Fast Iterative Method for Second Order Elliptic Problems

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Abstract

We will give a survey of fast iterative method for a linear system arising in solving second order elliptic equations such as Poisson equation. This solution process has wide application area because most equilibrium state of physical phenomena are described by order elliptic equations. In particular, we will discuss the 'multigrid' method' where several layers of nested grids are used to capture different frequencies. Some numerical examples for various discretization will be presented.