

非协调区域分解Lagrange乘子法的超收敛

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摘要 该文讨论分析非协调区域分解Lagrange乘子法对二阶椭圆型方程Dirichlet问题的有限元超收敛现象.文中通过利用积分恒等式、适宜地引进L₂投影过渡以及高次插值后处理等技巧,经过一系列误差分析及估计,得到了高出半阶的超收敛结果,实现了非协调区域分解法与高精度算法的结合.

关键词 [非协调区域分解法](#),[Lagrange乘子](#),[超收敛](#),[积分恒等](#),[插值后处理](#)

分类号

SUPERCONVERGENCE OF THE NONCONFORMING DOMAIN DECOMPOSED FINITE ELEMENT METHOD WITH LAGRANGE MULTIPLIERS

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Abstract In this paper,we study the superconvergence phenomena of the non-conforming domain decomposed finite element method with Lagrange multipliers to a 2-order elliptic problem.The main idea of this chapter is to achieve the combination of parallel computational method with the higher accuracy technique by interpolation finite element postprocessing which is implemented only by using a simple and convenient algorithm.The higher accuracy of one and half an order have been obtained by using integral identity,introducing L₂ projection,postprocessing of interpolation finite element and so on.

Key words [Nonconforming domain decomposition method](#) [Lagrange multipliers](#)

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