# Optimal Preconditioners of a Given Sparsity Pattern (Classic Reprint) (Paperback)

By Anne Greenbaum

Forgotten Books, United States, 2015. Paperback. Book Condition: New. 229 x 152 mm. Language: English . Brand New Book ***** Print on Demand *****.Excerpt from Optimal Preconditioners of a Given Sparsity Pattern 1. Introduction. In recent years much research has focused on the problem of finding efficient preconditioners to use with various iterative methods for solving linear systems. Examples of preconditioners, or of iterative methods that can be viewed as using special preconditioners, include the incomplete Cholesky factorization (19), the Ssor preconditioner (25), multigrid methods (2), domain decomposition techniques (1), hierarchical basis functions (26), and many, many more. An efficient preconditioner M for a matrix A must possess two properties: 1.) Linear systems with coefficient matrix M must be relatively easy to solve; and 2.) The matrix M must approximate the matrix A. Many of the preconditioners that have been proposed are easy to solve because of their sparsity pattern or because they are products of known lower and upper triangular matrices with simple sparsity patterns. The sense in which M should approximate A differs according to the iterative method to be used. For fast asymptotic convergence, this quantity should be small. When the matrices A and M are symmetric...

READ ONLINE
[ 8.64 MB ]

## Reviews

*It becomes an remarkable publication that I have possibly go through. Better then never, though i am quite late in start reading this one. I am just delighted to inform you that this is basically the best ebook we have study inside my individual existence and can be he greatest book for actually.*
-- *Dr. Torrey Osinski DVM*

*The book is great and fantastic. It is rally exciting throgh reading time period. I am pleased to let you know that this is basically the greatest ebook i actually have go through inside my very own life and may be he best book for possibly.*
-- *Mr. Hyman Ankunding DDS*