

On the Convergence of Nonconforming V-cycle Multigrid Methods

Xuejun Xu

LSEC, Institute of Computational Mathematics,
Academy of Mathematics and System Sciences,
Chinese Academy of Sciences, Beijing.

Abstract

In this talk, we shall consider the convergence of nonconforming V-cycle multigrid method. A new framework for analyzing the nonconforming V-cycle multigrid method shall be presented. It is shown that the V-cycle multigrid for nonconforming element methods and mortar element methods is optimal, which means that the convergence rate of the V-cycle multigrid method is independent of mesh size and mesh level.