

Zhao, Jie

Convergence of V -cycle and F -cycle multigrid methods for the biharmonic problem using the Morley element. (English) [Zbl 1065.65139](#)

ETNA, *Electron. Trans. Numer. Anal.* 17, 112-132 (2004).

Summary: Multigrid V -cycle and F -cycle algorithms for the biharmonic problem using the Morley element are studied in this paper. We show that the contraction numbers can be uniformly improved by increasing the number of smoothing steps.

MSC:

[65N55](#) Multigrid methods; domain decomposition for boundary value problems involving PDEs

Cited in **3** Documents

[65N30](#) Finite element, Rayleigh-Ritz and Galerkin methods for boundary value problems involving PDEs

[31A30](#) Biharmonic, polyharmonic functions and equations, Poisson's equation in two dimensions

[35J40](#) Boundary value problems for higher-order elliptic equations

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multigrid; nonconforming; V -cycle; F -cycle; biharmonic problem; Morley element

Full Text: [EuDML](#) [EMIS](#)