

---

DE054974289

Chen, ShaoChun; Xiao, LiuChao

Interpolation theory of anisotropic finite elements and applications

Sci. China, Ser. A 51, No. 8, 1361-1375 (2008).

---

*MSC Classification:* 65N30 65N15

---

*Keywords:* interpolation error; anisotropic finite elements; Newton's formula; divided difference

---

*Review text:*

The authors provide us with a new technique to analyze the interpolation error of anisotropic finite element methods. In their technique, the interpolation error is obtained thanks to the use of the Newton's formula of the interpolation polynomials on the reference element. The error interpolation on general element could be obtained, as usual thanks to transformation inequalities of function semi norms between a general element and the reference element. These interpolation errors are used by the authors to derive some error estimates of anisotropic finite element methods.

This is pdfTeX, Version 3.141592-1.30.4-2.2 (Web2C 7.5.5) (format=pdfTeX 2008.10.24) 24 MAY 2009 21:03  
entering extended mode  
%&-line parsing enabled.  
\*\*./preview-05497428.tex  
(./preview-05497428.tex  
(./zb-basic.tex (/data/zmath/texlive/texmf-dist/tex/amstex/base/amstex.tex

AmS-TeX- Version 2.2

Loading definitions for misc utility macros, page layout, accents/punctuation, line and page breaks, figures, comments, math spacing, fractions, smash commands, large operator symbols, integrals, operator names, multilevel sub/superscripts, matrices, multiline displays, continued fractions, compound symbols, various kinds of dots, special superscripts, \text, math font commands, \newsymbol, bold Greek and bold symbols, Euler fonts, math accents, roots, commutative diagrams, poor man's bold, syntax check, ... finished) (/data/zmath/texlive/texmf-dist/tex/plain/amsfonts/amssym.tex) (/data/zmath/texlive/texmf-dist/tex/plain/amsfonts/cyracc.def)  
(./zb-preview.tex) [1{/data/zmath/texlive/texmf-var/fonts/map/pdfTeX/updmap/pdfTeX.map}] )</data/zmath/texlive/texmf-dist/fonts/typel/bluesky/cm/cmti10.pfb></data/zmath/texlive/texmf-dist/fonts/typel/bluesky/cm/cmrl10.pfb></data/zmath/texlive/texmf-dist/fonts/typel/bluesky/cm/cmbx10.pfb>  
Output written on preview-05497428.pdf (1 page, 28595 bytes).