## Semismooth Newton Methods for Variational Inequalities and Constrained Optimization Problems in Function Spaces

Michael Ulbrich  
MOS-SIAM Series on Optimization II

This book strikes a balance between thoroughly developed theory and numerical applications. Although largely self-contained, it also covers recent developments in the field, such as state-constrained problems, and offers new material on topics such as improved mesh independence results. The theory and methods are applied to a range of practically important problems, including optimal control of semilinear elliptic differential equations, obstacle problems, and flow control of instationary Navier–Stokes fluids.

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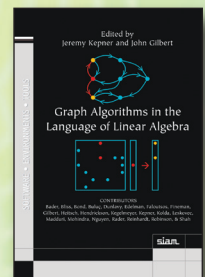


## Graph Algorithms in the Language of Linear Algebra

Jeremy Kepner and John Gilbert, Editors  
Software, Environments, and Tools 22

This book discusses the field of graph algorithms, one of the pillars of theoretical computer science, informing research in such diverse areas as combinatorial optimization, complexity theory, and topology. The authors show how to leverage existing parallel matrix computation techniques and the large amount of software infrastructure that exists for these computations to implement efficient and scalable parallel graph algorithms.

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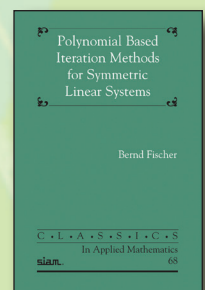


## Polynomial Based Iteration Methods for Symmetric Linear Systems

Bernd Fischer  
Classics in Applied Mathematics 68

This is the only textbook that treats iteration methods for symmetric linear systems from a polynomial point of view. This particular feature enables readers to understand the convergence behavior and subtle differences of the various schemes, which are useful tools for the design of powerful preconditioners. This book presents what appear to be the most efficient methods for symmetric linear systems of equations.

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