Michal Křížek

LIST OF CITATIONS UNTIL MARCH 21, 2011

except for autocitations and autocitations of coauthors

Notation:

[A*] Books and proceedings,
[B*] Research papers published in foreign journals,
[C*] Research papers published in Czech journals,
[D*] Papers in reviewed proceedings published abroad,
[E*] Papers in reviewed proceedings published in the Czech Republic,
[F*] Lecture notes,
[G*] Proceedings papers published in the Czech Republic,
[H*] Research reports,
[I*] Surveys,
[J*] Dissertations,
[K*] Papers popularizing mathematics,
[Q*] Citations.

[**A1**] **M. Křížek and P. Neittaanmäki**, *Finite element approximation of variational problems and applications*, Pitman Monographs and Surveys in Pure and Applied Mathematics vol. 50, Longman Scientific & Technical, Harlow; copublished in the United States with John Wiley & Sons, New York, 1990, 239 pp.

Cited in:

[Q1] M. Bejček: Numerical methods for solution of compressible flow problems, Ph.D. Thesis, Charles University, Prague, 2005.

[Q2] M. Brandner and S. Míka: Metoda sdružených gradientů na přípustné konvexní množině, Programy a algoritmy numerické matematiky 7, Bratříkov, MU AV ČR, Praha, 1994, 13–25.

[Q3] C. Brezinski and M. R. Zaglia: Extrapolation methods, Theory and practice, Studies in Comput. Math. 2, North-Holland, Amsterdam, 1991, (see p. 250).

[Q4] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q5] C. M. Chen and Y. Q. Huang: High accuracy theory of finite element methods (in Chinese), Hunan Science and Technology Press, Changsha, 1995.

[Q6] J. Dalík: A local interpolation by a quadratic Lagrange finite elements in 1D, Arch. Math. 42 (2006), 103–114.

[Q7] J. Dalík: A quadratic isoparametric finite elements in the plane, preprint, VUT Brno, 2006, 1–19.

[Q8] J. Dalík: The invertibility of the isoparametric maps for triangular quadratic Lagrange finite elements, to appear Appl. Math., 1–16.

[Q9] J. Daněk: Řešení jednostranného kontaktu malého rozsahu pružných těles ve 2D na paralelních počítačích, Ph.D. Thesis, FAV ZČU, Plzeň, 2001, 1–109.

[Q10] J. Daněk: Aplikace kontaktního problému v úlohách biomechaniky a geomechaniky, Habilitation Thesis, FAV ZČU, Plzeň, 2008.

[Q11] S. Dass, G. Johri, and L. Pandey: A stochastic model for solidification. 1. The basic equations, their analysis and solution, Pramana J. Phys. 47 (1996), 447–470.

[Q12] O. Davydov: Discrete maximum principles in finite element analysis, Master Thesis, Dept. of Math. Inform. Technology, Uviv. of Jyväskylä, 2003.

[Q13] L. T. Dechevsky: Near-degenerate finite element and lacunary multiresolution methods of approximation, Saint-Malo Proceedings (ed. by L. L. Schumaker), Vanderbit Univ. Press, 2000, 1–19.

[Q14] L. T. Dechevsky and W. L. Wendland: On lacunary multiresolution methods of approximation in Hilbert spaces, Proc. Curve and Surface Fitting: Saint Malo (ed. by A. Cohen, C. Rabut and L. L. Schumaker), Vanderbit Univ. Press, 2000, 1–10.

[Q15] L. T. Dechevski and W. L. Wendland: On the Bramble-Hilbert lemma, II: Model applications to quasi-interpolation and linear problems. Internat. J. Pure Appl. Math. 33 (2006), 465–501.

[Q16] L. T. Dechevski and W. L. Wendland: On the Bramble-Hilbert lemma, II: A model application to non-linear operator equations. Internat. J. Pure Appl. Math. 33 (2006), 503–528.

[Q17] L. T. Dechevsky and W. L. Wendland: On the Bramble-Hilbert lemma, II. Preprint 2007/002, Univ. Stuttgart, Berichte aus dem Inst. für Angewandte Anal. und Numer. Simulation, 2007, 1–67.

[Q18] V. Dolejší: Discontinuous Galerkin method for convection-diffusion problems with applications in fluid dynamics, Doctoral Thesis (DSc.), Faculty of Math. and Phys., Charles Univ., Prague, 2008, 1–351.

[Q19] V. Dolejší, M. Feistauer, J. Felcman, and A. Kliková: Error estimates for barycentric finite volumes combined with nonconforming finite elements applied to nonlinear convection-diffusion problems, Appl. Math. 47 (2002), 301–340.

[Q20] A. Eljendy: Numerical approach to the exact controllability of hyperbolic systems, LN Contr. Inf. 178, 1992, 202–214.

[Q21] M. E. Everett: Existence of an optimal conductivity and Frechet differentiability in 2-D electromagnetic inversion, Geophys. J. Int. 117 (1994), 111–119.

[Q22] M. Feistauer: Mathematical Methods in Fluid Dynamics, Pitman Monographs and Surveys in Pure and Applied Mathematics, vol. 67, Longman Scientific & Technical, Harlow, 1993 (see p. 175).

[Q23] M. Feistauer, J. Felcman, and I. Straškraba: Mathematical and Computational Methods for Compressible Flow, Oxford Univ. Press, Oxford, 2003.

[Q24] H. Fujita, N. Saito, and T. Suzuki: Operator theory and numerical methods, Studies in Mathematics and Its Applications, vol. 30, North-Holland, Amsterdam, 2001.

[Q25] Ch. Grossmann: Penalties and mixed finite element analysis for variational inequalities, Proc. Conf. Numer. Methods for Free Boundary Problems (ed. P. Neittaanmäki), Jyväskylä, 1990, Internat. Series of Numer. Math., vol. 99, Birkhäuser, Basel, 1991, 137–146.

[Q26] Ch. Grossmann and H.-G. Roos: Numerik partiellen Differentialgleichungen, Teubner Studienbücher, Mathematik, Stuttgart, 1994.

[Q27] J. Hämäläinen: Numerical modelling and simulation of fluid flow in headboxes of paper machines, Reports on Appl. Math. and Computing, No. 5, Univ. of Jyväskylä, 1991, 1–72.

[Q28] J. Hämäläinen: Mathematical modelling and simulation of fluid flows in the headbox of paper machines, Reports 57, Univ. of Jyväskylä, 1993, 1–101.

[Q29] J. Hämäläinen and J. Järvinen: Elementtimenetelmä virtauslaslaskennassa, Yliopistopaino, Univ. of Jyväskylä, 1994, 1–212.

[Q30] A. Hannukainen and S. Korotov: Two-sided a posteriori estimates of global and local errors for linear elliptic type boundary value problems, Proc. PANM 13 dedicated to the 80th birthday of Professor Ivo Babuška, Math. Inst. Prague (eds. J. Chleboun, K. Segeth, T. Vejchodský), 2006, 92–103.

[Q31] A. Hannukainen and S. Korotov: Computational technologies for reliable control of global and local errors for linear elliptic type boundary value problems, J. Numer. Anal., Industrial Appl. Math. 2 (2007), 157–176.

[Q32] P. Harasim: On the worst scenario method: a modified convergence theorem and its application to an uncertain differential equation. Appl. Math. 53 (2008), 583–598.

[Q33] P. Harasim: On the worst scenario method: Application to a quasilinear elliptic 2D-problem with uncertain coefficients, accepted by Appl. Math. in 2009, 1–24.

[Q34] P. Harasim: On the worst scenario method and its application to uncertain differential equations. Ph.D. Thesis, Inst. of Math., Silesian University, Opava, 2009.

[Q35] R. Haurová: The finite element method for solving three-dimensional problems (in Czech), Mgr. Thesis, MFF UK, Prague, 1992, 1–43.

[Q36] E. Heikkola, S. Mönkölä, A. Pennanen, and T. Rossi: Controllability method for the Helmholtz equation with higher-order discretizations, J. Comput. Phys. 225 (2007), 1553–1576.

[Q37] H. Y. Hu and Z. C. Li: Verification of reduced convergence rates, Computing 74 (2005), 67–73.

[Q38] J. Järvinen: Mathematical modelling and numerical simulation of Czochralski silicon crystal growth (Ph.D. Thesis), Center for Sci. Computing, Univ. of Jyväskylä, 1996, 1-134.

[Q39] S. Jia, H. Xie, X. Yin, and S. Gao: Approximation and eigenvalue extrapolation of Stokes eigenvalue problem by nonconforming finite element methods, Appl. Math. 54 (2009), 1–15.

[Q40] B. N. Jiang, J. Wu, and L. A. Povinelli: The origin of spurious solutions in computational electromagnetics, J. Comput. Phys. 125 (1996), 104–123.

[Q41] X. L. Jiang: A streamline-upwinding Petrov-Galerkin method for the hydrodynamic semiconductor-device model, Math. Models Methods Appl. Sci. 5 (1995), 659–681.

[Q42] Z. Jiang and S. H. Zhang: Non-standard Galerkin methods of high accuracy for parabolic problems, submitted to J. Syst. Sci. Math. Sci.

[Q43] T. Kärkkäinen: Error estimates for distributed parameter identification problems (Ph.D. Thesis), Univ. of Jyväskylä, 1995, 1–51.

[Q44] T. Kärkkäinen and T. Räisänen: A numerical method for general optimal control problems, Report 16/1996, Univ. of Jyväskylä, 1996, 1–15.

[Q45] T. Kärkkäinen and T. Räisänen: Abstract estimates of the rate of convergence for optimal control problems, Appl. Math. Optim. 36 (1997), 109-123.

[Q46] A. Kliková: Finite volume–finite element solution of compressible flow, Ph.D. Thesis, Charles Univ., Prague, 2000, 1–188.

[Q47] S. Korotov: On equilibrium finite elements in three-dimensional case, Appl. Math. 42 (1997), 233–242.

[Q48] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q49] S. Korotov: A posteriori error estimation for linear elliptic problems with mixed boundary conditions, Preprint A495, Helsinki Univ. of Technology, Espoo 2006, 1–14.

[Q50] S. Korotov: Global a posteriori error estimates for convection-reaction-diffusion problems, Appl. Math. Model. 32 (2008), 1579–1586.

[Q51] M. Kukačka and C. Matyska: Influence of the zone of weakness on dip angle and shear heating of subducted slabs, Physics of Earth and Planetary Interiors 141 (2004), 243–252.

[Q52] H. Kutáková: Mortar finite element method for linear elliptic problems in 2D, Master thesis, Univ. of West Bohemia, Pilsen, 2008, 1–78.

[Q53] D. Kuzmin: Numerical simulation of reactive bubbly flows, Jyväskylä Studies in Computing 2 (1999), 1–109.

[Q54] J. F. Lin and Q. Lin: Extrapolation of the Hood-Taylor elements for Stokes problem, Adv. Comput. Math. 22 (2005), 115–123.

[Q55] Q. Lin: Full convergence order for hyperbolic finite elements, Proc. Conf. Discrete Galerkin Methods (ed. B. Cockburn), Newport, 1999, 167–177.

[Q56] Q. Lin: Tetrahedral or cubic mesh? Proc. Conf. Finite Element Methods: Three-dimensional Problems, Univ. of Jyväskylä, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 160–182.

[Q57] Q. Lin: High performance FEMs, Proc. Internat. Sympos. on Computational and Applied PDEs, Zhanjiajie, China, 2001, 1–17.

[Q58] Q. Lin: Free calculus. A liberation from concepts and proofs, World Scientific, Singapore, 2008.

[Q59] Q. Lin, H. Xie, F. Luo, and Y. Yang: Stokes eigenvalue approximation from below with nonconforming mixed finite element methods, Math. Pract. Theory 40 (2010), 157–169.

[Q60] Q. Lin and J. Lin: Finite elements methods: Accuracy and improvement, Science Press, Beijing, 2006.

[Q61] Q. Lin and N. N. Yan: The construction and analysis for efficient finite elements (Chinese), Hebei Univ. Publ. House, 1996.

[Q62] Q. Lin and S. H. Zhang: An immediate analysis for global superconvergence for integrodifferential equations, Appl. Math. 42 (1997), 1–21.

[Q63] R. Lin and Z. Zhang: Numerical study of natural superconvergence in least-squares finite element methods for elliptic problems, Appl. Math. 54 (2009), 251–266.

[Q64] T. Lin, Y. P. Lin, M. Rao, and S. H. Zhang: Petrov-Galerkin methods for linear Volterra integro-differential equations, SIAM J. Numer. Anal. 38 (2000), 937–963.

[Q65] T. Lin, Y. P. Lin, P. Luo, M. Rao, and S. H. Zhang: Petrov-Galerkin methods for nonlinear Volterra integro-differential equations, Dyn. Contin. Discrete Impuls. Syst., Ser. B, Appl. Algorithms 8 (2001), 405–426.

[Q66] T. Lin and D. L. Russell: A superconvergent method for approximating the bending moment of elastic beam with hysteresis damping, Appl. Numer. Math. 38 (2001), 145–165.

[Q67] L. Liu: The second order conditions for $C^{1,1}$ nonlinear mathematical programming, Proc. of Prague Math. Conf., ICARIS, Prague, 1996, 153–158.

[Q68] L. Liu: Finite element analysis of nonlinear heat conduction problems, Univ. of Jyväskylä, Dept. of Math., Report 75, 1997, 1–95.

[Q69] S. Louhenkilpi, E. Laitinen, and R. Nieminen: Real-time simulation of heat-transfer in continuous casting, Metallurgical Transactions B-Process Metallurgy 24 (1993), 685–693.

[Q70] J. Lovíšek: Modelling and control in pseudoplate problem with discontinuous thickness, Appl. Math. 54 (2009), 491–525.

[Q71] K. Majava, R. Glowinski, and T. Kärkäinen: Solving a non-smooth eigenvalue problem using operator-splitting method, Internat. J. Comput. Math. 84 (2007), 825–846.

[Q72] Z. Martinec: Spectral-finite-element approach to two-dimensional electromagnetic induction in a spherical Earth, Geophys. J. Int. 130 (1997), 583–594.

[Q73] Z. Martinec: Spectral-finite-element approach to three-dimensional electromagnetic induction in a spherical Earth, Geophys. J. Int. 136 (1999), 229–250.

[Q74] Z. Martinec: Spectral-finite element approach to three-dimensional viscoelastic relaxation in a spherical earth, Geophys. J. Internat. 142 (2000), 117–141.

[Q75] Z. Martinec and H. McCreadie: Electromagnetic induction modelling based on satellite magnetic vector data, Geophys. J. Internat. 157 (2004), 1045–160.

[Q76] Z. Milka: Řešení stacionární úlohy vedení tepla s nelineární Newtonovou okrajovou podmínkou metodou konečných prvků, (kandidátská disertační práce), MÚ ČSAV, Praha, 1992, 1–49.

[Q77] Z. Milka: Numerické řešení stacionární úlohy vedení tepla s nelineární podmínkou sálání, sborník kurzu: Programy a algoritmy numerické matematiky 6, Bratříkov, MÚ ČSAV, Praha, 1992, 111–120.

[Q78] Z. Milka: Finite element solution of a stationary heat conduction equation with the radiation boundary condition, Appl. Math. 38 (1993), 67–79.

[Q79] J. Mlýnek: Metoda bikonjugovaných gradientů a její modifikace pro řešení soustav s komplexními koeficienty (kandidátská disertační práce), MÚ ČSAV, Praha, 1992, 1–75.

[Q80] J. Mlýnek: The application of the thermal balance method for computation of warming in electrical machines, Proc. PANM 13 dedicated to the 80th birthday of Professor Ivo Babuška, Math. Inst. Prague (eds. J. Chleboun, K. Segeth, T. Vejchodský), 2006, 196–201.

[Q81] J. Mlýnek: Matematické modely vedení tepla v elektrických strojích. Habilitační práce, Tech. Univ. Liberec, 2007.

[Q82] J. Mlýnek: Variational formulation of the heat conduction problem, Proc. Internat. Conf. Presentation of Mathematics'08 (ed. J. Příhonská, K. Segeth, D. Andrejsová), Tech. Univ. Liberec, 2008, 45–50.

[Q83] K. Nagatou: Numerical method to verify the elliptic eigenvalue problems including a uniqueness property, Computing 63 (1999), 109–130.

[Q84] K. Nagatou: Numerical verification method for infinite dimensional eigenvalue problems, Japan J. Indust. Appl. Math. 26 (2009), 477–491.

[Q85] K. Nagatou and M. T. Nakao: An enclosure method of eigenvalues for the elliptic operator linearized at an exact solution of nonlinear problems, Linear Algebra Appl. 324 (2001), 81–106.

[Q86] K. Nagatou, N. Yamamoto, and M. T. Nakao: An approach to the numerical verification of solutions for nonlinear elliptic problems with local uniqueness, Numer. Funct. Anal. Optim. 20 (1999), 543–565.

[Q87] M. T. Nakao, N. Yamamoto, and K. Nagatou: Numerical verification for eigenvalues of second-order elliptic operators, Japan J. Indust. Appl. Math. 16 (1999), 307–320.

[Q88] J. Nedoma: Numerical modelling in applied geodynamics. John Wiley & Sons, Chichester, New York, 1998.

[Q89] T. M. Ng, B. Farhang-Boroujeny, and H. K. Garg: An accelerated Gauss-Seidel method for inverse modeling, Signal Processing 83 (2003), 517–529.

[Q90] B. Nkemzi: Error estimates for the Fourier-finite-element approximation of the Lamé system in nonsmooth axisymmetric domains, Comput. Mech. 35 (2005), 30–40.

[Q91] B. Nkemzi: The Fourier finite-element approximation of the Lamé equations in axisymmetric domains with edges, Computing 76 (2006), 11–39.

[Q92] A. K. Noor: Bibliography of books and monographs on finite element technology, Appl. Mech. Rev. 44 (1991), 307–317.

[Q93] P. Oswald: Multilevel finite element approximation: Theory & Applications, Teubner-Skripte zur Numerik (eds. Rannacher, Bock, Hackbusch), Teubner, Stuttgart, 1994, (see Chap. 1 and 4).

[Q94] D. A. Philips, L. R. Dupre, J. A. A. Melkebeek: Magneto-dynamic field computation using a rate-dependent Preisach model, IEEE Trans. Magnet. 30 (1994), 4377–4379.

[Q95] M. Práger: Eigenvalues and eigenfunctions of the Laplace operator on an equilateral triangle, Appl. Math. 43 (1998), 311-320.

[Q96] K. Rektorys and E. Vitásek (eds.): Survey of applicable mathematics, Kluwer, Amsterdam, 1994.

[Q97] K. Rektorys a kol.: Přehled užité matematiky, Prometheus, Praha, 1995.

[Q98] S. I. Repin: Error bounds for approximate solutions of variational problems with linear growth functionals. Proc. Conf. Analysis and Approximation of Boundary Value Problems, Univ. of Jyväskylä, Series A, Collections, No. A 2/2000, 165–188.

[Q99] K. Salmenjoki: On numerical methods for shape design problems (Thesis), Dep. of Math., Univ. of Jyväskylä, Report 52, 1991, 1–35.

[Q100] K. Segeth: Je bilanční metoda lepší než metoda konečných prvků? Sborník semináře: Programy a algoritmy numerické matematiky 8, Janov, 1996, MÚ AV ČR Praha, 1996, 184–193.

[Q101] S. Shaw, M. K. Warby, and J. R. Whiteman: An introduction to the theory and numerical analysis of viscoelasticity problems, Proc. Industrial Math. and Math. Modelling, Cheb, 1997, Univ. of West Bohemia, Pilsen, 1998, 1–51.

[Q102] P. Šolín, K. Segeth, and I. Doležel: Higher-order finite element methods, CRC Press, London, New York, 2003.

[Q103] J. Stańdo: Issues of the finite element method in the context of automatic triangulation and numerical integration (in Polish), Ph.D. Thesis, Uviv. of Lodz, Poland, 2004.

[Q104] J. Stebel: Optimal shape design in a fibre orientation model, WDS'05 Proc., Part I, Matfyzpress, Prague, 2005, 167–172.

[Q105] J. Stebel, R. A. E. Mäkinen, and J. I. Toivanen: Optimal shape design in a fibre orientation model Appl. Math. 52 (2007), 391–405.

[Q106] J. Steinbach: Comparison of finite element and finite volume schemes for variational inequalities, East-West J. Numer. Math. 4 (1996), 207-235.

[Q107] J. Steinbach: On box schemes for elliptic variational inequalities, Numer. Funct. Anal. Optim. 18 (1997), 1041–1066.

[Q108] B. Szabó and I. Babuška: Finite element analysis, John Wiley & Sons, Inc., New York, 1991, (see p. 362).

[Q109] X. Ch. Tai: Application of the finite element method to the parameter identification of one- and two-dimensional parabolic equations, Math. Numer. Sinica 12 (1990), 1–8.

[Q110] X. Ch. Tai: Parallel computing with splitting - up methods and the distributed parameter identification problems (Thesis), Dept. of Math., Univ. of Jyväskylä, Report 50, 1991, 1–94.

[Q111] X. Ch. Tai: Parallel function and space decomposition methods with application to optimization, splitting and domain decomposition methods, Technical Report No. 231, Tech. Univ. Graz, 1992, 1–93.

[Q112] J. Tervo: A FEM scheme of a PDE system from bioreactor theory with stability results, SIAM J. Numer. Anal. 35 (1998), 1230–1248.

[Q113] P. S. Theocaris and G. E. Stavroulakis: Optimal material design in composites: An iterative approach based on homogenized cells, Comput. Methods Appl. Mech. Engrg. 169 (1999), 31–42.

[Q114] D. Tiba: Lectures on the optimal control of elliptic equations, Lecture Notes 32, Univ. of Jyväskylä, 1996, 1–147.

[Q115] J. Toivanen: Fictitious domain method applied to shape optimization, Univ. of Jyväskylä, Dept. of Math., Report 77, 1997, 1–108.

[Q116] I. Tsukerman, J. D. Lavers, and A. Konrad: Using complementary formulations for accurate computations of magnetostatic fields and forces in a synchronous motor, IEEE Trans. Magnet. 30 (1994), 3479–3482.

[Q117] M. Vanmaele: Contribution to the theory of finite element methods for second-order elliptic eigenvalue problems, Paleis der Academiën, Brussel, 2001, 1–48.

[Q118] J. Velímský and Z. Martinec: Time-domain, spherical harmonic-finite element approach to transient three-dimensional geomagnetic induction in a spherical heterogeneous earth, Geophys. J. Internat. 161 (2005), 81–101.

[Q119] E. Vitásek: Základy teorie numerických metod pro řešení diferenciálních rovnic, Academia, Praha, 1994, (see p. 327).

[Q120] E. Vitásek: Variační metody (učební text), FAV ZČU, Plzeň, 1999.

[Q121] E. Vitásek: Vybrané kapitoly z teorie numerických metod pro řešení diferenciálních rovnic, ZČU, Plzeň, 2002, 1–145.

[Q122] L. B. Wahlbin: Lecture notes on superconvergence in Galerkin finite element methods, Cornell Univ., 1994, 1–243.

[Q123] L. B. Wahlbin: Superconvergence in Galerkin finite element methods, LN in Math., vol. 1605, Springer-Verlag, Berlin, 1995.

[Q124] S. W. Walker and M. J. Shelley: Shape optimization of peristaltic pumping, J. Copmut. Phys. 229 (2010), 1260–1291.

[Q125] S. Zhang: On the nested refinement of quadrilateral and hexahedral finite elements and the affine approximation, Numer. Math. 98 (2004), 559–579.

[Q126] S. Zhang, Y. Lin, and M. Rao: Numerical solutions for second-kind Volterra integral equations by Galerkin methods, Appl. Math. 45 (2000), 19–39.

[Q127] S. Zhang. Y. Lin, and M. Rao: Defect correction and a posteriori error estimation of Petrov-Galerkin methods for nonlinear Volterra integro-differential equations, Appl. Math. 45 (2000), 241–263.

[Q128] S. Zhang, T. Tang, Y. Lin, and M. Rao: Extrapolation and a-posteriori error estimators of Petrov-Galerkin methods for non-linear Volterra integro-differential equations, J. Comput. Math. 14 (2001), 407–422.

[Q129] H. Zheng, L. G. Tham, and D. F. Liu: Direct solution of near-symmetric matrices and its applications, Rock and Soil Mech. 27 (2006), 1880–1884.

[Q130] H. Zheng, H. C. Dai, and D. F. Liu: A variational inequality formulation for unconfined seepage problems in porous media, Appl. Math. Model. 33 (2009), 437–450.

[**A2**] **M. Křížek, P. Neittaanmäki, and R. Stenberg (eds)**, *Finite Element Methods: Fifty Years of the Courant Element*, Proc. Conf., Jyväskylä, 1993, LN in Pure and Appl. Math. vol. 164, Marcel Dekker, New York, 1994, 504 pp.

Cited in:

[Q131] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q132] E. G. D'yakonov: Effective numerical methods for solving elliptic problems in strengthened Sobolev spaces, Seventh Copper Mountain Conf. on Multigrid Methods, NASA Conf. Publ. 3339, Part I, Hampton, 1996, 199–212.

[Q133] E. G. D'yakonov: Optimization in solving elliptic problems, CRC Press, New York, 1996.

[Q134] Q. Lin: Tetrahedral or cubic mesh? Proc. Conf. Finite Element Methods: Three-dimensional Problems, Univ. of Jyväskylä, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 160–182.

[Q135] L. Liu: Finite element analysis of nonlinear heat conduction problems, Univ. of Jyväskylä, Dept. of Math., Report 75, 1997, 1–95.

[Q136] N. N. Yan and A. Zhou: Gradient recovery type a posteriori error estimate for finite element approximations on irregular meshes, Comput. Methods Appl. Mech. Engrg. 190 (2001), 4289–4299.

[Q137] T. Zhang, Y. P. Lin, and R. J. Tait: The derivative path interpolating recovery technique for finite element approximations, J. Comput. Math. 22 (2004), 113–122.

[Q138] Z. Zhang and N. N. Yan: Recovery type a posteriori error estimates in finite element methods, Korean J. Comput. Appl. Math. 8 (2001), 235–251.

[**A3**] **M. Křížek and P. Neittaanmäki**, *Mathematical and numerical modelling in electrical engineering: theory and applications*, Kluwer Academic Publishers, Dordrecht, 1996, 300 pp.

Cited in:

[Q139] W. Allegretto, Y. Lin, and A. Zhou: Numerical analysis for systems with memory arising from semiconductor simulations, Appl. Math. Comput. 105 (1999), 101–119.

[Q140] I. Antal and J. Karátson: A mesh independent superlinear algorithm for some nonlinear nonsymmetric elliptic systems, Comput. Math. Appl. 55 (2008), 2185–2196.

[Q141] O. Axelsson, I. Faragó, and J. Karátson: Sobolev space preconditioning for Newton's method using domain decomposition, Numer. Linear Algebra Appl. 9 (2002), 585–598.

[Q142] A. Bossavit: On the Lorenz gauge, COMPEL 18 (1999), 323–336.

[Q143] O. Davydov: Discrete maximum principles in finite element analysis, Master Thesis, Dept. of Math. Inform. Technology, Uviv. of Jyväskylä, 2003.

[Q144] L. T. Dechevsky: Near-degenerate finite element and lacunary multiresolution methods of approximation, Saint-Malo Proceedings (ed. by L. L. Schumaker), Vanderbit Univ. Press, 2000, 1–19.

[Q145] L. T. Dechevsky, W. L. Wendland: On lacunary multiresolution methods of approximation in Hilbert spaces, Proc. Curve and Surface Fitting: Saint Malo (ed. by A. Cohen, C. Rabut and L. L. Schumaker), Vanderbit Univ. Press, 2000, 1–10.

[Q146] L. T. Dechevski and W. L. Wendland: On the Bramble-Hilbert lemma, II: Model applications to quasi-interpolation and linear problems. Internat. J. Pure Appl. Math. 33 (2006), 465–501.

[Q147] L. T. Dechevsky and W. L. Wendland: On the Bramble-Hilbert lemma, II. Preprint 2007/002, Univ. Stuttgart, Berichte aus dem Inst. für Angewandte Anal. und Numer. Simulation, 2007, 1–67.

[Q148] I. Faragó: Numerical treatment of linear parabolic problems. MTA Doctor Thesis for the Hungarian Academy of Sciences, Eötvös Loránd University, Budapest, 2008.

[Q149] I. Faragó and J. Karátson: Gradient–finite element method for nonlinear Neumann problems, J. Appl. Anal. 7 (2001), 257–269.

[Q150] I. Faragó and J. Karátson: Infinite-dimensional preconditioning and Sobolev gradients for nonlinear elliptic problems, (submitted to Numer. Math.).

[Q151] I. Faragó and J. Karátson: Variable preconditioning via quasi-Newton methods for nonlinear problems in Hilbert space, SIAM J. Numer. Anal. 41 (2003), 1242–1262.

[Q152] I. Faragó and J. Karátson: Numerical solution of nonlinear elliptic problems via preconditioning operators: Theory and applications. Nova Science Publisher, New York, 2002.

[Q153] I. Faragó, S. Korotov, and T. Szabó: On modification of continuous and discrete maximum principles for reaction-diffusion problems, submitted to Adv. Appl. Math. Mech. in 2010, 1–12.

[Q154] Ch. Grossmann and H.-G. Roos: Numerische Behandlung partieller Differentialgleichungen, Teubner-Verlag, Wiesbaden, 2005.

[Q155] Ch. Grossmann, H.-G. Roos, and M. Stynes: Numerical treatment of partial differential equations, Springer-Verlag, Berlin, Heidelberg, 2007.

[Q156] W. Han and M. Sofonea: Quasistatic contact problems in viscoelasticity and viscoplasticity. Studies in Advanced Math., vol. 30, Amer. Math. Soc. and Internat. Press, New York, 2002.

[Q157] V. G. Hart: The hypercircle and J. L. Synge, Math. Proc. Roy. Irish Acad. 107 A (2007), 153–161.

[Q158] R. Horváth, I. Faragó, and W. Schilders: Iterative solution methods of the Maxwell equations using staggered grid spatial discretization. In: Conjugate Gradient Algorithms and Finite Element Methods, Springer-Verlag, Berlin, 2004, 211-221.

[Q159] J. Karátson: Gradient method in Sobolev spaces for nonlocal boundary-value problems. Electron. J. Differential Equations, No. 51 (2000), 17 pp.

[Q160] J. Karátson and I. Faragó: Sobolev space preconditioning for nonlinear mixed boundary value problems. In Large Scale Scientific Computing, LSSC 2001 (eds. S. Margenov, J. Wasniewski, P. Yalamov), Sozopol, LN Comput. Sci., vol 2179, Springer, 2001, 104–112.

[Q161] J. Karátson and I. Faragó: Variable preconditioning via quasi-Newton methods for nonlinear problems in Hilber space. SIAM J. Numer. Anal. 41 (2003), 1242–1262.

[Q162] J. Karátson and I. Faragó: Preconditioning operators and Sobolev gradients for nonlinear elliptic problems, Comput. Math. Appl. 50 (2005), 1077-1092.

[Q163] J. Karátson and S. Korotov: Discrete maximum principles for finite element solutions of nonlinear elliptic problems with mixed boundary conditions, Numer. Math. 99 (2005), 669–698.

[Q164] J. Karátson and S. Korotov: On the discrete maximum principles for finite element solutions of nonlinear elliptic problems. Proc. Conf. ECCOMAS 2004 (eds. P. Neittaanmäki et al), Univ. of Jyväskylä, 2004, 1–12.

[Q165] J. Karátson and S. Korotov: Discrete maximum principles for finite element solutions of some mixed nonlinear elliptic problems using quadratures, J. Comput. Appl. Math. 192 (2006), 75–88.

[Q166] J. Karátson and S. Korotov: Discrete maximum principles for FEM solutions of some nonlinear elliptic interface problems, Internat. J. Numer. Anal. Model. 6 (2009), 1–16.

[Q167] J. Karátson and S. Korotov: An algebraic discrete maximum principle in Hilbert space with applications to nonlinear cooperative elliptic systems, accepted by SIAM J. Numer. Anal. in 2009, 1–36.

[Q168] J. Karátson and S. Korotov: Sharp upper global a posteriori error estimates for nonlinear elliptic variational problems, Appl. Math. 54 (2009), 297–336.

[Q169] J. Karátson and L. Lóczi: Sobolev gradient preconditioning for the electrostatic potential equation, Comput. Math. Appl. 50 (2005), 1093–1104.

[Q170] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q171] S. Korotov: A posteriori error estimation of goal-oriented quantities for elliptic type BVPs, J. Comput. Appl. Math. 191 (2006), 216–227.

[Q172] S. Korotov: Two-sided a posteriori error estimates for linear elliptic problems with mixed boundary conditions, Appl. Math. 52 (2007), 235–249

[Q173] S. Korotov and J. Stańdo: Yellow-red and nonobtuse refinements of planar triangulations, Math. Notes, Miskolc 3 (2002), 39–46.

[Q174] S. Korotov and J. Stańdo: Quasi-red and quasi-yellow nonobtuse refinements of planar triangulations, submitted to Math. Notes Miskolc, 1–8.

[Q175] S. Korotov and J. Stańdo: Nonstandard nonobtuse refinements of planar triangulations, Proc. Conf. Finite Element Methods: Fifty Years of Conjugate Gradients, Univ. of. Jyväskylä, 2002, 101–112.

[Q176] L. Liu: Finite element analysis of nonlinear heat conduction problems, Univ. of Jyväskylä, Dept. of Math., Report 75, 1997, 1–95.

[Q177] D. Lukáš: Optimization in 3-dimensional linear magnetostatics, Proc. of the 10th Sympos. on Modern Math. Methods in Engineering (in Czech), Dolní Lomná, JČMF, Ostrava, 2001, 158–162.

[Q178] D. Lukáš: An efficient implementation of methods of sensitivity analysis in optimal shape design (in Czech), Proc. of the 11th Sympos. on Modern Math. Methods in Engineering, Dolní Lomná, JČMF, Ostrava, 2002, 157–162.

[Q179] D. Lukáš: On solution to an optimal shape design problem in 3-dimensional linear magnetostatics, Appl. Math. 49 (2004), 441–464.

[Q180] D. Lukáš: Optimal shape design in magnetostatics, Ph.D. Thesis, VŠB Ostrava, 2003, 1–130.

[Q181] D. Lukáš: On the road – between Sobolev spaces and a manufacture of electromagnets, Trans. of VSB, Comput. Sci. Math. Ser. 2 (2003), No.1 , 1–10.

[Q182] D. Lukáš, D. Coprian, and J. Pištora: O existenci řešení úlohy tvarové optimalizace ve 3-dimenzionální magnetostatice a numerické řešení, Sborní Software a algoritmy numerické matematiky, Maxov, 2002.

[Q183] J. Mlýnek: Matematické modely vedení tepla v elektrických strojích. Habilitační práce, Tech. Univ. Liberec, 2007.

[Q184] H.-G. Roos and H. Schwetlick: Numerische Mathematik, B. G. Teubner, Stuttgart, Leipzig, 1999.

[Q185] V. Sobotíková: Error estimates for nonlinear boundary value problems solved by nonconforming finite element methods, Habilitation Thesis, Faculty of Electrical Engineering, Czech Technical University, Prague, 2010.

[Q186] A. Šolcová: The founders of the conjugate gradient method, In: Conjugate Gradient Algorithms and Finite Element Methods, Springer, Berlin, 2004, 3–11.

[Q187] J. Stańdo: Issues of the finite element method in the context of automatic triangulation and numerical integration (in Polish), Ph.D. Thesis, Uviv. of Lodz, Poland, 2004.

[Q188] T. Tiihonen: Finite element approximation of nonlocal heat radiation problems. Math. Models and Methods in Appl. Sci. 8 (1998), 1071–1089.

[Q189] T. Vejchodský: Finite element approximation of a nonlinear parabolic heat conduction problem and a posteriori error estimators, Ph.D. Thesis, Faculty of Mathematics and Physics, Charles University, Prague, 2003.

[Q190] T. Vejchodský: On a posteriori error estimation strategies for elliptic problems, Proc. Internat. Conf. Presentation of Mathematics '05, TU Liberec, 2006, 373–386.

[Q191] W. Weikl, H. Andrä, and E. Schnack: An alternating iterative algorithm for the reconstruction of internal cracks in three-dimensional solid body. Inverse Problems 17 (2001), 1957–1975.

[A4] **M. Křížek, P. Neittaanmäki, and R. Stenberg (eds)**, *Finite Element Methods: Superconvergence, Postprocessing and A Posteriori Estimates*, Proc. Conf., Jyväskylä, 1996, LN in Pure and Appl. Math. vol. 196, Marcel Dekker, New York, 1998, 348 pp.

Cited in:

[Q192] J. H. Brandts: Superconvergence of a Galerkin boundary element method for the single layer potential using piecewise polynomial approximations, Bericht 98-10, Christian-Albrechts-Universität zu Kiel, 1998, 1-19

[Q193] J. H. Brandts: A posteriori error estimation and adaptivity in the method of lines with mixed finite elements, Appl. Math. 44 (1999), 407–419.

[Q194] J. H. Brandts: Superconvergence for triangular over $k = 1$ Raviart-Thomas mixed finite elements and for triangular standard quadratic finite element methods, Appl. Numer. Math. 34 (2000), 39–58.

[Q195] J. H. Brandts: Analysis of a non-standard mixed finite element method with applications to superconvergence, Appl. Math. 54 (2009), 225–235.

[Q196] J. Brandts and Y. Chen: Superconvregence of least-squares mixed finite elements, Internat. J. Numer. Anal. Model. 3 (2006), 303–310.

[Q197] G. F. Carey: Some further properties of the superconvergent flux projection, Comm. Numer. Methods Engrg. 18 (2002), 241–250.

[Q198] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q199] L. Du and N. N. Yan: Gradient recovery type a posteriori error estimate for finite element approximation on non-uniform meshes. Adv. Comput. Math. 14 (2001), 175–193.

[Q200] Ch. Grossmann and H.-G. Roos: Numerische Behandlung partieller Differentialgleichungen, Teubner-Verlag, Wiesbaden, 2005.

[Q201] Ch. Grossmann, H.-G. Roos, and M. Stynes: Numerical treatment of partial differential equations, Springer-Verlag, Berlin, Heidelberg, 2007.

[Q202] J. F. Hiller and K. J. Bathe: On higher-order-accuracy points in isoparametric finite element analysis and an application to error assessment. Comput. Struct. 79 (2001), 1275–1285.

[Q203] C. Huang and Z. Zhang: Polynomial preserving recovery for quadratic elements on anisotropic meshes, submitted to Numer. Methods Partial Differential Equations in 2009, 1–14.

[Q204] Q. Lin: Tetrahedral or cubic mesh? Proc. Conf. Finite Element Methods: Three-dimensional Problems, Univ. of Jyväskylä, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 160–182.

[Q205] Q. Lin and J. Lin: Finite elements methods: Accuracy and improvement, Science Press, Beijing, 2006.

[Q206] Q. Lin, H. Wang, and S. Zhang: Uniform optimal-order estimates for finite element methods for advection-diffusion equations, Jrl. Syst. Sci. & Complexity 22 (2009), 1–5.

[Q207] R. Lin: Natural superconvergence in two and three dimensional finite element methods, Dissertation, Wayne State Univ., Detroit, 2005, 1–240.

[Q208] R. Lin and Z. Zhang: Natural superconvergence points of triangular finite elements, Wiley Periodicals, 2004, 864–906.

[Q209] R. Lin and Z. Zhang: Derivative superconvergence of equilateral triangular finite elements, Contem. Math. 383 (2005), 299–310.

[Q210] R. Lin and Z. Zhang: Natural superconvergence points in three-dimensional finite elements, SIAM J. Numer. Anal. 46 (2008), 1281–1297.

[Q211] T. Lin and D. L. Russell: A superconvergent method for approximating the bending moment of elastic beams with hysteresis damping. Appl. Numer. Math. 38 (2001), 145–165.

[Q212] S. Mao and Z.-C. Shi: High accuracy analysis of two nonconforming plate element, Numer. Math. 111 (2009), 407–443.

[Q213] A. Naga and Z. Zhang: A posteriori error estimates based on the polynomial preserving recovery. SIAM J. Numer. Anal. 42 (2004), 1780–1800.

[Q214] A. Naga and Z. Zhang: The polynomial-preserving recovery for higher order finite element methods in 2D and 3D, Discrete Contin. Dyn. Syst. Ser. B 5 (2005), 769–798.

[Q215] J. E. Pask, B. M. Klein, P. A. Sterne, et al.: Finite-element methods in electronic-structure theory. Comput. Phys. Commun. 135 (2001), 1–34.

[Q216] S. I. Repin: A posteriori estimates of the accuracy of dimensional reduction models in 3-D elasticity theory. Proc. Conf. Finite Element Methods: Three-dimensional Problems, Univ. of Jyväskylä, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 240–253.

[Q217] H.-G. Roos and T. Linss: Gradient recovery for singularly perturbed boundary value problems I: One-dimensional convection-diffusion, Computing 66 (2001), 163–178.

[Q218] H.-G. Roos and T. Linss: Gradient recovery for singularly perturbed boundary value problems II: Two-dimensional convection-diffusion. Math. Models Methods Appl. Sci. 11 (2001), 1169–1179.

[Q219] Z. Xie and Z. Zhang: Superconvergence of DG method for one-dimensional singularly perturbed problems. J. Comput. Math. 25 (2007), 185–200.

[Q220] J. Xu and Z. Zhang: Analysis of recovery type a posteriori error estimators for mildly structured grids. Math. Comp. 73 (2004), 1139–1152.

[Q221] N. N. Yan: A posteriori error estimators of gradient recovery type for elliptic obstacle problems. Adv. Comput. Math. 15 (2001), 333–362.

[Q222] N. N. Yan: A posteriori error estimators of gradient recovery type for FEM of a model optimal control problem. Adv. Comput. Math. 19 (2003), 323–336.

[Q223] N. N. Yan: Superconvergence analysis and a posteriori error estimation in finite element methods, Ser. Inf. Comput. Sci., vol. 40, Science Press, Beijing, 2008.

[Q224] T. Zhang, Y. P. Lin, and R. J. Tait: The patch interpolating recovery technique and ultraconvergence, preprint, 2000, 1–17.

[Q225] T. Zhang, Y. P. Lin, and R. J. Tait: Superapproximation properties of the interpolation operator of projection type and applications, J. Comput. Math. 20 (2002), 277–288.

[Q226] T. Zhang and S. Zhang: Finite element derivative interpolation recovery technique and superconvergence, submitted to Appl. Math. in 2009, 1–18.

[Q227] Z. Zhang: Superconvergent finite element method on a Shiskin mesh for convection-diffusion problems. Report no. 98-006, Dept. of Math. and Statistics, Texas Tech. Univ., 1998, 1–30.

[Q228] Z. Zhang: A posteriori error estimates on irregular grids based on gradient recovery. Adv. Comput. Math. 15 (2001), 363–374.

[Q229] Z. Zhang: Derivative superconvergent points in finite element solution of harmonic functions – A theoretical justification, Math. Comp. 71 (2002), 1421–1430.

[Q230] Z. Zhang: Finite element superconvergence on Shishkin mesh for 2-D convection-diffusion problems, Math. Comp. 72 (2003), 1147–1177.

[Q231] Z. Zhang: Polynomial preserving gradient recovery and a posteriori estimate for bilinear element on irregular quadrilaterals, Internat. J. Numer. Anal. Model. 1 (2004), 1–24.

[Q232] Z. Zhang: Polynomial preserving recovery for anisotropic and irregular grids, J. Comput. Math. 22 (2004), 331–340.

[Q233] Z. Zhang: Polynomial preserving recovery for for meshes from Delaunay triangulation or with high aspect ratio, Numer. Methods Partial Differential Equations 23 (2007), 960–971.

[Q234] Z. Zhang and R. Lin: Locating natural superconvergent points of finite element methods in 3D, Internat. J. Numer. Anal. Model. 2 (2005), 19–30.

[Q235] Z. Zhang and R. Lin: Natural superconvergent points of triangular finite elements, Preprint Dept. of Math., Wayne State Univ., 2004, 1–39.

[Q236] Z. Zhang and R. Lin: Derivative superconvergence of equilateral triangular finite elements, submitted to AMS Contemporary Math. in 2004, 1–12.

[Q237] Z. Zhang and A. Naga: A new finite element gradient recovery method: superconvergence property, SIAM J. Sci. Comput. 26 (2005), 1192–1213.

[Q238] Z. Zhang and A. Naga: Natural superconvergent points of equilateral triangular finite elements – A numerical example, J. Comput. Math. 24 (2006), 19–24.

[Q239] Z. Zhang, N. N. Yan, and T. Sun: Superconvergent derivative recovery for the intermediate finite element family of the second type. IMA J. Numer. Anal. 21 (2001), 643–665.

[Q240] Q. D. Zhu: Superconvergence analysis for a high-degree triangular element of the finite element method, preprint, Hunan Normal Univ., Changsha, 1999, 1–16.

[Q241] Q. D. Zhu: Superconvergence points of two different kinds: a counterexample, preprint, 2000, 1–14.

[Q242] Q. D. Zhu: High accuracy and the theory of post-processing of the finite element method, Science Press, Beijing, 2008.

[Q243] Q. D. Zhu and Q. H. Zhao: New discussions for finite element superconvergence, Advances in Math. (China), 33:4 (2004), 453–466.

[**A5**] **M. Křížek, F. Luca, and L. Somer**, *17 lectures on the Fermat numbers: From number theory to geometry*, CMS Books in Mathematics, vol. 9, Springer-Verlag, New York, 2001, 2011, xxiv+257 pp.

Cited in:

[Q244] C. Caldwell: The prime glossary, 2002. `http://primes.utm.edu/glossary/home.php`

[Q245] A. Chaumont and T. Müller: All elite primes up to 250 billions, J. Integer Seq. 9 (2006), Article 06.3.8, 1–5.

[Q246] G. Everest, A. van der Poorten, I. Shparlinski, and T. Ward: Exponential functions, linear recurrence sequences, and their applications, AMS, 2002. `http://www.mth.uea.ac.uk/sequences/`

[Q247] J. M. Grau and A. M. Oller-Marcén: An $\tilde{O}(\log^2(N))$ time primality test for generalized Cullen Numbers, arXiv: 1007.0929v1 [math.NT] 6 Jul 2010,

[Q248] M. Hardy and C. Woodgold: Prime simplicity, Math. Intelligencer 31 (2009), 44–52.

[Q249] E. Hobst, M. Hobstová: Carl Fierdrich Gauss – zalkadadeľ modernej matematiky, Pokroky Mat. Fyz. Astronom. 52 (2007), 296–307.

[Q250] E. J. Ionascu: Number Theory-Lecture Notes, 2007, 1–42.

[Q251] J. H. Jaroma and K. N. Reddy: Classical and alternative approaches to the Mersenne and Fermat numbers, Amer. Math. Monthly 114 (2007), 677–687.

[Q252] F. Katrnoška: Latinské čtverce a genetický kód, Pokroky Mat. Fyz. Astronom. 52 (2007), 177–187.

[Q253] M. Klazar: Prvočísla obsahují libovolně dlouhé posloupnosti, Pokroky Mat. Fyz. Astronom. 49 (2004), 177–187.

[Q254] J. Kramer-Miller: Structural properties of power digraphs modulo n, Preprint, Rose-Hulman Institute of Technology, 2009, 1–19.

[Q255] C. Lathrop and L. Stemkoski: Parallel in the work of Leonhard Euler and Thomas Clausen. In Euler at 300: an appreciation (ed. by R. E. Bradley, L. A. D'Antonio, C. E. Sandifer), Math. Assoc. Amer., Washington D.C., 2007, 217–225.

[Q256] X. Li: Verifying two conjectures on generalized elite primes, J. Integer. Seq. 12 (2009), Article 09.4.7, 1–13.

[Q257] J. Mlýnek: Informační bezpečnost, Pokroky Mat. Fyz. Astronom. 51 (2006), 89–98.

[Q258] J. Mlýnek: Zabezpečení obchodních informací, Computer Press, Brno, 2007.

[Q259] T. Müller and A. Reinhart: On generalized elite primes, J. Integer Seq. 11 (2008), issue 3, article no. 08.3.1.

[Q260] Z. Polický: Některé aplikace Malé Fermatovy věty. Sborník 3. konference o matematice a fyzice na vysokých školách technických, VA Brno, 2003, 130–134.

[Q261] P. Ribenboim: The little book of bigger primes, Second Edition, Springer-Verlag, New York, 2004, p. 75.

[Q262] T. Rike: Fermat numbers and the heptadecagon, Berkeley Math. Circle, Nov. 29, 2005, 1–4.

[Q263] A. Rotkiewicz: Lucas and Frobenius pseudoprimes, Proc. of the 10th Internat. Conf. on Fibonacci Numbers and their Applications, Flagstaff, Arizona, Kluwer, 2002, 1–21.

[Q264] C. Schick: Weiche Primzahlen und das 257-Eck: eine analytische Lösung des 257-Ecks, C. Schick, Zürich, 2008.

[Q265] J. Skowronek-Kaziów: Properties of digraphs connected with some congruences relations, Czechoslovak Math. J. 59 (2009), 39–49.

[Q266] J. Skowronek-Kaziów: Some digraphs arising from number theory and remarks on the zero-divisor graph of the ring Z_n, Inform. Process. Lett. 108 (2008), 165–169.

[Q267] N. J. A. Sloane: The on-line encyclopaedia of integer sequences, 2007, A000215, A023394, A152153, A152154, A152155, A152156, A121270, published eletronically at `http://www.research.att.com/~njas/seque`

[Q268] A. Šolcová: D'Artagnan mezi matematiky — pocta Pierru Fermatovi k 400. výročí narození, Pokroky Mat. Fyz. Astronom. 46 (2001), 286–298.

[Q269] A. Šolcová: Fermatův odkaz, Cahiers du CEFRES 28 (2002), 173–202.

[Q270] A. Šolcová: Further Development of Fermat's ideas in Connection with Applied Mathematics in Engineering, Ph.D. Thesis, Czech Technical Univesrity, Prague, 2005, 1–115.

[Q271] E. W. Weisstein: Fermat number, MathWorld – A Wolfram Web Resource, CRC Press LLC, 1999–2006. Also in: `http://mathworld.wolfram.com/FermatNumber.html`

[Q272] E. W. Weisstein: Trigonometric angles. MathWorld – A Wolfram Web Resource, CRC

Press LLC, 1999–2006. Also in: `http://mathworld.wolfram.com/TrigonometryAngles.html`

[Q273] L. Xiaoqin: Verifying two conjectures on generalized elite primes, J. Integer Seq. 12 (2009), article nr. 7.

[Q274] E. V. Zima and A. M. Steward: Cunningham numbers in modular arithmetics, Programming and Computer Software 33 (2007), 80–86.

[Q275] Wikipedia, the free encyclopedia, `http://en.wikipedia.org/wiki/fermat`$_n$*umber*

[**A7**] **S. Koukal, M. Křížek, and R. Potůček**, *Fourierovy trigonometrické řady a metoda konečných prvků v komplexním oboru*, Academia, Praha, 2002, 273 pp.

Cited in:

[Q276] M. Kočandrlová: Geo-matematika II (skripta), ČVUT, Fakulta stavební, Praha, 2008.

[Q277] J. Mlýnek: Matematické modely vedení tepla v elektrických strojích. Habilitační práce, Tech. Univ. Liberec, 2007.

[Q278] A. Šolcová: Fourierův odkaz dnešku. Sborník semináře: Matematika na vysokých školách, Herbertov, JČMF, 2003, 71–76.

[**A8**] **A. Šolcová, M. Křížek, and G. Mink (eds)**, *Matematik Pierre de Fermat*, Cahiers du CEFRES, vol. 28, Praha, 2002, 209 pp.

Cited in:

[Q279] Z. Polický: Některé aplikace Malé Fermatovy věty. Sborník 3. konference o matematice a fyzice na vysokých školách technických, VA Brno, 2003, 130–134.

[**A9**] M. Křížek, P. Neittaanmäki, R. Glowinski, S. Korotov (eds.), *Conjugate Gradient Algorithms and Finite Element Methods*, Scientific Computation, Springer-Verlag, Berlin, 2004, xv + 382 pp.

Cited in:

[Q280] J. R. Diebel, S. Thrun, and M. Brünig: A Bayesian method for probable surface reconstruction and decimation, ACM Trans. on Graphics 25 (2006), 39–59.

[Q281] J. Ha and S. Gutman: Parameter estimation problem for a damped sine-Gordon equation (submitted in 2006).

[Q282] M. A. Olshanski: Multigrid and iterative methods homogeneous with respect to parameter, Doctoral dissertation, Moscow State Univ., (in Russian), 2006.

[**A13**] **M. Křížek, J. Šolc, A. Šolcová (eds.)**, *600 let pražského orloje*, Proc. Conf., Karolinum, Prague, 2010, Special Issue of Pokroky Mat. Fyz. Astronom. No. 4, vol. 54, Union of Czech Mathematicians and Physicists, 2009, 112 pp.

Cited in:

[Q283] D. Knespl: Oslavte 600 let pražského orloje a připňete si orloj na zápěstí, Watch it! 2010, č. 3.

[**A14**] **A. Šolcová, M. Křížek**, *Cesta ke hvězdám i do nitra molekul: Osudy Vladimíra Vanda, konstruktéra počítačů*, Inst. of Math., Acad. Sci., Prague, 2011, 208 + XVI pp.

Cited in:

[Q284] H. Durnová: Matematikové u matematických strojů, Pokroky Mat. Fyz. Astronom. 56 (2011), no. 2.

[**B1**] **M. Křížek**, *Conforming equilibrium finite element methods for some elliptic plane problems*, RAIRO Anal. Numér. **17** (1983), 35–65.

Cited in:

[Q285] H. Behnke: Die Bestimmung von Eigenwertschranken mit Hilfe von Variationsmethoden und Intervallarithmetik (Dissertation), Tech. Univ. Clausthal, 1989, 1–121.

[Q286] H. Behnke: Calculation of bounds for sloshing frequencies with the use of finite elements, Z. Angew. Math. Mech. 67 (1987), T347–T349.

[Q287] J. Dvořák: Aspects of the mathematical modelling and the optimal design of composite materials (doktorandská disertační práce), MFF UK, Praha, 1998, 1–130.

[Q288] I. Hlaváček: Řešení variačních nerovnic metodou konečných prvků na základě duálních variačních formulací (doktorská disertační práce), MÚ ČSAV, Praha, 1983, 1–34.

[Q289] I. Hlaváček: Dual finite element analysis for some elliptic variational equations and inequalities, Acta Appl. Math. 1 (1983), 121–150.

[Q290] Z. Kestřánek: Řešení evoluční variační nerovnice teorie plasticity s isotropním zpevněním deformací metodou konečných prvků (kandidátská disertační práce), Praha, 1982, 1–72.

[Q291] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q292] N. Parés, H. Santos, and P. Díez: Guaranteed energy error bounds for the Poisson equation using a flux-free approach: Solving the local problems in subdomains, Internat. J. Numer. Methods Engrg. 79 (2009), 1203–1244.

[Q293] J. E. Roberts and J. M. Thomas: Mixed and hybrid methods, Handbook of Numer. Anal., vol. II, (ed. P. G. Ciarlet, J. L. Lions), North-Holland, Amsterdam, 1991, (see p. 620).

[Q294] P. Stříbný: A posteriori error estimate for solving the Dirichlet problem for a second order elliptic equation by the finite element method (in Czech), Mgr. Thesis, MFF UK, Prague, 1983, 1–38.

[Q295] H. Strese: A new simple method for improving the boundary element method, Engineering Anal. 2 (1985), 26–30.

[Q296] T. Vejchodský: Local a posteriori error estimator based on the hypercircle method, Proc. Conf. ECCOMAS 2004, Univ. of Jyväskylä, 1–16.

[Q297] T. Vejchodský: Fast and guaranteed a posteriori error estimator, Proc. Seminar Programs and Algorithms of Numerical Mathematics 12 (eds. J. Chleboun, P. Přikryl, and K. Segeth), Dolní Maxov, Mathematical Institute, Prague, 2004, 257–272.

[Q298] T. Vejchodský: Guaranteed and locally computable a posteriori error estimate, IMA J. Numer. Anal. 26 (2006), 525–540.

[Q299] T. Vejchodský: Complementarity – the way towards guaranteed error estimates Proc. Programs and Algorithms of Numer. Math. 15 (ed. T. Vejchodský), Inst. of Math., Prague, 2010, 205–220.

[Q300] M. Vondrák: Desková analogie v teorii a praxi rovnovážných modelů konečných prvků pro rovinné úlohy pružnosti a plasticity (kandidátská disertační práce), Praha, 1982, 1–114.

[Q301] M. Vondrák: Slab analogy in theory and practice of conforming equilibrium stress models for finite element analysis of plane elastostatics, Apl. Mat. 30 (1985), 187–217.

[Q302] M. Vondrák: Několik poznámek k matematickým a fyzikálním aspektům metody konečných prvků a variační formulaci okrajových eliptických problémů, Zpravodaj VZLÚ 2(1991), 69–85.

[Q303] J. Wiesz: A posteriori error estimate of approximate solutions to a mildly nonlinear elliptic boundary value problem, Comment. Math. Univ. Carolin. 31 (1990), 315–322.

[Q304] J. Weisz: Aposteriórny odhad chyby približného riešenia okrajových úloh pre niektoré typy nelineárnych eliptických parciálych diferenciálnych rovníc (kandidátska dizertačná práca), MFF UK, Bratislava, 1990, 1–64.

[Q305] J. Weisz: On a-posteriori error estimate of approximate solutions to a mildly nonlinear nonpotential elliptic boundary value problem, Math. Nachr. 153 (1991), 231–236.

[Q306] J. Weisz: A posteriori error estimate of approximate solutions to a nonlinear elliptic boundary value problem, Acta Math. Univ. Comenian. LVIII-LIX (1991), 189–205.

[Q307] J. Weisz: A posteriori error estimate of approximate solutions to a special nonlinear elliptic boundary value problem, Z. Angew. Math. Mech. 75 (1995), 79–81.

[**B2**] **M. Křížek and P. Neittaanmäki**, *On the validity of Friedrichs' inequalities*, Math. Scand. **54** (1984), 17–26.

Cited in:

[Q308] E. Creuse and S. Nicaise: Discrete compactness for a discontinuous Galerkin approximation of Maxwell's system, ESAIM Math. Model. Numer. Anal., 40 (2006), 413–430.

[Q309] M. Costabel, M. Dauge: Singularities of electromagnetic fields in polyhedral domains. Arch. Ration. Mech. Anal. 151 (2000), 221–276.

[Q310] H. Y. Duan and G. P. Liang: On the velocity-pressure-vorticity least-squares mixed finite element method for the 3D Stokes equation, SIAM J. Numer. Anal. 41 (2003), 2114–2130.

[Q311] S. Q. Gao: Least-squares mixed finite element methods for incompressible magnetohydrodynamic equations, J. Comput. Math. 23 (2005), 327–336.

[Q312] T. Giorgi and R. G. Smiths: Gauge uniqueness of solutions to the Ginzburg-Landau system for small superconducting domains, SIAM J. Math. Anal. 42 (2010), 163–182.

[Q313] T. Kärkkäinen: Recovery of scalar-diffusion form the distributed observation by minimizing the dual norm. Report 16/1996. Univ. of Jyäskylä, 1996, 1–20.

[Q314] T. Kärkkäinen: An equation error method to recover diffusion form the distributed observation. Inverse Problems 13 (1997), 1033–1051.

[Q315] U. Kangro and R. Nicolaides: Divergence boundary conditions for vector Helmholtz equations with divergence constraints. RAIRO Modèl. Math. Anal. Numér. 33 (1999), 479–492.

[Q316] P. Monk: Finite element methods for Maxwell's equations, preprint, 1996, 1–13.

[Q317] P. Monk and L. Demkowicz: Discrete compactness and the approximation of Maxwell's equations in R^3, Math. Comp. 70 (2001), 507–523.

[Q318] P. Monk and S. Y. Zhang: Multigrid computation of vector potentials. J. Comput. Appl. Math. 62 (1995), 301–320.

[Q319] A. I. Pehlivanov and G. F. Carey: Error estimates for least-squares mixed finite elements, RAIRO Modèl. Math. Anal. Numér. 28 (1994), 499–516.

[Q320] A. I. Pehlivanov, G. F. Carey, and P. S. Vassilevski: Least-squares mixed finite element methods for non-selfadjoint elliptic problems: I. Error estimates, Numer. Math. 72 (1996), 501–522.

[B3] **M. Křížek and P. Neittaanmäki**, *Superconvergence phenomenon in the finite element method arising from averaging gradients*, Numer. Math. **45** (1984), 105–116.

Cited in:

[Q321] G. D. Andreasyan: Superconvergence of averaged gradients on an irregular mesh in the finite element method, (Russian), Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet, no. 2 (1987), 11–16.

[Q322] A. B. Andreev and R. D. Lazarov: Superconvergence of the gradient for quadratic triangular finite elements, Numer. Methods Partial Differential Equations 4 (1988), 15–32.

[Q323] I. Babuška, L. Planck, and R. Rodríguez: Basic problems of a posteriori error estimation, Comput. Methods Appl. Mech. Engrg. 101 (1992), 97–112.

[Q324] I. Babuška, T. Strouboulis, S. K. Gangaraj, and C. S. Upadhyay: Validation of recipes for the roceovery of stresses and derivatives by a computer-based approach, Math. Comput. Model. 20 (1994), 45–89.

[Q325] I. Babuška, T. Strouboulis, and C. S. Upadhyay: η%-superconvergence of finite element approximations in the interior of general meshes of triangles. Comput. Methods Appl. Mech. Engrg. 122 (1995), 273–305.

[Q326] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Study of superconvergence by a computer-based approach. Superconvergence of the gradient in finite element solutions of Laplace's and Poisson's equations, CMC Report No. 93-07, Texas A&M Univ., 1993, 1–59.

[Q327] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Study of superconvergence by a computer-based approach. Superconvergence of the gradient of the displacement, the strain and stress in finite element solutions for plane elasticity. Technical Note BN-1166, Univ. of Maryland, 1994, 1–41.

[Q328] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Computer-based proof of the existence of superconvergence points in the finite element method; superconvergence of the derivatives in finite element solutions of Laplace's, Poisson's, and elasticity equations. Numer. Methods Partial Differential Equations 12 (1996), 347–392.

[Q329] C. M. Chen: Element analysis method and superconvergence, Proc. Conf. Finite Element Methods: Superconvergence, Post-processing and A Posteriori Estimates, Univ. of Jyväskylä, 1996, Marcel Dekker, New York, 1998, 71–84.

[Q330] C. M. Chen: Two classes of superconvergence in finite element methods. Proc. of China-Sweden Seminar on Numer. Math., Oct. 1997, 1–9.

[Q331] C. M. Chen: Some problems on superconvergence in finite element methods, Preprint Hunan Normal Univ., Changsha, 1999, 1–14.

[Q332] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q333] C. M. Chen: Orthogonality correction technique in superconvergence analysis, Internat. J. Numer. Anal. Model. 2 (2005), 31–42.

[Q334] C. M. Chen and Y. Q. Huang: High accuracy theory of finite element methods (in Chinese), Hunan Science and Technology Press, Changsha, 1995.

[Q335] C. M. Chen and J. Q. Liu: Superconvergence of the gradient of triangular linear element in general domain, Natur. Sci. J. Xiangtan Univ. 9 (1987), 114–127.

[Q336] H. S. Chen and J. P. Wang: An interior estimate of superconvergence for finite element solutions for second-order elliptic problems on quasi-uniform meshes by local projections, SIAM J. Numer. Anal. 41 (2003), 1318–1338.

[Q337] L. Chen and H. Li: Superconvergence of gradient recovery schemes on graded meshes for corner singularities, J. Comput. Math. 28 (2010), 11–31.

[Q338] Y. P. Chen: Superconvergent recovery of gradients of piecewise linear finite element approximations on non-uniform mesh partitions. Numer. Methods Partial Differential Equations 14 (1998), 169–192.

[Q339] P. G. Ciarlet: Basic error estimates for elliptic problems, Handbook of Numer. Anal., vol. II. (ed. P. G. Ciarlet, J. L. Lions), North-Holland, Amsterdam, 1991, (see p. 181).

[Q340] J. Chleboun: An application of the averaged gradient technique, In Programs and Algorithms of Numer. Math. 14, Inst. of Math., Prague, 2008, 65–70.

[Q341] J. Dalík: Quadratic interpolation in vertices of planar triangulations and an application, preprint, VUT Brno, 2004, 1–31.

[Q342] J. Dalík: Optimal-oder quadratic interpolation in vertices of unstructured triangulations, Appl. Math. 53 (2008), 547–560.

[Q343] J. Dalík: Approximations of the partial derivatives by averaging, submitted to Math.

Comput. Simulation in 2009, 1–10.

[Q344] J. Dalík: Averaging of directional derivatives in vertices of nonobtuse regular triangulations, Numer. Math. 116 (2010), 619–644.

[Q345] J. Dalík: Complexity of the method of averaging, Proc. Programs and Algorithms of Numer. Math. 15 (ed. T. Vejchodský), Inst. of Math., Prague, 2010, 65–77.

[Q346] R. Durán, M. A. Muschietti, and R. Rodríguez: On the asymptotic exactness of error estimators for linear triangular finite elements, Numer. Math. 59 (1991), 107–127.

[Q347] M. El Hatri: Superconvergence in finite element method for a degenerated boundary value problem, Proc. Conf. Constructive Theory of Functions 84, Izd. Bulg. Acad. Sci., Sofia, 1984, 328–333.

[Q348] M. El Hatri: Estimation de l'erreur de la méthode des éléments finis avec integration numérique pour un problème aux limites dégénéré (Thesis), Fac. de Math. et Mécanique, Univ. Sofia, 1985.

[Q349] M. El Hatri: Estimation d'erreur optimale et de type superconvergence de la méthode des éléments finis pour un problème aux limites dégénéré, RAIRO Modèl. Math. Anal. Numér. 21 (1987), 27–61.

[Q350] P. E. Farrell, S. Micheletti, and S. Perotto: An anisotropic Zienkiewicz-Zhu-type error estimator for 3D applications, Internat. J. Numer. Methods Engrg. 85 (2011), 671–692.

[Q351] H. T. Huang and Z. C. Li: Effective condition number and superconvergence of the Trefftz method coupled with high order FEM for singularity problem, Engrg. Anal. with Boundary Elements 30 (2006), 270–283.

[Q352] L. P. Franca: On the superconvergence of the satisfying Babuška-Brezzi method, Internat. J. Numer. Methods Engrg. 29 (1990), 1715–1726.

[Q353] G. Goodsell: Pointwise superconvergence of the gradient for the linear tetrahedral element. Numer. Methods Partial Differential Equations 10 (1994), 651–666.

[Q354] G. Goodsell and J. R. Whiteman: A unified treatment of superconvergent recovered gradient functions for piecewise linear finite element approximations, Internat. J. Numer. Methods Engrg. 27 (1989), 469–481.

[Q355] A. Hannukainen and S. Korotov: Techniques for a posteriori error estimation in terms of linear functionals for elliptic type boundary value problems, Far East J. Appl. Math. 21 (2005), 289–304.

[Q356] B. O. Heimsund, X. C. Tai, and J. Wang: Superconveregnce for the gradient of finite element approximations by L^2-projections, SIAM J. Numer. Anal. 40 (2002), 1263–1280.

[Q357] H. T. Huang: Global superconvergence of finite element methods for elliptic equations, Ph.D. Thesis, Dept. Appl. Math., Nat. Sun Yan-set Univ., Kaohsiung, Taiwan, 2003, 1–170.

[Q358] H. T. Huang and Z. C. Li: Global superconvergence of Adini's elements coupled with the Trefftz method for singular problem, Engrg. Anal. with Boundary Elements 27 (2003), 227–240.

[Q359] H. T. Huang, Z. C. Li, and A. Zhou: New error estimates of biquadratic Lagrange elements for Poisson's equation, Appl. Numer. Math. 56 (2006), 712–744.

[Q360] V. Kantchev: Superconvergence of the gradient for linear finite elements for nonlinear elliptic problems, Proc. of the Second Internat. Sympos. on Numer. Anal., Prague, 1987, Teubner-Texte zur Mathematik, Band 107, Teubner, Leipzig, 1988, 199–204.

[Q361] V. Kantchev and R. D. Lazarov: Superconvergence of the gradient of linear finite elements for 3D Poisson equation, Proc. Internat. Conf. Optimal Algorithms (ed. B. Sendov), Blagoevgrad, 1986, Izd. Bulg. Akad. Nauk, Sofia, 1986, 172–182.

[Q362] A. Kliková: Finite volume–finite element solution of compressible flow, Ph.D. Thesis, Charles Univ., Prague, 2000, 1–188.

[Q363] K. Kolman: Superconvergence by the Steklov averaging in the finite element method, Appl. Math. (Warsaw) 32 (2005), 477–488.

[Q364] K. Kolman: Higher-order approximations in the finite element method, Ph. D. Thesis, Charles Univ., Prague, 2010.

[Q365] S. Korotov: A posteriori error estimation of goal-oriented quantities for elliptic type BVPs, J. Comput. Appl. Math. 191 (2006), 216–227.

[Q366] S. Korotov: A posteriori estimates for error control in terms of linear functionals for linear elasticity, submitted to Appl. Math. in 2005, 1–18.

[Q367] S. Korotov and P. Turchyn: A posteriori error estimation of "quantities of interest" on tetrahedral meshes, Proc. Conf. ECCOMAS, 2004.

[Q368] S. Korotov and P. Turchyn: A posteriori error estimation of goal-oriented quantities for elliptic type BVPs, Internat. Conf. of Comput. Methods in Sci. and Engrg., ICCMSE - 2004, Athens, Lecture Series on Computer and Computational Sciences, vol. 1, (eds. T. Simon and G. Maroulis) VSP, Utrecht, 2004, 269–273.

[Q369] D. Kuzmin: Numerical simulation of reactive bubbly flows. Jyväskylä Studies in Computing 2 (1999), 1–109.

[Q370] A. M. Lakhany, I. Marek, and J. R. Whiteman: Superconvergence results on mildly stuctured triangulations, Comput. Methods Appl. Mech. Engrg. 189 (2000), 1–75.

[Q371] A. M. Lakhany and J. R. Whiteman: Superconvergent recovery operators: derivative recovery techniques, In: Finite Element Methods: Superconvergence, Postprocessing and A Posteriori Estimates, LN in Pure and Appl. Math. vol. 196, Marcel Dekker, New York, 1998, 195–215.

[Q372] N. Levine: Superconvergent recovery of the gradient from piecewise linear finite-element approximations, IMA J. Numer. Anal. 5 (1985), 407–427.

[Q373] N. Levine: Superconvergent estimation of the gradient from linear finite element approximations on triangular elements. Numerical Analysis Report No. 3/85, Univ. of Reading, 1985, 1–202.

[Q374] Z. C. Li: Superconvergence of coupling techniques in combined methods for elliptic equations with singularities, Comput. Math. Appl. 41 (2001), 379–398.

[Q375] Z. C. Li: Penalty combinations of the Ritz-Galerkin and finite difference methods for singularity problems, J. Comput. Appl. Math. 81 (1997), 1–17.

[Q376] Z. C. Li: Global superconvergence of simplified hybrid combinations for elliptic equations with singularities, I. Basic theorem, Computing 65 (2000), 27–44.

[Q377] Z. C. Li and H. T. Huang: Global superconvergence of simplified hybrid combinations of the Ritz-Galerkin and FEMs for elliptic equations with singularities, II. Lagrange elements and Adini's elements, Appl. Numer. Math. 43 (2002), 253–273.

[Q378] Z. C. Li, H. T. Huang, and J. Huang: Stability analysis and superconvergence for the penatly Trefftz method coupled with FEM for singularity problems, Engrg. Anal. with Boundary Elements 31 (2007), 631–645.

[Q379] Z. C. Li, Q. Lin, and N. N. Yan: Global superconvergence in combinations of Ritz-Galerkin-FEM for singularity problems, J. Comput. Appl. Math. 106 (1999), 325–344.

[Q380] Z. C. Li and T. T. Lu: Global superconvergence of finite element methods for biharmonic equations and blending surfaces, Comput. Math. Appl. 44 (2002), 413–437.

[Q381] Z. C. Li, T. Yamamoto, and Q. Fang: Superconvergence of solution derivatives for the Shortley-Weller difference approximation of Poisson's equation, Part I: Smoothness problems, J. Comput. Appl. Math. 151 (2003), 307–333.

[Q382] Z. C. Li and N. N. Yan: New error estimates of bi-cubic Hermite finite element methods for biharmonic equations, J. Comput. Appl. Math. 142 (2002), 251–285.

[Q383] Q. Lin: Tetrahedral or cubic mesh? Proc. Conf. Finite Element Methods: Three-dimensional Problems, Univ. of Jyväskylä, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 160–182.

[Q384] Q. Lin and T. Lu: Asymptotic expansions for finite element approximation of elliptic problem on polygonal domains, Proc. Internat. Conf. Comput. Methods in Appl. Sci. and Engrg. VI, Versailles, 1983 (ed. R. Glowinski and J.-L. Lions), Elsevier, 1984, 317–321.

[Q385] Q. Lin and N. N. Yan: The construction and analysis for efficient finite elements (Chinese), Hebei Univ. Publ. House, 1996.

[Q386] G. Maisano, S. Micheletti, S. Perotto et al.: On some new recovery-based a posreriori error estimators, Comput. Methods Appl. Mech. Engrg. 195 (2006), 4794–4815.

[Q387] S. Micheletti and S. Perotto: Anisotropic recovery-based error estimator, Proc. Internat. Conf. ENUMATH 2001, Jyväskylä, 731–742.

[Q388] S. Micheletti and S. Perotto: Reliability and efficiency of an anisotropic Zienkiewicz-Zhu error estimator, Comput. Methods Appl. Mech. Engrg. 195 (2006), 799–835.

[Q389] A. A. Naga: On recovery-type a posteriori error estimators in adaptive C^0 Galerkin finite element methods, Dissertation, Wayne State Univ., Detroit, 2004.

[Q390] M. T. Nakao: Some superconvergence for a Galerkin method by averaging gradients in one dimensional problems, J. Inform. Process. 9 (1986), 130–134.

[Q391] M. T. Nakao: Superconvergence of the gradient of Galerkin approximations for elliptic problems, J. Comput. Appl. Math. 20 (1987), 341–348.

[Q392] M. T. Nakao: Superconvergence of the gradient of Galerkin approximations for elliptic problems, RAIRO Modèl. Math. Anal. Numér. 21 (1987) 679–695.

[Q393] D. Omeragic and P. P. Silvester: Numerical differentiation in magnetic field postprocessing. Internat. J. Numer. Model. El. 9 (1996), 99–113.

[Q394] M. Picasso, F. Alauzet, H. Borouchaki, and P.-L. George: A numerical study of some Hessian recovery techniques on isotropic and anisotropic meshes, accepted by SIAM J. Sci. Comput. in 2010, 1–19.

[Q395] T. Regińska: Superconvergence of external approximation for two-point boundary value problems, Apl. Mat. 32 (1987), 25–36.

[Q396] S. Repin, S. Sauter, and A. Smolianski: Two-sided a posteriori error estimates for mixed formulations of elliptic problems, SIAM J. Numer. Anal. 45 (2007), 928–945.

[Q397] R. Rodríguez: Some remarks on Zienkiewicz-Zhu estimator, Numer. Methods Partial Differential Equations 10 (1994), 625–635.

[Q398] R. Rodríguez: A-posteriori error analysis in the finite element method. Proc. Conf. Finite Element Methods: Fifty Years of the Courant Element, Marcel Dekker, Inc., New York, 1994, 389–397.

[Q399] L. H. Shen and A. Zhou: A defect correction scheme for finite element eigenvalues with applications to quantum chemistry, SIAM J. Sci. Comput. 28 (2006), 321–338.

[Q400] A. Smolianski: Numerical modelling of two-fluid interfacial flows. Jyväskylä Studies in Computing 8 (2001), 1–109.

[Q401] A. Smolianski: Finite-element/level-set/operator-splitting (FELSOS) approach for computing two-fluid unsteady flows with free moving interfaces, Internat. J. Numer. Methods Fluids 48 (2005), 231–269.

[Q402] S. I. Sololev: Superconvergence of finite-element approximations of eigenfunctions, Differential Equations 30 (1994), 1138–1146.

[Q403] V. Thomée, J. Xu, and N. Zhang: Superconvergence of the gradient in piecewise linear finite element approximation to a parabolic problem, SIAM J. Numer. Anal. 26 (1989), 553–573.

[Q404] T. Tsuchiya: Finite element approximations of conformal mappings, Numer. Funct. Anal. Optim. 22 (2001), 419–440.

[Q405] L. B. Wahlbin: Local behaviour in finite element methods. Handbook of Numer. Anal., vol. II. (ed. P. G. Ciarlet, J. L. Lions), North-Holland, Amsterdam, 1991, (see p. 508).

[Q406] L. B. Wahlbin: Lecture notes on superconvergence in Galerkin finite element methods, Cornell Univ., 1994, 1–243.

[Q407] L. B. Wahlbin: Superconvergence in Galerkin finite element methods, LN in Math., vol. 1605, Springer-Verlag, Berlin, 1995.

[Q408] M. F. Wheeler and J. R. Whiteman: Superconvergent recovery of gradients on subdomains from piecewise linear finite-element approximations, Numer. Methods Partial Differential

Equations 3 (1987), 65–82, 357–374.

[Q409] J. R. Whiteman and G. Goodsell: Superconvergent recovery for stresses from finite element approximations on subdomains for planar problems of linear elasticity, In: The Mathematics of Finite Elements and Applications VI (ed. J. R. Whiteman), 1987, Academic Press, London, 1988, 29–53.

[Q410] J. R. Whiteman and G. Goodsell: Some gradient superconvergence results in the finite-element method, LN in Math., vol 1397, 1989, 182–260.

[Q411] R. Wohlgemuth: Superkonvergenz des Gradienten im Postprocessing von Finite-Elemente-Methoden, Preprint Nr. 94, Tech. Univ. Chemnitz, 1989, 1–15.

[Q412] L. Zhang and L. K. Li: Superconvergent recoveries of Carey non-conforming element approximations, Comm. Numer. Methods Engrg. 13 (1997), 439–452.

[Q413] T. Zhang, C. J. Li, Y. Y. Nie et al.: A highly accurate derivative recovery formula for finite element approximations in one space dimension, Dyn. Contin. Discrete Impuls. Syst. Ser. B Appl. Algorithms 10 (2003), 755–764.

[Q414] Q. D. Zhu: High accuracy and the theory of post-processing of the finite element method, Science Press, Beijing, 2008.

[**B4**] **M. Křížek and P. Neittaanmäki**, *Internal FE approximation of spaces of divergence-free functions in three-dimensional domains*, Internat. J. Numer. Methods Fluids **6** (1986), 811–817.

Cited in:

[Q415] S. Adam, P. Arbenz, and R. Geus: Eigenvalue solvers for electromagnetic fields in cavities, Technical Report no. 275, Eidgenössische Technische Hochschule, Zürich, 1995, 1–33.

[Q416] Y. Chang and D. Yang: Superconvergence analysis of finite element methods for the optimal control with the stationary Bénard problem, accepted by J. Comput. Math. in 2008, 1–16.

[Q417] S. Korotov: On equilibrium finite elements in three-dimensional case, Appl. Math. 42 (1997), 233–242.

[Q418] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q419] J. E. Roberts and J. M. Thomas: Mixed and hybrid methods, Handbook of Numer. Anal., vol. II, (ed. P. G. Ciarlet, J. L. Lions), North-Holland, Amsterdam, 1991, (see p. 620).

[**B5**] **M. Křížek and P. Neittaanmäki**, *On a global superconvergence of the gradient of linear triangular elements*, J. Comput. Appl. Math. **18** (1987), 221–233.

Cited in:

[Q420] M. Ainsworth and A. Craig: A posteriori error estimators in the finite element method. Numer. Math. 60 (1992), 429–463.

[Q421] I. Babuška, T. Strouboulis, S. K. Gangaraj, and C. S. Upadhyay: Validation of recipes for

the roceovery of stresses and derivatives by a computer-based approach, Math. Comput. Model. 20 (1994), 45–89.

[Q422] I. Babuška, T. Strouboulis, and C. S. Upadhyay: η%-superconvergence of finite element approximations in the interior of general meshes of triangles. Comput. Methods Appl. Mech. Engrg. 122 (1995), 273–305.

[Q423] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Study of superconvergence by a computer-based approach. Superconvergence of the gradient in finite element solutions of Laplace's and Poisson's equations, CMC Report No. 93-07, Texas A&M Univ., 1993, 1–59.

[Q424] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Study of superconvergence by a computer-based approach. Superconvergence of the gradient of the displacement, the strain and stress in finite element solutions for plane elasticity. Technical Note BN-1166, Univ. of Maryland, 1994, 1–41.

[Q425] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Computer-based proof of the existence of superconvergence points in the finite element method; superconvergence of the derivatives in finite element solutions of Laplace's, Poisson's, and elasticity equations. Numer. Methods Partial Differential Equations 12 (1996), 347–392.

[Q426] S. Barbeiro and J. A. Ferreira: A superconvergent linear FE approximation for the solution of an elliptic system of PDE's, J. Comput. Appl. Math. 177 (2005), 287–300.

[Q427] S. Barbeiro, J. A. Ferreira, and J. Brandts: Superconvergence of piecewise linear semi-discretizations for parabolic equations with nonuniform triangulations, J. Math. Fluid Mech. 7 (2005), S192–S214.

[Q428] J. H. Brandts: Superconvergence for second order triangular mixed and standard finite elements, Report 9/1996, Dept. of Math., Univ. of Jyväskylä, 1996, 1–20.

[Q429] J. H. Brandts: Superconvergence similarities in standard and mixed finite element methods, In: Finite Element Methods: Superconvergence, Postprocessing and A Posteriori Estimates, LN in Pure and Appl. Math. vol. 196, Marcel Dekker, New York, 1998, 19–39.

[Q430] J. H. Brandts: Superconvergence for triangular over $k = 1$ Raviart-Thomas mixed finite elements and for triangular standard quadratic finite element methods, Appl. Numer. Math. 34 (2000), 39–58.

[Q431] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q432] C. M. Chen and Y. Q. Huang: High accuracy theory of finite element methods (in Chinese), Hunan Science and Technology Press, Changsha, 1995.

[Q433] J. Chleboun: An application of the averaged gradient technique, In Programs and Algorithms of Numer. Math. 14, Inst. of Math., Prague, 2008, 65–70.

[Q434] J. A. Ferreira and R. D. Grigorieff: Supraconvergence and supercloseness of a scheme for elliptic equations on nonuniform grids, Numer. Funct. Anal. Optim. 27 (2006), 539–564.

[Q435] M. Frolov: Computational properties of a posteriori error estimates based on duality majorants, Master Thesis, Univ. of Jyväskylä, 2003.

[Q436] G. Goodsell: Pointwise superconvergence of the gradient for the linear tetrahedral element. Numer. Methods Partial Differential Equations 10 (1994), 651–666.

[Q437] H. Y. Hu and Z. C. Li: Verification of reduced convergence rates, Computing 74 (2005), 67–73.

[Q438] H. T. Huang: Global superconvergence of finite element methods for elliptic equations, Ph.D. Thesis, Dept. Appl. Math., Nat. Sun Yan-set Univ., Kaohsiung, Taiwan, 2003, 1–170.

[Q439] H. T. Huang and Z. C. Li: Global superconvergence of Adini's elements coupled with the Trefftz method for singular problem, Engrg. Anal. with Boundary Elements 27 (2003), 227–240.

[Q440] H. T. Huang and Z. C. Li: Effective condition number and superconvergence of the Trefftz method coupled with high order FEM for singularity problem, Engrg. Anal. with Boundary Elements 30 (2006), 270–283.

[Q441] H. T. Huang, Z. C. Li, and N. N. Yan: New error estimates of Adini's elements for Poisson's equation, Appl. Numer. Math. 50 (2004), 49–74.

[Q442] H. T. Huang, Z. C. Li, and A. Zhou: New error estimates of biquadratic Lagrange elements for Poisson's equation, Appl. Numer. Math. 56 (2006), 712–744.

[Q443] Y. Q. Huang, S. Shu, and H. Y. Yu: Superconvergence and asymptotic expansions for linear finite element approximations on criss-cross mesh, Science in China, Ser. A Math. 47 (2004), 136–145.

[Q444] S. Korotov: A posteriori estimates for error control in terms of linear functionals for linear elasticity, submitted to Appl. Math. in 2005, 1–18.

[Q445] A. M. Lakhany, I. Marek, and J. R. Whiteman: Superconvergence results on mildly stuctured triangulations, Comput. Methods Appl. Mech. Engrg. 189 (2000), 1–75.

[Q446] A. M. Lakhany and J. R. Whiteman: Superconvergent recovery operators: derivative recovery techniques, In: Finite Element Methods: Superconvergence, Postprocessing and A Posteriori Estimates, LN in Pure and Appl. Math. vol. 196, Marcel Dekker, New York, 1998, 195–215.

[Q447] Z. C. Li: Superconvergence of coupling techniques in combined methods for elliptic equations with singularities, Comput. Math. Appl. 41 (2001), 379–398.

[Q448] Z. C. Li: Global superconvergence of simplified hybrid combinations for elliptic equations with singularities, Computing 65 (2000), 27–44.

[Q449] Z. C. Li: Penalty combinations of the Ritz-Galerkin and finite difference methods for singularity problems, J. Comput. Appl. Math. 81 (1997), 1–17.

[Q450] Z. C. Li, C. S. Chien, and H. T. Huang: Effective condition number for finite difference method, J. Comput. Appl. Math. 198 (2007), 208–235.

[Q451] Z. C. Li, H. Y. Hu, S. Wang, and Q. Fang: Superconvergence of solution derivatives of the Shortley-Weller difference approximation to Poisson's equation with singularities on polygonal domains, Appl. Numer. Math. 58 (2008), 689–704.

[Q452] Z. C. Li, H. Y. Hu, S. Wang, and Q. Fang: Superconvergence of solution derivatives of the Shortley-Weller difference approximation to elliptic equations with singularities involving the mixed type of boundary conditions, Numer. Funct. Anal. Optim. 29 (2008), 161–196.

[Q453] Z. C. Li and H. T. Huang: Global superconvergence of simplified hybrid combinations of the Ritz-Galerkin and FEMs for elliptic equations with singularities, II. Lagrange elements and Adini's elements, Appl. Numer. Math. 43 (2002), 253–273.

[Q454] Z. C. Li and H. T. Huang: A note on numerical verification of reduced convergence rates, Preprint I-Shou Univ., Taiwan, 2003, 1–11.

[Q455] Z. C. Li, H. T. Huang, and J. Huang: Stability analysis and superconvergence for the penatly Trefftz method coupled with FEM for singularity problems, Engrg. Anal. with Boundary Elements 31 (2007), 631–645.

[Q456] Z. C. Li, H. T. Huang, and N. N. Yan: The Adini's elements for the Neumann problems of Poisson's equation, submitted to SIAM J. Numer. Anal. 2001, 1–30.

[Q457] Z. C. Li, Q. Lin, and N. N. Yan: Global superconvergence in combinations of Ritz-Galerkin-FEM for singularity problems, J. Comput. Appl. Math. 106 (1999), 325–344.

[Q458] Z. C. Li and T. T. Lu: Global superconvergence of finite element methods for biharmonic equations and blending surfaces, Comput. Math. Appl. 44 (2002), 413–437.

[Q459] Z. C. Li, T. Yamamoto, and Q. Fang: Superconvergence of solution derivatives for the Shortley-Weller difference approximation of Poisson's equation, Part I: smoothness problems, J. Comput. Appl. Math. 151 (2003), 307–333.

[Q460] Z. C. Li and N. N. Yan: New error estimates of bi-cubic Hermite finite element methods for biharmonic equations, J. Comput. Appl. Math. 142 (2002), 251–285.

[Q461] Q. Lin and N. N. Yan: The construction and analysis for efficient finite elements (Chinese), Hebei Univ. Publ. House, 1996.

[Q462] G. Maisano, S. Michelleti, S. Perotto, and C. L. Bottasso: Some new recovery-based a posteriori error estimators, Comput. Methods Appl. Mech. Engrg. 195 (2006), 4794–4815.

[Q463] S. Micheletti and S. Perotto: Anisotropic recovery-based error estimator, Proc. Internat. Conf. ENUMATH 2001, Jyväskylä, 731–742.

[Q464] S. Micheletti and S. Perotto: Reliability and efficiency of an anisotropic Zienkiewicz-Zhu error estimator, Comput. Methods Appl. Mech. Engrg. 195 (2006), 799–835.

[Q465] G. Schmidt and H. Strese: BEM for Poisson equation, Engineering Anal. with Boundary Elements 10 (1992), 119–123.

[Q466] A. Smolianski: Numerical modelling of two-fluid interfacial flows. Jyväskylä Studies in Computing 8 (2001), 1–109.

[Q467] S. I. Sololev: Superconvergence of finite-element approximations of eigenfunctions, Differential Equations 30 (1994), 1138–1146.

[Q468] T. Tsuchiya: Finite element approximations of conformal mappings, Numer. Funct. Anal. Optim. 22 (2001), 419–440.

[Q469] L. B. Wahlbin: Lecture notes on superconvergence in Galerkin finite element methods, Cornell Univ., 1994, 1–243.

[Q470] L. B. Wahlbin: Superconvergence in Galerkin finite element methods, LN in Math., vol. 1605, Springer-Verlag, Berlin, 1995.

[Q471] J. R. Whiteman and G. Goodsell: Some gradient superconvergence results in the finite-element method, LN in Math., vol 1397, 1989, 182–260.

[Q472] R. Wohlgemuth: Superkonvergenz des Gradienten im Postprocessing von Finite-Elemente-Methoden, Preprint Nr. 94, Tech. Univ. Chemnitz, 1989, 1–15.

[Q473] L. Zhang and L. K. Li: Superconvergent recoveries of Carey non-conforming element approximations, Comm. Numer. Methods Engrg. 13 (1997), 439–452.

[Q474] Q. D. Zhu: A survey of superconvergence techniques in finite element methods. Proc. Conf. Finite Element Methods: Superconvergence, Post-processing and A Posteriori Estimates, Univ. of Jyväskylä, 1996, Marcel Dekker, New York, 1998, 287–302.

[Q475] Q. D. Zhu: High accuracy and the theory of post-processing of the finite element method, Science Press, Beijing, 2008.

[Q476] Q. D. Zhu and Q. Lin: Superconvergence theory of finite element methods (in Chinese), Hunan Science and Technology Publishers, Hunan, 1989, (see p. 261).

[**B6**] **M. Křížek and P. Neittaanmäki**, *On superconvergence techniques*, Acta Appl. Math. **9** (1987), 175–198.

Cited in:

[Q477] M. Ainsworth and A. Craig: A posteriori error estimators in the finite element method. Numer. Math. 60 (1992), 429–463.

[Q478] M. Ainsworth and J. T. Oden: A posteriori error estimation in finite element analysis, Comput. Methods Appl. Mech. Engrg. 142 (1997), 1–88.

[Q479] M. Ainsworth and J. T. Oden: A posteriori error estimation in finite element analysis, John Wiley & Sons, Inc., New York, 2000.

[Q480] A. B. Andrejev: Superconvergence of the gradient of finite element eigenfunctions, C. R. Acad. Bulgare Sci. 43 (1990), 9–11.

[Q481] A. B. Andreev and R. D. Lazarov: Superconvergence of the gradient for quadratic triangular finite elements, Numer. Methods Partial Differential Equations 4 (1988), 15–32.

[Q482] I. Babuška, L. Planck, and R. Rodríguez: Basic problems of a posteriori error estimation, Comput. Methods Appl. Mech. Engrg. 101 (1992), 97–112.

[Q483] I. Babuška, T. Strouboulis, S. K. Gangaraj, and C. S. Upadhyay: Validation of recipes for the roceovery of stresses and derivatives by a computer-based approach, Math. Comput. Model. 20 (1994), 45–89.

[Q484] I. Babuška, T. Strouboulis, S. K. Gangaraj, and C. S. Upadhyay: $\eta\%$ superconvergence in the interior of locally refined meshes of quadrilaterals: Superconvergence of the gradient in finite element solutions of Laplace's and Poisson's equations, Appl. Numer. Math. 16 (1994), 3–49.

[Q485] I. Babuška, T. Strouboulis, and C. S. Upadhyay: η%-superconvergence of finite element approximations in the interior of general meshes of triangles. Comput. Methods Appl. Mech. Engrg. 122 (1995), 273–305.

[Q486] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Study of superconvergence by a computer-based approach. Superconvergence of the gradient in finite element solutions of Laplace's and Poisson's equations, CMC Report No. 93-07, Texas A&M Univ., 1993, 1–59.

[Q487] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Study of superconvergence by a computer-based approach. Superconvergence of the gradient of the displacement, the strain and stress in finite element solutions for plane elasticity. Technical Note BN-1166, Univ. of Maryland, 1994, 1–41.

[Q488] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Computer-based proof of the existence of superconvergence points in the finite element method; superconvergence of the derivatives in finite element solutions of Laplace's, Poisson's, and elasticity equations. Numer. Methods Partial Differential Equations 12 (1996), 347–392.

[Q489] I. Babuška and B. Szabó: Trends and new problems in finite element methods. TICAM Report 96-37, The Univ. of Texas at Austin, also in: The Mathematics of Finite Elements and Applications 1996 (ed. J. R. Whiteman), John Wiley & Sons, New York, 1997, 1–33.

[Q490] J. Baranger and H. Elamri: Numerical solution of a spectral problem for an ODE with a small parameter using an asymptotic-expansion and finite-element method, Numer. Funct. Anal. Optim. 11 (1990), 621–642.

[Q491] R. Bausys, P. Hager, and N. E. Wiberg: Postprocessing techniques and h-adaptive finite element-eigenproblem analysis, Comput. & Structures 79 (2001), 2039–2052.

[Q492] C. J. Bi and L. K. Li: Superconvergence analysis of least-squares mixed finite element method for second-order non-self-adjoint two-point boundary value problem. Comm. Numer. Methods Engrg. 14 (1998), 1027–1037.

[Q493] C. Bi and L. Li: Superconvergent recoveries of Carey nonconforming element approximations for non-selfadjoint and indefinite elliptic problems. East-West J. Numer. Anal. 7 (1999), 1–11.

[Q494] J. H. Brandts: Superconvergence phenomena in finite element methods, Ph.D. Thesis, Utrecht Univ., 1994, 1–115.

[Q495] J. H. Brandts: On the origin of some superconvergence phenomena. Part I: Fortin interpolation and vector fields. Preprint no. 847, Mathematical Institute, Utrecht Univ., 1994, 1–16.

[Q496] J. H. Brandts: Superconvergence similarities in standard and mixed finite element methods. In: Finite Element Methods: Superconvergence, Postprocessing and A Posteriori Estimates, LN in Pure and Appl. Math. vol. 196, Marcel Dekker, New York, 1998, 19–39.

[Q497] J. H. Brandts: The Cauchy-Riemann equations: Discretization by finite elements, fast solution, and a posteriori error estimation. Adv. Comput. Math. 15 (2001), 61–77.

[Q498] J. Brandts and Y. P. Chen: Superconvergence of least-squares mixed finite elements, Internat. J. Numer. Anal. Model. 3 (2006), 303–310.

[Q499] H. Brunner and H. Roth: Collocation in space and: Experience with the Korteweg-de Vries equation. Appl. Numer. Math. 25 (1997), 369–390.

[Q500] A. Bucher, A. Meyer, U. J. Gorke et al.: A comparison of mapping algorithms for hierarchical adaptive FEM in finite elasto-plasticity, Comput. Mech. 39 (2007), 521–536.

[Q501] G. F. Carey: Computational grids. Generation, adaptation and solution strategies. Taylor & Francis, 1997.

[Q502] G. F. Carey: Projection in finite element analysis and application, In: Finite Element Methods: Superconvergence, Postprocessing and A Posteriori Estimates, LN in Pure and Appl. Math. vol. 196, Marcel Dekker, New York, 1998, 53–70.

[Q503] G. F. Carey: A note on superconvergent flux projection, Comm. Numer. Methods Engrg., submitted in 2000, 1–11.

[Q504] C. M. Chen: Some problems on superconvergence in finite element methods, Preprint Hunan Normal Univ., Changsha, 1999, 1–14.

[Q505] C. M. Chen: New progress on superconvergence in finite element method, Preprint Hunan Normal Univ., Changsha, 1999, 1–8.

[Q506] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q507] C. M. Chen and Y. Q. Huang: High accuracy theory of finite element methods (in Chinese), Hunan Science and Technology Press, Changsha, 1995.

[Q508] H. S. Chen: An L^2- and L^∞-error analysis for parabolic finite element equations with applications to superconvergence and error expansions (Thesis), Preprint 93-11 (SFB 359), Univ. Heidelberg, 1993, 1–134.

[Q509] H. S. Chen: Interior superconvergence of finite element solutions for Stokes problem by local L^2 projections, J. Numer. Math. 12 (2004), 77–96.

[Q510] H. S. Chen: An analysis of superconvergence of mixed finite element methods for second-order elliptic problems by L^2 projections, submitted to Numer. Methods Partial Differential Equations in 2003, 1–26.

[Q511] H. Chen: Superconvergence properties of discontinuous Galerkin methods for two-point bounday value problem, Internat. J. Numer. Anal. Model. 3 (2006), 163–185.

[Q512] H. S. Chen and B. Li: Superconvergence analysis and error expansion for the Wilson nonconforming finite element, Numer. Math. 69 (1994), 125–140.

[Q513] H. S. Chen and R. Rannacher: Superconvergence properties of finite element schemes for the Navier-Stokes problem. Preprint 93-37, IWR, Univ. Heidelberg, 1993, 1–27.

[Q514] H. S. Chen and J. P. Wang: An interior estimate of superconvergence for finite element solutions for second-order elliptic problems on quasi-uniform meshes by local projections. SIAM J. Numer. Anal. 41 (2003), 1318–1338.

[Q515] L. Chen and H. Li: Superconvergence of gradient recovery schemes on graded meshes for corner singularities, J. Comput. Math. 28 (2010), 11–31.

[Q516] S. Chen, L. Yin, and S. Mao: An anisotropic, superconvergent nonconforming plate finite element, J. Comput. Appl. Math. 220 (2008), 96–110.

[Q517] W. Chen and Q. Lin: Approximation of an eigenvalue problem associated with the Stokes problem by the stream function-vorticity-pressure method, Appl. Math. 51 (2006), 73–88.

[Q518] S. S. Chow and G. F. Carey: Superconvergence phenomena in nonlinear two-point boundary-value problems, Numer. Methods Partial Differential Equations 9 (1993), 561–577.

[Q519] S. S. Chow, G. F. Carey, and R. D. Lazarov: Natural and postprocessed superconvergence in semilinear problems, Numer. Methods Partial Differential Equations 7 (1991), 245–259.

[Q520] S. S. Chow and R. D. Lazarov: Superconvergence analysis of flux computations for nonlinear problems. Bull. Austral. Math. Soc. 40 (1989), 465–479.

[Q521] A. W. Craig, M. Ainsworth, J. Z. Zhu, et al.: Hand $h - p$ version error estimation and adaptive procedures from theory to practice, Engrg. Comput. 5 (1989), 221–234.

[Q522] J. Dalík: A Lagrange interpolation in vertices of a strongly regular triangulation, Proc. Conf. Finite Element Methods: Superconvergence, Post-Processing and A Posteriori Estimates, Univ. of Jyväskylä, 1996, Marcel Dekker, New York, 1998, 85–94.

[Q523] J. Dalík: Quadratic interpolation in vertices of planar triangulations and an application, preprint, VUT Brno, 2004, 1–31.

[Q524] K. Delaere, U. Pahner, R. Belmans, et al.: Highly accurate 3D field gradient computation using local post-solving. IEEE Trans. Magnet. 35 (1999), 3754–3756.

[Q525] L. Du and N. N. Yan: Gradient recovery type a posteriori error estimate for finite element approximation on non-uniform meshes. Adv. Comput. Math. 14 (2001), 175–193.

[Q526] R. Durán: Superconvergence for rectangular mixed finite elements. Numer. Math. 58 (1990), 287–298.

[Q527] R. Durán and R. Rodríguez: On the asymptotic exactness of Bank-Weiser's estimator, Numer. Math. 62 (1992), 297–303.

[Q528] R. Durán, M. A. Muschietti, and R. Rodríguez: Asymptotically exact error estimators for rectangular finite elements, SIAM J. Numer. Anal. 29 (1992), 78–88.

[Q529] E. G. D'yakonov: Optimization in solving elliptic problems, CRC Press, New York, 1996.

[Q530] L. P. Franca: On the superconvergence of the satisfying Babuška-Brezzi condition, Internat. J. Numer. Methods Engrg. 29 (1990), 1715–1726.

[Q531] J. Franz and M. Kasper: Suprconvergent finite element solutions of Laplace and Poisson equation IEEE Trans. Magnet. 32 (1996), 643–646.

[Q532] M. Frolov: Computational properties of a posteriori error estimates based on duality majorants, Master Thesis, Univ. of Jyväskylä, 2003.

[Q533] S. Goebbels: On the sharpness of a superconvergence estimate in connection with one-dimensional Galerkin methods, J. Inequal. Appl. 3 (1999), 91–107.

[Q534] G. Goodsell and J. R. Whiteman: A unified treatment of superconvergent recovered gradient functions for piecewise linear finite element approximations, Internat. J. Numer. Methods Engrg. 27 (1989), 469–481.

[Q535] G. Goodsell and J. R. Whiteman: Pointwise superconvergence of recovered gradients for piecewise linear finite element approximations to problems of planar linear elasticity, Numer. Methods Partial Differential Equations 6 (1990), 59–74.

[Q536] P. M. Gresho and R. L. Sani: Incompressible flow and the finite element method. Advection-diffusion and isothermal laminar flow. John Wiley and Sons, New York, 1998.

[Q537] Ch. Grossmann and H.-G. Roos: Numerik partiellen Differentialgleichungen, Teubner Studienbücher, Mathematik, Stuttgart, 1994.

[Q538] Ch. Grossmann and H.-G. Roos: Numerische Behandlung partieller Differentialgleichungen, Teubner-Verlag, Wiesbaden, 2005.

[Q539] H. Gu and A. Zhou: Superconvergence of the mortar finite element approximation to a parabolic problem, Systems Sci. Math. Sci. 12 (1999), 350–356.

[Q540] H. Gu and A. Zhou: Multi-parameter finite elements and their applications to three-dimensional problems. Proc. Conf. Finite Element Methods: Three-dimensional Problems, Univ. of Jyväskylä, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 98–108.

[Q541] I. Hlaváček and J. Chleboun: A recovered gradient method applied to smooth optimal shape problems, Appl. Math. 41 (1996), 281–297.

[Q542] Y. Q. Huang: The superconvergence of finite element methods on domains with reentrant corners, Proc. Conf. Finite Element Methods: Superconvergence, Post-processing and A Posteriori Estimates, Univ. of Jyväskylä, 1996, Marcel Dekker, New York, 1998, 169–182.

[Q543] V. Kantchev and R. D. Lazarov: Superconvergence of the gradient of linear finite elements for 3D Poisson equation, Proc. Internat. Conf. Optimal Algorithms (ed. B. Sendov), Blagoevgrad, 1986, Izd. Bulg. Akad. Nauk, Sofia, 1986, 172–182.

[Q544] M. Kasper and J. Franz: Highly accurate computation of field quantities and forces by superconvergence in finite-elements, IEEE Trans. Magnet. 31 (1995), 1424–1427.

[Q545] P. Klouček, B. Li, and M. Luskin: Analysis of a class of nonconforming finite elements for crystalline microstructures. Math. Comp. 65 (1996), 1111–1135.

[Q546] K. Kolman: Higher-order approximations in the finite element method, Ph. D. Thesis, Charles Univ., Prague, 2010.

[Q547] A. M. Lakhany, I. Marek, and J. R. Whiteman: Superconvergence results on mildly stuctured triangulations, Comput. Methods Appl. Mech. Engrg. 189 (2000), 1–75.

[Q548] A. M. Lakhany and J. R. Whiteman: Superconvergent recovery operators: derivative recovery techniques, In: Finite Element Methods: Superconvergence, Postprocessing and A Posteriori Estimates, LN in Pure and Appl. Math. vol. 196, Marcel Dekker, New York, 1998, 195–215.

[Q549] X. D. Li and N. E. Wiberg: A-posteriori error estimate by element path post-processing adaptive analysis in energy and L^2 norms, Comput. Struct. 53 (1994), 907–919.

[Q550] B. Li: Lagrange interpolation and finite element superconvergence, Numer. Methods Partial Differential Equations 20 (2004), 33–59.

[Q551] B. Li and Z. Zhang: Analysis of a class of superconvergence path recovery techniques for linear and bilinear finite elements, Numer. Methods Partial Differential Equations, 15 (1999), 151–167.

[Q552] G. P. Liang and P. Luo: Superconvergence of the $h-p$ version for nonconforming domain decomposition method with Lagrangian multipliers. Preprint Academia Sinica, Inst. of Systems Science, 1996, 1–15.

[Q553] G. P. Liang and P. Luo: Error analysis and global superconvergences for the Signorini's problem with Lagrange multiplier methods. J. Comput. Math. (2002), 79–88.

[Q554] S. Liang, X. Ma, and A. Zhou: Finite volume method for eigenvalue problem, BIT 41 (2001), 345–363.

[Q555] S. Liang, X. Ma, and A. Zhou: A symmetric finite volume scheme for selfadjoint elliptic problems, J. Comput. Appl. Math. 147 (2002), 121–136.

[Q556] Q. Lin: Superconvergence of FEM for singular solution, In: The Mathematics of Finite Elements and Applications 1990, also in J. Comput. Math. 9 (1991), 111–114.

[Q557] Q. Lin: Interpolated finite elements and global superconvergence, Proc. of the Second Chinese Conf. on Numer. Methods for P. D. E., Tianjin, 1991, World Sci. Publ., River Edge, NJ, 1992, 91–95.

[Q558] Q. Lin: Interpolated finite elements and global error recovery. Contemporary Math. 163 (1994), 93–109.

[Q559] Q. Lin and J. Lin: Finite elements methods: Accuracy and improvement, Science Press, Beijing, 2006.

[Q560] Q. Lin and D. S. Wu: High-accuracy approximations for eigenvalue problems by the Carey non-conforming finite element, Comm. Numer. Methods Engrg. 15 (1999), 19–31.

[Q561] Q. Lin and R. Xie: Error expansions for finite element approximations and their applications, LN in Math. 1297, 1987, 98–112.

[Q562] Q. Lin and R. Xie: How to recover the convergent rate for Richardson extrapolation on bounded domains, J. Comput. Math. 6 (1988), 68–79.

[Q563] Q. Lin and R. Xie: Error expansion for FEM and superconvergence under natural assumption, J. Comput. Math. 7 (1989), 402–411.

[Q564] Q. Lin and N. N. Yan: The construction and analysis for efficient finite elements (Chinese), Hebei Univ. Publ. House, 1996.

[Q565] Q. Lin, N. Yan, and A. Zhou: A rectangle test for interpolated finite elements. Proc. of Systems Sci. & Systems Engrg., Great Wall (H. K.), Culture Publ. Co., 1991, 217–229.

[Q566] Q. Lin, N. Yan, and A. Zhou: Interpolated finite elements with rectangular meshes, Academia Sinica, Inst. of Systems Science, Research Report No. 91/04, 1991, 1–14.

[Q567] Q. Lin, N. Yan, and A. Zhou: A sparse finite element method with high accuracy. Part I. Numer. Math. 88 (2001), 731–742.

[Q568] Q. Lin and J. R. Whiteman: Superconvergence of recovered gradients of finite element approximations on nonuniform rectangular and quadrilateral meshes, In: The Mathematics of Finite Elements and Applications VII (ed. J. R. Whiteman), 1990, Academic Press, London, 1991, 563–571.

[Q569] Q. Lin and A. Zhou: Notes on superconvergence and its related topics. J. Comput. Math. 11 (1993), 211–214.

[Q570] Q. Lin and Q. D. Zhu: The preprocessing and postprocessing for the finite element method (in Chinese), Shanghai Scientific & Technical Publishers, 1994, (see p. 11).

[Q571] R. Lin: Natural superconvergence in two and three dimensional finite element methods, Dissertation, Wayne State Univ., Detroit, 2005, 1–240.

[Q572] R. Lin and Z. Zhang: Derivative superconvergence of equilateral triangular finite elements, Contem. Math. 383 (2005), 299–310.

[Q573] R. Lin and Z. Zhang: Natural superconvergence points in three-dimensional finite elements, SIAM J. Numer. Anal. 46 (2008), 1281–1297.

[Q574] T. Lin and D. L. Russell: A superconvergent method for approximating the bending moment of elastic beam with hysteresis damping. Appl. Numer. Math. 38 (2001), 145–165.

[Q575] T. Lin and H. Wang: Recovering the gradients of the solutions of second-order hyperbolic equations by interpolating the finite element solutions, IMA Preprint Series #1157, Univ. of Minnesota, 1993, 1–38.

[Q576] T. Lin and H. Wang: A class of globally super-convergent post-processing techniques for approximating the gradients of solutions to elliptic boundary value problems. ICAM Report 94-01-01, Univ. of South Carolina, 1994, 1–34.

[Q577] T. Lin and H. Wang: A class of error estimators based on interpolating the finite element solution for reaction-diffusion equations, In: Modeling, Mesh Generation, and Adaptive Numerical Methods for Partial Differential Equations (eds. I. Babuška, W. D. Henshaw, J. E. Oliger, J. E. Flaherty, J. E. Hopcroft and T. Tezduyar), IMA Vol. Math. Appl. no. 75, Springer-Verlag, Berlin, 1995, 129–151.

[Q578] A. F. D. Loula, A. F. Rochinha, and A. M. Murad: Higher-order gradient post-processings for second-order elliptic problems. Comput. Methods Appl. Mech. Engrg. 128 (1995), 361–381.

[Q579] D. Lukáš: Optimal shape design in magnetostatics, Ph.D. Thesis, VŠB Ostrava, 2003, 1–130.

[Q580] P. Luo: Superconvergence estimates for a nonconforming membrane element. Northeast. Math. J. 8 (1992), 477–482.

[Q581] P. Luo and G. P. Liang: Global superconvergence of the domain decomposition methods with nonmatching grids. J. Comput. Math. 19 (2001), 187–194.

[Q582] P. Luo and G. P. Liang: Error analysis and global superconvergence for the Signorini problem with Lagrange multiplier methods. J. Comput. Math. 20 (2002), 79–88.

[Q583] P. Luo and G. P. Liang: Domain decomposition methods with nonmathching grids for the unilateral problem. J. Comput. Math. 20 (2002), 197–206.

[Q584] P. Luo and Q. Lin: High accuracy analysis of the Wilson element, J. Comput. Math. 17 (1999), 113–124.

[Q585] P. Luo and Q. Lin: Superconvergence of the Adini's element for second order equation, J. Comput. Math. 17 (1999), 569–574.

[Q586] P. Luo and Q. Lin: High accuracy analysis of the Adini's nonconforming element, Computing 68 (2002), 65–79.

[Q587] P. Luo and Q. Lin: Accuracy analysis of the Adini element for biharmonic problem, Acta Math. Sinica 20 (2004), 135–146.

[Q588] S. Mao, S. Chen, and D. Y. Shi: Convergence and superconvergence of a nonconforming finite element on anisotropic meshes, Internat. J. Numer. Anal. Model. 4 (2007), 16–38.

[Q589] S. Mao, S. Chen, and H. Sun: A quadrilateral, anisotropic, superconvergent, nonconforming double set parameter element, Appl. Numer. Math. 56 (2006), 937–961.

[Q590] S. Mao and Z.-C. Shi: High accuracy analysis of two nonconforming plate element, Numer. Math. 111 (2009), 407–443.

[Q591] J. Maryška: Optimalizace termoelastického systému v osově symetrické oblasti (kandidátská disertační práce), ČVUT, Praha, 1993, 1–90.

[Q592] Q. X. Niu and M. S. Shephard: Superconvergent extraction techniques for finite element analysis, Internat. J. Numer. Methods Engrg. 36 (1993), 811–836.

[Q593] Q. X. Niu and M. S. Shephard: Superconvergent boundary stress extraction and some experiments with adaptive pointwise error control, Internat. J. Numer. Methods Engrg. 37 (1994), 877–891.

[Q594] A. K. Noor: Computational structures technology; leap frogging into the twenty-first century, Comput. Struct. 73 (1999), 1–31

[Q595] D. Omeragic and P. P. Silvester: 3-dimensional gradient recovery by local smoothing of finite-element solutions, COMPEL 13 (1994), 553–566.

[Q596] D. Omeragic and P. P. Silvester: Numerical differentiation in magnetic field postprocessing. Internat. J. Numer. Model. - Electronic Networks Devices and Fields 9 (1996), 99–113.

[Q597] D. Omeragic and P. P. Silvester: Progress in differentiation of approximate data. IEEE

Antennas Propag. 38 (1996), 25–30.

[Q598] D. Omeragic and P. P. Silvester: Differentiation of finite element solutions to non-linear problems, Internat. J. Numer. Model. - Electronic Networks Devices and Fields 13 (2000), 305–319.

[Q599] A. I. Pehlivanov: Interior estimates of type superconvergence of the gradient in the finite element method, C. R. Acad. Bulgare Sci. 42 (1989), 29–32.

[Q600] A. I. Pehlivanov: Superconvergence of the gradient for quadratic 3D simplex finite elements. Numer. Methods and Appl., Sofia, Bulgar. Acad. Sci., 1989, 361–366.

[Q601] A. I. Pehlivanov, R. D. Lazarov, G. F. Carey, and S. S. Chow: Superconvergence analysis of approximate boundary-flux calculations, Numer. Math. 63 (1992), 483–501.

[Q602] C. Pflaum and A. Zhou: Error analysis of the combination technique, Numer. Math. 84 (1999), 327–350.

[Q603] R. Rannacher: Extrapolation techniques in the finite element method, Proc. Summer School in Numer. Anal. (ed. O. Nevanlinna), Helsinki, 1987, Helsinki Univ. of Technology, 1988, 80–113.

[Q604] T. Regińska: The superconvergence effect in the finite element method for two-point boundary value problems, (Polish), Mat. Stos. 30 (1987), 97–111.

[Q605] T. Regińska: Error estimates for external approximation of ordinary differential equations and the superconvergence property, Apl. Mat. 33 (1988), 277–290.

[Q606] H. R. Riggs, A. Tessler, and H. Chu: C^1-continuous stress recovery in finite element analysis. Comput. Methods Appl. Mech. Engrg. 143 (1997), 299–316.

[Q607] H.-G. Roos, M. Stynes, and L. Tobiska: Numerical methods for singularly perturbed differential equations. Convection-diffusion and flow problems, Springer-Verlag, Berlin, 1996.

[Q608] H.-G. Roos, M. Stynes, and L. Tobiska: Robust numerical methods for singularly perturbed differential equations. Springer Series in Comput. Math. vol. 24, Springer-Verlag, Berlin, Heidelberg, 2008.

[Q609] A. A. Samarskii, P. N. Vabishchevich, and P. P. Matus: Finite-difference approximations of higher accuracy order on nonuniform grids, Differential Equations 32 (1996), 269–280.

[Q610] A. H. Schatz: Perturbations of forms and error estimates for the finite element method at a point, with an application to improved superconvergence error estimates for subspaces that are symmetric with respect to a point, SIAM J. Numer. Anal. 42 (2005), 2342–2365.

[Q611] A. H. Schatz, I. H. Sloan, and L. B. Wahlbin: Superconvergence in finite element methods and meshes which are symmetric with respect to a point, SIAM J. Numer. Anal. 33 (1996), 505–521.

[Q612] A. Schleupen and E. Ramm: Local and global error estimators in linear structural dynamics, Comput. & Structures 76 (2000), 741–756.

[Q613] D. Y. Shi, S. P. Mao, and S. C. Chen: An anisotropic nonconforming finite element with some superconvergence results, J. Comput. Math. 23 (2005), 261–274.

[Q614] D. Y. Shi, S. P. Mao, and S. C. Chen: On the anisotropy accuracy analysis of ACM's nonconforming finite element, J. Comput. Math. 23 (2005), 635–646.

[Q615] D. Y. Shi, S. P. Mao, and H. Liang: Anisotropic biquadratic element with supercolose result, J. Syst. Sci. Complex. 19 (2006), 566–576.

[Q616] S. Shu, C. Nie, H. Yu, and Y. Q. Huang: A preserving-symmetry finite volume scheme and superconvergence on quadrangle grids, sumbmitted to Internat. J. Numer. Anal. Model. in 2004, 1–15.

[Q617] S. Shu, H. Y. Yu, Y. Q. Huang et al.: A symmetric finite volume element scheme on quadrilateral grids and superconvergence, Internat. J. Numer. Anal. Model. 3 (2006), 348–360.

[Q618] R. C. C. Silva, A. F. Loula, and J. N. C. Guerreiro: Local gradient and stress recovery for triangular elements, Comput. & Structures 82 (2004), 2083-2092.

[Q619] P. P. Silvester and D. Omeragic: A 2-dimensional Zhu-Zienkiewicz method for gradient recovery from finite-element solutions, COMPEL 12 (1993), 191–204.

[Q620] S. I. Sololev: Superconvergence of finite-element approximations of eigenfunctions, Differential Equations 30 (1994), 1138–1146.

[Q621] A. Tessler, H. R. Riggs, and S. C. Macy: Application of a variational method for computing smooth stresses, stress gradients, and error estiamtion in finite element analysis, In: The Mathematics of Finite Elements and Applications (ed. J. R. Whiteman), John Wiley & Sons, New York, 1994, 189–198.

[Q622] A. Tessler, H. R. Riggs, and S. C. Macy: A variational method for finite element stress recovery and error estimation, Comput. Methods Appl. Mech. Engrg. 111 (1994), 369–382.

[Q623] V Thomée: Galerkin finite element methods for parabolic problems, Springer-Verlag, Berlin, 1997.

[Q624] V Thomée: From finite differences to finite elements. A short history of numerical analysis of partial differential equations. J. Comput. Appl. Math. 128 (2001), 1–54.

[Q625] V. Thomée, J. Xu, and N. Zhang: Superconvergence of the gradient in piecewise linear finite element approximation to a parabolic problem, SIAM J. Numer. Anal. 26 (1989), 553–573.

[Q626] T. Vejchodský: Finite element approximation of a nonlinear parabolic heat conduction problem and a posteriori error estimators, Ph.D. Thesis, Faculty of Mathematics and Physics, Charles University, Prague, 2003.

[Q627] L. B. Wahlbin: Local behaviour in finite element methods. Handbook of Numer. Anal., vol II. (ed. P. G. Ciarlet, J. L. Lions), North-Holland, Amsterdam, 1991, (see p. 508).

[Q628] L. B. Wahlbin: On superconvergence up to boundaries in finite element methods: A counterexample, SIAM J. Numer. Anal. 29 (1992), 937–946.

[Q629] L. B. Wahlbin: Lecture notes on superconvergence in Galerkin finite element methods, Cornell Univ., 1994, 1–243.

[Q630] L. B. Wahlbin: Superconvergence in Galerkin finite element methods, LN in Math., vol.

1605, Springer-Verlag, Berlin, 1995.

[Q631] L. B. Wahlbin: General principles of superconvergence in Galerkin finite element methods, Proc. Conf. Finite Element Methods: Superconvergence, Post-processing and A Posteriori Estimates, Univ. of Jyväskylä, 1996, Marcel Dekker, New York, 1998, 269–286.

[Q632] M. F. Wheeler and J. R. Whiteman: Superconvergence of recovered gradients of discrete time/piecewise linear Galerkin approximations for linear and nonlinear parabolic problems, Numer. Methods Partial Differential Equations 10 (1994), 271–294.

[Q633] J. R. Whiteman and G. Goodsell: Some gradient superconvergence results in the finite-element method, LN in Math., vol 1397, 1989, 182–260.

[Q634] J. R. Whiteman and G. Goodsell: Some features of the nodal recovery of gradients from finite element approximations which produces superconvergence, Proc. Conf. EQUADIFF 7 (ed. J. Kurzweil), Prague, 1989, Teubner-Texte zur Mathematik, Band 118, Teubner, Leipzig, 1990, 305–308.

[Q635] J. R. Whiteman and G. Goodsell: A survey of gradient superconvergence for finite element approximations to second order elliptic problems on triangular and tetrahedral meshes, In: The Mathematics of Finite Elements and Applications VII (ed. J. R. Whiteman), 1990, Academic Press, London, 55–74.

[Q636] N. E. Wiberg, F. Abdulwahab, and X. D. Li: Error estimation and adaptive procedures based on superconvergent path recovery (SPR) techniques, Arch. Comput. Method E. 4 (1997), 203–242.

[Q637] N. E. Wiberg and X. D. Li: Superconvergence patch recovery of finite-element solution and a posteriori L_2-norm error estimate. Comm. Numer. Methods Engrg. 10 (1994), 313–320.

[Q638] N. N. Yan and A. Zhou: Gradient recovery type a posteriori error estimate for finite element approximations on irregular meshes. Comput. Methods Appl. Mech. Engrg. 190 (2001), 4289–4299.

[Q639] L. Zhang and L. K. Li: On superconvergence of isoparametric bilinear finite elements. Comm. Numer. Methods Engrg. 12 (1996), 849–862.

[Q640] L. Zhang and L. K. Li: Superconvergent recoveries of Carey non-conforming element approximations, Comm. Numer. Methods Engrg. 13 (1997), 439–452.

[Q641] L. Zhang and L. K. Li: Some superconvergence results of Wilson-like elements, J. Comput. Math. 16 (1998), 81–96.

[Q642] Z. Zhang and H. D. Victory: Mathematical analysis of Zienkiewicz-Zhu's derivative patch recovery technique. Numer. Methods Partial Differential Equations 12 (1996), 507–524.

[Q643] Z. Zhang and R. Lin: Derivative superconvergence of equilateral triangular finite elements, submitted to AMS Contemporary Math. in 2004, 1–12.

[Q644] Z. Zhang and R. Lin: Locating natural superconvergence points of finite element methods in 3D, Internat. J. Numer. Anal. Model. 2 (2005), 19–30.

[Q645] Z. Zhang and A. Naga: Natural superconvergent points of equilateral triangular finite elements – A numerical example, J. Comput. Math. 24 (2006), 19–24.

[Q646] Z. M. Zhang and J. Z. Zhu: Analysis of the superconvergent path recovery technique and a-posteriori error estimator in the finite-element method, Comput. Methods Appl. Mech. Engrg. 123 (1995), 173–187.

[Q647] Z. M. Zhang and J. Z. Zhu: Superconvergence of the derivative patch recovery technique and a posteriori error estimation, In: Modeling, Mesh Generation, and Adaptive Numerical Methods for Partial Differential Equations (eds. I. Babuška, W. D. Henshaw, J. E. Oliger, J. E. Flaherty, J. E. Hopcroft and T. Tezduyar), IMA Vol. Math. Appl. 75, Springer-Verlag, Berlin, 1995, 431–450.

[Q648] Z. M. Zhang and J. Z. Zhu: Analysis of the superconvergent path recovery technique and a-posteriori error estimator in the finite-element method (II). Comput. Methods Appl. Mech. Engrg. 163 (1998), 159–170.

[Q649] J. Z. Zhu and O. C. Zienkiewicz: Superconvergence recovery technique and a posteriori error estimators, Internat. J. Numer. Methods Engrg. 30 (1990), 1321–1339.

[Q650] Q. D. Zhu: A survey of superconvergence techniques in finite element methods. Proc. Conf. Finite Element Methods: Superconvergence, Post-processing and A Posteriori Estimates, Univ. of Jyväskylä, 1996, Marcel Dekker, New York, 1998, 289–302.

[Q651] Q. D. Zhu: Survey for different approaches to superconvergence phenomena. Proc. Fourth National Conf. on Finite Elements, Guiyang, Guizhou, 1997, 1–11.

[Q652] Q. D. Zhu: A review of two different approaches for superconvergence analysis. Appl. Math. 43 (1998), 401–411.

[Q653] Q. D. Zhu: High accuracy and the theory of post-processing of the finite element method, Science Press, Beijing, 2008.

[Q654] Q. D. Zhu and Q. Lin: Superconvergence theory of finite element methods (in Chinese), Hunan Science and Technology Publishers, Hunan, 1989, (see p. 145, 248).

[Q655] A. Ženíšek: Nonlinear elliptic and evolution problems and their finite element approximations, Academic Press, London, 1990, (see p. 383).

[Q656] O. C. Zienkiewicz and J. Z. Zhu: Adaptivity and mesh generation, Internat. J. Numer. Methods Engrg. 32 (1991), 783–810.

[Q657] O. C. Zienkiewicz and J. Z. Zhu: The superconvergent patch recovery and a posteriori error estimates, Part 1: The recovery technique, Internat. J. Numer. Methods Engrg. 33 (1992), 1331–1364.

[Q658] O. C. Zienkiewicz and J. Z. Zhu: Superconvergence and the superconvergent path recovery, Finite Element Anal. Design 19 (1995), 11–23.

[Q659] A. A. Zlotnik: Some finite-element and finite-difference methods for solving mathematical physics problems with non-smooth data in an n-dimensional cube. Part I. Sov. J. Numer. Anal. Math. Modelling 6 (1991), 421–451.

[B7] **M. Křížek, Q. Lin, and Y. Huang**, *A nodal superconvergence arising from combination of linear and bilinear elements*, J. Systems Sci. Math. Sci. **1** (1988), 191–197.

Cited in:

[Q660] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q661] L. B. Wahlbin: Lecture notes on superconvergence in Galerkin finite element methods, Cornell Univ., 1994, 1–243.

[Q662] L. B. Wahlbin: Superconvergence in Galerkin finite element methods, LN in Math., vol. 1605, Springer-Verlag, Berlin, 1995.

[Q663] Q. D. Zhu: High accuracy and the theory of post-processing of the finite element method, Science Press, Beijing, 2008.

[**B8**] **M. Křížek and P. Neittaanmäki**, *On* $\mathcal{O}(h^4)$*-superconvergence of piecewise bilinear FE-approximations*, Mat. Apl. Comput. **8** (1989), 49–61.

Cited in:

[Q664] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q665] C. M. Chen and Y. Q. Huang: High accuracy theory of finite element methods (in Chinese), Hunan Science and Technology Press, Changsha, 1995.

[Q666] L. B. Wahlbin: Lecture notes on superconvergence in Galerkin finite element methods, Cornell Univ., 1994, 1–243.

[Q667] L. B. Wahlbin: Superconvergence in Galerkin finite element methods, LN in Math., vol. 1605, Springer-Verlag, Berlin, 1995.

[Q668] Q. D. Zhu: High accuracy and the theory of post-processing of the finite element method, Science Press, Beijing, 2008.

[**B9**] **M. Křížek**, *Conforming finite element approximation of the Stokes problem*, Banach Center Publ. **24** (1990), 389–396.

Cited in:

[Q669] H. Chen, S. Jia, and H. Xie: Postprocessing and higher order convergence for the mixed finite element approximations of the Stokes eigenvalue problems, Appl. Math. 54 (2009), 237–250.

[Q670] W. Chen and Q. Lin: Approximation of an eigenvalue problem associated with the Stokes problem by the stream function-vorticity-pressure method, Appl. Math. 51 (2006), 73–88.

[Q671] S. Jia, H. Xie, X. Yin, and S. Gao: Approximation and eigenvalue extrapolation of Stokes eigenvalue problem by nonconforming finite element methods, Appl. Math. 54 (2009), 1–15.

[Q672] X. Yin, H. Xie, and S. Gao: Asymptotic expansions and extrapolations of eigenvalues for the Stokes problem by mixed finite elmenet methods, J. Comput. Appl. Math. 215 (2008), 127–141.

[**B10**] **M. Křížek, P. Neittaanmäki, and M. Vondrák**, *A nontraditional approach for solving the Neumann problem by the finite element method*, Mat. Apl. Comput. **11** (1992), 31–40.

Cited in:

[Q673] X. Ch. Tai: Parallel computing with splitting - up methods and the distributed parameter identification problems (Thesis), Dept. of Math., Univ. of Jyväskylä, Report 50, 1991, 1–94, (see p. 61).

[**B11**] **M. Křížek**, *On the maximum angle condition for linear tetrahedral elements*, SIAM J. Numer. Anal. **29** (1992), 513–520.

Cited in:

[Q674] G. A. Acosta: Lagrange and average interpolation over $3d$ anisotropic elements. J. Comput. Appl. Math. 135 (2001), 91–109.

[Q675] G. A. Acosta, T. Apel, R. G. Durán, and L. A. Lombardi: Error estimates for Raviart-Thomas interpolation of any order on anisotropic tetrahedra, Math. Comp. 273 (2010), 141–163.

[Q676] G. A. Acosta and R. G. Durán: The maximum angle conditon for mixed and non conforming elements: Application to the Stokes equations, SIAM J. Numer. Anal. 37 (1999), 18–36.

[Q677] G. A. Acosta and R. G. Durán: Error estimates for $\mathcal{Q}_1$ isoparametric elements satisfying a weak angle condition, SIAM J. Numer. Anal. 38 (2000), 1073–1088.

[Q678] M. Aiffa and J. E. Flaherty: A geometrical approach to mesh smooting, Comput. Methods Appl. Mech. Engrg. 192 (2003), 4497–4514.

[Q679] T. Apel: A note on anisotropic interpolation error estimates for isoparametric quadrilateral finite elements, Preprint SFB 393/96-10, TU Chemnitz-Zwickau, 1996, 1–14.

[Q680] T. Apel: Anisotropic interpolation error-estimates for isoparametric quadrilateral finite-elements. Computing 60 (1998), 157–174.

[Q681] T. Apel: Anisotropic finite elements: Local estimates and applications. Advances in Numerical Mathematics, B. G. Teubner, Stuttgart, Leipzig, 1999.

[Q682] T. Apel, M. Berzins, P. K. Jimack, G. Kunert, A. Plaks, I. Tsukerman, and M. Walkley: Mesh shape and anisotropic elements: theory and practice. Proc. Conf.: The Mathematics of Finite Elements and Applications X, MAFELAP 1999, Elsevier, Amsterdam, 2000, 367–376.

[Q683] T. Apel and G. Lube: Anisotropic mesh refinement for a singularly perturbed reaction diffusion model problem, Appl. Numer. Math. 26 (1998), 415–433.

[Q684] T. Apel and G. Lube: Anisotropic mesh refinement for singularly perturbed reaction diffusion model problem. Appl. Numer. Math. 26 (1998), 415–433.

[Q685] T. Apel and G. Lube: Anisotropic mesh refinement in stabilized Galerkin methods. Numer. Math. 74 (1996), 261–282.

[Q686] T. Apel, S. Nicaise, and J. Schöberl: Crouzeix-Raviart type finite elements on anisotropic meshes. Numer. Math. 89 (2001), 193–223.

[Q687] I. Babuška and M. Suri: The p and $h - p$ versions of the finite element method, basic principles and properties, SIAM Review 36 (1994), 578–632.

[Q688] E. Bänsch: Anisotropic interpolation estimates, Sonderforschungsbereich 256, Univ. Bonn, 1994, 1–12.

[Q689] M. Berzins: A solution-based triangular and tetrahedral mesh quality indicator. SIAM J. Sci. Comput. 19 (1998), 2051–2060.

[Q690] M. Berzins: Mesh quality: a function of geometry, error estimates or both? Engineering with Computers 15 (1999), 236–247.

[Q691] M. Berzins: Solution-based mesh quality indicators for triangular and tetrahedral meshes, Internat. J. Comput. Geom. Appl. 10 (2000), 333–346.

[Q692] A. Buffa, M. Costabel, and M. Dauge: Algebraic convergence for anisotropic edge elements in polyhedral domains, Numer. Math. 101 (2005), 29–65.

[Q693] L. T. Dechevsky and W. L. Wendland: On the Bramble-Hilbert lemma, II. Preprint 2007/002, Univ. Stuttgart, Berichte aus dem Inst. für Angewandte Anal. und Numer. Simulation, 2007, 1–67.

[Q694] S. Dey, M. S. Shephard, and M. K. Georges: Elimination of the adverse effects of small model features by the local modification of automatically generated meshes, Engrg. Comput. 13 (1997), 134–152.

[Q695] H.-Y. Duan and R. C. E. Tan: On the Poincaré-Friedrichs inequality for piecewise H^1 functions in anisotropic discontinuous Galerkin finite element methods, Math. Comp. 80 (2010), 119–140.

[Q696] R. G. Durán: Error estimates for 3-D narrow finite elements. Math. Comp. 68 (1999), 187–199.

[Q697] R. G. Durán and A. L. Lambardi: Error estimates for the Raviart-Thomas interpolation under the maximum angle condition, SIAM J. Numer. Anal. 46 (2007), 1442–1453.

[Q698] N. A. Golias and T. D. Tsiboukis: An approach to refining three-dimensional tetrahedral meshes based on Delaunay transformations, Internat. J. Numer. Methods Engrg. 37 (1994), 793–812.

[Q699] F. Grunewald and W. Huntebrinker: A numerical study of eigenvalues of the hyperbolic Laplacian for polyhedra with one cusp, Experiment. Math. 5 (1996), 57–80.

[Q700] N. V. Hattangady, M. S. Stephard, and A. B. Chaudhary: Towards realistic automated 3D modelling of metal forming problems, Engineers with Computers 15 (1999), 356–374.

[Q701] W. Z. Huang: Measuring mesh qualities and application to variational mesh adaptation, SIAM J. Sci. Comput. 26 (2005), 1643–1666.

[Q702] M. Klejchová: The discrete maximum principle in the first order finite element method, Thesis, Faculty of Mathematics and Physics, Charles University, Prague, 2010, 1–59.

[Q703] P. Knabner and L. Angermann: Numerical methods for elliptic and parabolic partial differential equations, Texts in Appl. Math., vol. 44, Springer, New York, 2003.

[Q704] F. Labelle and J. R. Shewchuk: Isosurface stuffing: Fast tetrahedral meshes with good dihedral angles, ACM Trans. on Graphics 26 (2007), article no. 57.

[Q705] L. Liu: Finite element analysis of nonlinear heat conduction problems, Univ. of Jyväskylä, Dept. of Math., Report 75, 1997, 1–95.

[Q706] D. Lukáš: Optimal shape design in magnetostatics, Ph.D. Thesis, VŠB Ostrava, 2003, 1–130.

[Q707] J. Mackerle: Finite element linear and nonlinear, static and dynamic analysis of structural elements: a bibliography (1992–1995), Engrg. Computation 14 (1997), 347.

[Q708] J. Mackerle: 2D and 3D finite element meshing and remeshing: A bibliography (1990–2001), Engrg. Computations (Swansea) 18 (2001), 1108–1197.

[Q709] S. P. Mao, S. Nicaise, and Z. C. Shi: Error estimates of Morley triangular element satisfying the maximum angle condition, Internat. J. Numer. Anal. Model. 7 (2010), 639–655.

[Q710] S. P. Mao and Z. C. Shi: Nonconforming rotated $Q(1)$ element on non-tensor product anisotropic meshes, Scinece in China, Ser. A-Math. 49 (2006), 1363–1375

[Q711] E. A. Melissaratos: Optimal size finite element meshes without obtuse and small angles, Preprint RUU-CS-92-39, Dept. Comput. Sci., Utrecht Univ., 1992, 1–45.

[Q712] Z. Milka: Řešení stacionární úlohy vedení tepla s nelineární Newtonovou okrajovou podmínkou metodou konečných prvků (kandidátská disertační práce), MÚ ČSAV, Praha, 1992, 1–49.

[Q713] N. F. Morrison and J. M. Rallison: Transient 3D flow of polymer solutions: A Lagrangian computational method, J. Non-Newtonian Fluid Mech. 165 (2010), 1241–1257.

[Q714] S. Nicaise and E. Creuse: Isotropic and anisotropic a posteriori error estimation of mixed finite element method for second order operators in divergence form, Electronic Trans. Numer. Anal. 23 (2006), 38–62.

[Q715] Ch. Pflaum: Semi-unstructured grids. Computing 67 (2001), 141–166.

[Q716] Ch. Pflaum: The maximum angle condition of semi-unstructured grids. Proc. Conf. Finite Element Methods: Three-dimensional Problems, Univ. Jyväskylä, Finland, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 226–239.

[Q717] M. D. Piggott, C. C. Pain, G. J. Gorman et al.: h, r, and hr adaptivity with applications in numerical ocean modelling, Ocean Modelling 10 (2005), 95–113.

[Q718] A. Plaza, M. A. Padrón, J. P. Suárez, and S. Falcón: The 8-tetrahedra longest-edge partition of right-type tetrahedra, Finite Elem. Anal. Des. 41 (2004), 253–265.

[Q719] J. R. Shewchuk: What is a good linear finite element? Interpolation, conditioning, anisotropy, and quality measures, Preprint Dept. of Eletrical Engrg. and Comput. Sci., Univ. of California at Berkeley, 2002, 1–66.

[Q720] J. Stańdo: Issues of the finite element method in the context of automatic triangulation and numerical integration (in Polish), Ph.D. Thesis, Uviv. of Lodz, Poland, 2004.

[Q721] Ch. Tapp: Anisotrope Gitter – Generierung und Verfeinerung, Den Naturwissenschaftlichen Fakultäten der Friedrich-Alexander-Universität Erlangen-Nürnberg zur Erlangung des Doktorgrades, 1999, 1–191.

[Q722] I. Tsukerman and A. Plaks: Refinement strategies and approximation errors for tetrahedral elements. IEEE Trans. Magnet. 35 (1999), 1342–1345.

[Q723] R. Wentorf, R. Collar, M. S. Shephard, et al.: Automated modeling for complex woven mesostructures. Comput. Methods Appl. Mech. Engrg. 172 (1999), 273–291.

[Q724] P. D. Zavattieri, G. C. Buscaglia, and E. A. Dari: Finite element mesh optimization in three-dimensions, Latin Amer. Appl. Res. 26 (1996), 233–236.

[Q725] A. Ženíšek: Finite element approximations of the Hermite type on triangles and tetrahedrons, Proc. Conf. Finite Element Methods: Three-dimensional Problems, Jyäskyla, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 322–340.

[Q726] A. Ženíšek: Sobolev spaces and their applications in the finite element method. VUTIUM Brno, 2005.

[Q727] A. Ženíšek and J. Hoderová-Zlámalová: Semiregular Hermite tetrahedral finite elemets. Appl. Math. 46 (2001), 295–315.

[**B12**] **I. Hlaváček and M. Křížek**, *Dual finite element analysis of 3D-axisymmetric elliptic problems - Part I*, Numer. Methods Partial Differential Equations **9** (1993), 507–526.

Cited in:

[Q728] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q729] J. Mackerle: Error estimates and adaptive finite element methods: A bibliography (1990–2000), Engrg. Computations (Swansea) 18 (2001), 802–914.

[Q730] R. Mäkinen: On computer aided optimal shape design. Report no. 45, Univ. of Jyväskylä, Dept. of Math., 1989, 1–13.

[**B13**] **I. Hlaváček and M. Křížek**, *Dual finite element analysis of 3D-axisymmetric elliptic problems - Part II*, Numer. Methods Partial Differential Equations **9** (1993), 527–550 **Cited in:**.

[Q731] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q732] R. Mäkinen: On computer aided optimal shape design. Report no. 45, Univ. of Jyväskylä, Dept. of Math., 1989, 1–13.

[**B14**] **M. Feistauer, M. Křížek, and V. Sobotíková**, *An analysis of finite element variational crimes for a nonlinear elliptic problem of a nonmonotone type*, East-West J. Numer. Math. **1** (1993), 267–285.

Cited in:

[Q733] J. Felcman: Adaptive finite volume solution of compressible flow (Habil. Thesis, MFF UK, Prague), 1997.

[Q734] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q735] P. Sváček: Finite element method for a problem with nonlinear boundary conditions, Ph.D. Thesis, Faculty of Mathematics and Physics, Prague, 2002, 1–106.

[Q736] P. Sváček and K. Najzar: Error estimates for the FE solution of problems with nonlinear Newton boundary conditions, submitted in 2003.

[B15] **I. Hlaváček and M. Křížek**, *On a nonpotential and nonmonotone second order elliptic problem with mixed boundary conditions*, Stability Appl. Anal. Contin. Media **3** (1993), 85–97.

Cited in:

[Q737] C. Bi and V. Ginting: A residual-type a posteriori error estimate of finite volume element method for a quasi-linear elliptic problem, Numer. Math. 114 (2009), 107–132.

[Q738] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[B17] **M. Křížek and V. G. Litvinov**, *On the methods of penalty functions and Lagrange's multipliers in the abstract Neumann problem*, Z. Angew. Math. Mech. **74** (1994), 216–218.

Cited in:

[Q739] L. Liu: Finite element analysis of nonlinear heat conduction problems, Univ. of Jyväskylä, Dept. of Math., Report 75, 1997, 1–95

[Q740] Y. I. Rubezhanskii: Optimal control of the bending of unattached heated spherical shells, Int. Appl. Mech. 32 (1996), 190–195.

[B18] **M. Křížek**, *Superconvergence phenomena in the finite element method*, Comput. Methods Appl. Mech. Engrg. **116** (1994), 157–163.

Cited in:

[Q741] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q742] D. Giannacopoulos and S. McFee: An experimental study of superconvergence phenomena in finite element magnetics. IEEE Trans. Magnet. 33 (1997), 4137–4139.

[Q743] H. Gu and A. Zhou: Superconvergence of the mortar finite element approximation to a parabolic problem, Systems Sci. Math. Sci. 12 (1999), 350–356.

[Q744] H. Gu and A. Zhou: Multi-parameter finite elements and their applications to three-dimensional problems. Proc. Conf. Finite Element Methods: Three-dimensional Problems, Univ. of Jyväskylä, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 98–108.

[Q745] Y. Huang, H. Qin, and D. Wang: Centroidal Voronoi tessallation-based finite element superconveregnce, Internat. J. Numer. Methods Engrg. 76 (2008), 1819–1839.

[Q746] G. P. Liang and P. Luo: Error analysis and global superconvergences for the Signorini's problem with Lagrange multiplier methods. J. Comput. Math. (2002), 79–88.

[Q747] S. Liang, X. Ma, and A. Zhou: Finite volume method for eigenvalue problem, BIT 41 (2001), 345–363.

[Q748] Q. Lin: How the superconvergence theory reduces from thick to thin. Preprint Academia Sinica, 1993.

[Q749] Q. Lin: Error resolution of finite element method. Preprint Academia Sinica, 1994, 1–21.

[Q750] Q. Lin and N. N. Yan: The construction and analysis for efficient finite elements (Chinese), Hebei Univ. Publ. House, 1996.

[Q751] R. Lin: Natural superconvergence in two and three dimensional finite element methods, Dissertation, Wayne State Univ., Detroit, 2005, 1–240.

[Q752] P. Luo and G. P. Liang: Global superconvergence of the domain decomposition methods with nonmatching grids. J. Comput. Math. 19 (2001), 187–194.

[Q753] P. Luo and G. P. Liang: Error analysis and global superconvergence for the Signorini problem with Lagrange multiplier methods. J. Comput. Math. 20 (2002), 79–88.

[Q754] P. Luo and G. P. Liang: Domain decomposition methods with nonmathching grids for the unilateral problem. J. Comput. Math. 20 (2002), 197–206.

[Q755] D. Omeragic and P. P. Silvester: Progress in differentiation of approximate data. IEEE Antennas Propag. 38 (1996), 25–30.

[Q756] D. Omeragic and P. P. Silvester: Numerical differentiation in magnetic field postprocessing. Internat. J. Numer. Model. El. 9 (1996), 99–113.

[Q757] D. Omeragic and P. P. Silvester: Differentiation of finite element solutions to non-linear problems, Internat. J. Numer. Model. - Electronic Networks Devices and Fields 13 (2000), 305–319.

[Q758] Ch. Pflaum: Semi-unstructured grids. Computing 67 (2001), 141–166.

[Q759] C. Pflaum and A. Zhou: Error analysis of the combination technique, Numer. Math. 84 (1999), 327–350.

[Q760] L. B. Wahlbin: Superconvergence in Galerkin finite element methods, LN in Math., vol. 1605, Springer-Verlag, Berlin, 1995.

[Q761] P. Zeng: Composite element method for vibration analysis of structure, Part I: Principle and C^0 element (bar). J. Sound. Vib. 218 (1998), 619–658.

[Q762] L. Zhang and L. K. Li: Superconvergent recoveries of Carey non-conforming element approximations, Comm. Numer. Methods Engrg. 13 (1997), 439–452.

[Q763] Q. D. Zhu: High accuracy and the theory of post-processing of the finite element method, Science Press, Beijing, 2008.

[**B19**] **I. Hlaváček, M. Křížek, and J. Malý**, *On Galerkin approximations of a quasilinear nonpotential elliptic problem of a nonmonotone type*, J. Math. Anal. Appl. **184** (1994), 168–189.

Cited in:

[Q764] C. Bi and V. Ginting: A residual-type a posteriori error estimate of finite volume element method for a quasi-linear elliptic problem, Numer. Math. 114 (2009), 107–132.

[Q765] E. Casas and V. Dhamo: Error estimates for the numerical approximation of a quasilinear Neumann problem under minimal regularity of data, Numer. Math. 117 (2011), 115–145.

[Q766] E. Casas and F. Tröltzsch: First- and second-order optimality conditions for a class of optimal control problems with quasilinear elliptic equations, SIAM J. Control Optim. 48 (2009), 688–718.

[Q767] J. Chleboun: Application of the reliable solution concept to a temperature distribution problem. Proc. of the Workshop on Functional Anal. and its Applications, Německá, 1997, 6–8.

[Q768] J. Chleboun: Numerické řešení problému rozložení teploty v tělese s nejistými koeficienty tepelné vodivosti, Programy a algoritmy numerické matematiky, Kořenov, MÚ AV ČR, Praha, 1998, 59–64.

[Q769] J. Chleboun: Reliable solution for 1D quasilinear elliptic equation with uncertain coefficients. J. Math. Anal. Appl. 234 (1999), 514–528.

[Q770] J. Chleboun: On a reliable solution of a quasilinear elliptic equation with uncertain coefficients: sensitivity analysis and numerical examples. Nonlinear Anal. 44 (2001), 375–388.

[Q771] J. Chleboun: The worst scenario method: A red thread running through various approaches to problems with uncertain input data, Numer. Math. and Advanced Appl. (eds. K. Kunish, G. Of., O. Steinbach), Prof. Conf. ENUMATH 2007, Springer-Verlag, 2008, 1–13.

[Q772] I. Faragó and J. Karátson: Numerical solution of nonlinear elliptic problems via preconditioning operators: Theory and applications. Nova Science Publisher, New York, 2002.

[Q773] M. Feistauer: The effect of numerical integration and approximation of the boundary in the finite element method for nonlinear problems. Proc. of the Xth Summer School: Software and Algorithms of Numerical Mathematics (ed. I. Marek), Cheb, 1993, 23-36.

[Q774] M. Feistauer: Finite element variational crimes in the solution of nonlinear stationary problems. In: Problems and Methods in Mathematical Physics, Teubner-Texte zur Mathematik, Band 134, Leipzig, 1994, 33–42.

[Q775] H. D. Han, Z. Y. Huang, and D. S. Yin: Exact artificial boundary conditions for quasilinear elliptic equations in unbounded domains. Commun. Math. Sci. 6 (2008), 71–83.

[Q776] P. Harasim: On the worst scenario method: a modified convergence theorem and its application to an uncertain differential equation. Appl. Math. 53 (2008), 583–598.

[Q777] P. Harasim: On the worst scenario method: Application to a quasilinear elliptic 2D-problem with uncertain coefficients, accepted by Appl. Math. in 2009, 1–24.

[Q778] P. Harasim: On the worst scenario method and its application to uncertain differential equations. Ph.D. Thesis, Inst. of Math., Silesian University, Opava, 2009.

[Q779] M. Klejchová: The discrete maximum principle in the first order finite element method, Thesis, Faculty of Mathematics and Physics, Charles University, Prague, 2010, 1–59.

[Q780] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q781] M. Laitinen: Asymptotic analysis of conductive-radiative heat transfer, Asymptot. Anal. 29 (2002), 323–342.

[Q782] M. Laitinen: Mathematical modelling of conductive-radiative heat transfer. Jyväskylä Studies in Computing 6 (2000).

[Q783] J. Malík: Generalized G-convergence for quasilinear elliptic differential operators, Nonlinear Anal., Theory, Methods and Appl. 68 (2008), 304–314.

[Q784] J. Mlýnek: Matematické modely vedení tepla v elektrických strojích. Habilitační práce, Tech. Univ. Liberec, 2007.

[Q785] M. Práger: Numerical implementation of the factorization method for a nonlinear two-point problem. In: Numerické metódy a ich aplikácie '95, Colloquium devoted to 80th birthday of A. Huťa, Bratislava, JSMF, 1995, 59–63.

[Q786] V. Sobotíková: Řešení nelineárních eliptických úloh metodou konečných prvků (kandidátská disertační práce), MFF UK, Praha, 1993, 1–116.

[Q787] X. Ch. Tai: Parallel function and space decomposition methods with application to optimization, splitting and domain decomposition methods, Technical Report No. 231, Tech. Univ. Graz, 1992, 1–93.

[Q788] T. Vejchodský: Fully discrete error estimation with the method of lines for a nonlinear parabolic equation, Appl. Math. 48 (2003), 129–151.

[Q789] T. Vejchodský: A posteriori error estimates for a nonlinear parabolic problem, Proc. Conf. WDS, Faculty of Mathematics and Physics, Prague, 2001, 1–5.

[Q790] T. Vejchodský: Comparison principle for a nonlinear parabolic problem of a nonmonotone type, Appl. Math. (Warsaw) 29 (2002), 65–73.

[Q791] T. Vejchodský: On the nonmonotony of nonlinear operators in divergence form, Adv. Math. Sci. Appl. 14 (2004), 25–33.

[Q792] C. H. Yao: Finite element approximation for TV regularization, Internat. J. Numer. Anal. Model. 5 (2008), 516–526.

[Q793] X. Zhang: Solvability of non-linear parabolic boundary value problem with equivalued surface, Math. Methods Appl. Sci. 22 (1999), 259–265.

[Q794] X. Zhang and F. Q. Li: Existence, uniqueness and limit behavior of solutuions to a nonlinear boundary-value problem with equivalued surface. Nonlinear Anal. Theory Methods Appl. 34 (1998), 525–536.

[**B20**] **M. Křížek and J. Mlýnek**, *On the preconditioned biconjugate gradients for solving linear complex equations arising from finite elements*, Banach Center Publ. **29** (1994), 195–205.

Cited in:

[Q795] L. Liu: Finite element analysis of nonlinear heat conduction problems, Univ. of Jyväskylä, Dept. of Math., Report 75, 1997, 1–95.

[Q796] J. Nedoma: Numerical modelling in applied geodynamics. John Wiley & Sons, Chichester, New York, 1998.

[Q797] J. Segethová: Incomplete block factorizations applied to the biconjugate gradient method. In: Proc. Prague Math. Conf., ICARIS, Prague, 1996, 301–306.

[**B21**] **M. Křížek and Q. Lin**, *On diagonal dominancy of stiffness matrices in 3D*, East-West J. Numer. Math. **3** (1995), 59–69.

Cited in:

[Q798] M. Ackerknecht: Discrete maximum principle for the finite element method for elliptic partial differential equations, Master Thesis, Inst. of Math., Univ. of Zurich, 2008, 1–93.

[Q799] S. Bartels: Stability and convergence of finite element approximation schemes for harmonic maps, SIAM J. Numer. Anal. 43 (2005), 220–238.

[Q800] O. Davydov: Discrete maximum principles in finite element analysis, Master Thesis, Dept. of Math. Inform. Technology, Uviv. of Jyväskylä, 2003.

[Q801] K. Deckelnick and K. G. Siebert: $W^{1,\infty}$-convergence of the discrete free boundary for obstacle problems, IMA J. Numer. Anal. 20 (2000), 481–498.

[Q802] V. Dolejší, M. Feistauer, J. Felcman, and A. Kliková: Error estimates for barycentric finite volumes combined with nonconforming finite elements applied to nonlinear convection-diffusion problems. Appl. Math. 47 (2002), 301–340.

[Q803] I. Faragó: Numerical treatment of linear parabolic problems. MTA Doctor Thesis for the Hungarian Academy of Sciences, Eötvös Loránd University, Budapest, 2008.

[Q804] I. Faragó and R. Horváth: Continuous and discrete parabolic operators and their qualitative properties, IMA J. Numer. Anal. 29 (2009), 606–631.

[Q805] I. Faragó, R. Horváth, and S. Korotov: Discrete maximum principle for linear parabolic problems solved on hybrid meshes. Appl. Numer. Math. 53 (2005), 249–264.

[Q806] I. Faragó, S. Korotov, and Á. Rádonyi: New local nonobtuse tetrahedral refinements of a cube, Preprint Univ. Jyväskylä, 2002, 1–9.

[Q807] I. Faragó, S. Korotov, and T. Szabó: On modification of continuous and discrete maximum principles for reaction-diffusion problems, submitted to Adv. Appl. Math. Mech. in 2010, 1–12.

[Q808] M. Feistauer, J. Felcman, M. Lukáčová – Medvid'ová, and G. Warnecke: Error estimates of a combined finite volume – finite element method for nonlinear convection-diffusion problems. SIAM J. Numer. Anal. 36 (1999), 1528–1548.

[Q809] J. Felcman: Adaptive finite volume solution of compressible flow (Habil. Thesis, MFF UK, Prague), 1997.

[Q810] A. Hannukainen, S. Korotov, and T. Vejchodský: Discrete maximum principle for FE solution of the diffucion-reaction problem on prismatic meshes, J. Comput. Appl. Math. 226 (2009), 275–287.

[Q811] A. Hannukainen, S. Korotov, and T. Vejchodský: On weakening conditions for discrete maximum principles for linear finite element schemes, Proc. 4th Internat. Conf. on Numer. Anal Appl., Lorenetz, 2008, LNCS, vol. 5434, 297–304.

[Q812] J.-I. Itoh, T. Zamfirescu: Acute triangulations of the regular icosahedral surface. Discrete Comput. Geom. 31 (2004), 197–206.

[Q813] J.-I. Itoh, T. Zamfirescu: Acute triangulations of the regular dodecahedral surface. European J. Combin. 28 (2007), 1072–1086.

[Q814] J. Karátson: A discrete maximum principle for nonlinear elliptic systems with interface condtions, Proc. of the 6th Internat. Conf. on Large-Scale Sci. Comput., Sozopol, Bulgaria, 2009, (ed. by I. Lirkov et al.), LNCS 5910, Springer-Verlag, 2010, 580–587.

[Q815] J. Karátson and S. Korotov: Continuous and discrete maximum principles for nonlinear elliptic problems. Proc. Internat. Conf. on Comput. and Math. Methods in Sci. and Engrg. (E. Brändas, J. Vigo-Aguiar eds.), Uppsala, 2004, 191–200.

[Q816] J. Karátson and S. Korotov: Discrete maximum principles for finite element solutions of nonlinear elliptic problems with mixed boundary conditions, Numer. Math. 99 (2005), 669–698.

[Q817] J. Karátson and S. Korotov: On the discrete maximum principles for finite element solutions of nonlinear elliptic problems. Proc. Conf. ECCOMAS 2004 (eds. P. Neittaanmäki et al), Univ. of Jyväskylä, 2004, 1–12.

[Q818] J. Karátson and S. Korotov: Discrete maximum principles for finite element solutions of some mixed nonlinear elliptic problems using quadratures, J. Comput. Appl. Math. 192 (2006), 75–88.

[Q819] J. Karátson and S. Korotov: Discrete maximum principles for FEM solutions of some nonlinear elliptic interface problems, Internat. J. Numer. Anal. Model. 6 (2009), 1–16.

[Q820] J. Karátson and S. Korotov: An algebraic discrete maximum principle in Hilbert space with applications to nonlinear cooperative elliptic systems, accepted by SIAM J. Numer. Anal. in 2009, 1–36.

[Q821] A. Kliková: Finite volume–finite element solution of compressible flow, Ph.D. Thesis, Charles Univ., Prague, 2000, 1–188.

[Q822] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q823] S. Korotov, J. Stańdo: Yellow-red and nonobtuse refinements of planar triangulations, Math. Notes, Miskolc 3 (2002), 39–46.

[Q824] S. Korotov, J. Stańdo: Quasi-red and quasi-yellow nonobtuse refinements of planar triangulations, Preprint Univ. of Jyväskylä, 2001, 1–8.

[Q825] S. Korotov and J. Stańdo: Nonstandard nonobtuse refinements of planar triangulations, Proc. Conf. Finite Element Methods: Fifty Years of Conjugate Gradients, Univ. of. Jyväskylä, 2002, 101–112.

[Q826] X. Li and W. Huang: An anisotropic mesh adaptation method for the finite element solution of heterogeneous anisotropic diffusion problems, J. Comput. Phys. 229 (2010), 8072–8094.

[Q827] L. Liu: Finite element analysis of nonlinear heat conduction problems, Univ. of Jyväskylä, Dept. of Math., Report 75, 1997, 1–95.

[Q828] E. Maisse and J. Pousin: Finite element approximation of mass transfer in porous medium with non equilibrium phase change, J. Numer. Math. 12 (2004), 207–231.

[Q829] A. Plaza, M. A. Padrón, J. P. Suárez, and S. Falcón: The 8-tetrahedra longest-edge partition of right-type tetrahedra, Finite Elem. Anal. Des. 41 (2004), 253–265.

[Q830] J. Stańdo: Issues of the finite element method in the context of automatic triangulation and numerical integration (in Polish), Ph.D. Thesis, Uviv. of Lodz, Poland, 2004.

[Q831] T. Tiihonen: Finite element approximation of nonlocal heat radiation problems, Math. Models and Methods in Appl. Sci. 8 (1998), 1071–1089.

[Q832] T. Vejchodský: Finite element approximation of a nonlinear parabolic heat conduction problem and a posteriori error estimators, Ph.D. Thesis, Faculty of Mathematics and Physics, Charles University, Prague, 2003.

[Q833] L. Yuan: Acute triangulations, Ph.D. Thesis, Dortmund Univ., 2006, 1–79.

[Q834] T. Zamfirescu: Acute triangulations: a short survey. Proc. of the Sixth Nat. Conf. of S.S.M.R, Sibiu, Romania, 2002, 9–17.

[B23] **M. Křížek**, *Numerical experience with the three-body problem*, J. Comput. Appl. Math. **63** (1995), 403–409.

Cited in:

[Q835] Z. S. Kuo: Asymptotic solutions of the restricted three-body problem by use of perturbation methods, Trans. Japan Soc. for Aeronautical and Space Sci. 45 (2002), 162–169.

[Q836] J. Němec: Numerical solution of the three-body problem (in Czech), Mgr. Thesis, MFF UK, Prague, 1996, 1–68.

[Q837] J. Němec: Lagrangeovy librační body. Rozhledy mat.-fyz. 76 (1999), 12–18.

[Q838] J. Němec: An alternative proof of Painlevé's theorem. Appl. Math. 45 (2000), 291–299.

[**B24**] **I. Hlaváček and M. Křížek**, *Optimal interior and local error estimates of a recovered gradient of linear elements on nonuniform triangulations*, J. Comput. Math. **14** (1996), 345–362.

Cited in:

[Q839] J. Chleboun: An application of the averaged gradient technique, In Programs and Algorithms of Numer. Math. 14, Inst. of Math., Prague, 2008, 65–70.

[Q840] M. Picasso, F. Alauzet, H. Borouchaki, and P.-L. George: A numerical study of some Hessian recovery techniques on isotropic and anisotropic meshes, accepted by SIAM J. Sci. Comput. in 2010, 1–19.

[**B25**] **M. Křížek and L. Liu**, *On a comparison principle for a quasilinear elliptic boundary value problem of a nonmonotone type*, Appl. Math. (Warsaw) **24** (1996), 97–107.

Cited in:

[Q841] J. Karátson and S. Korotov: Discrete maximum principles for finite element solutions of some mixed nonlinear elliptic problems using quadratures, J. Comput. Appl. Math. 192 (2006), 75–88.

[Q842] M. Klejchová: The discrete maximum principle in the first order finite element method, Thesis, Faculty of Mathematics and Physics, Charles University, Prague, 2010, 1–59.

[Q843] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q844] M. Laitinen: Mathematical modelling of conductive-radiative heat transfer. Jyväskylä Studies in Computing 6 (2000).

[Q845] M. Laitinen and T. Tiihonen: Conductive-radiative heat transfer in grey materials. Reports of the Dept. Math. Inform. Technology, Univ. Jyäskylä, Series B, Scientific Computing, no. B6/2000, 1–36.

[Q846] T. Vejchodský: Comparison principle for a nonlinear parabolic problem of a nonmonotone type, Appl. Math. (Warsaw) 29 (2002), 65–73.

[Q847] T. Vejchodský: On the nonmonotony of nonlinear operators in divergence form, Adv. Math. Sci. Appl. 14 (2004), 25–33.

[Q848] T. Vejchodský: Finite element approximation of a nonlinear parabolic heat conduction problem and a posteriori error estimators, Ph.D. Thesis, Faculty of Mathematics and Physics, Charles University, Prague, 2003.

[**B26**] **M. Křížek and T. Strouboulis**, *How to generate local refinements of unstructured tetrahedral meshes satisfying a regularity ball condition*, Numer. Methods Partial Differential Equations **13** (1997), 201–214.

Cited in:

[Q849] P. Burda: A posteriori error estimates for the Stokes flow in 2D and 3D domains. Proc. Conf. Finite Element Methods: Three-dimensional Problems, Univ. of Jyväskylä, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 34–44.

[Q850] P. Burda, J. Novotný, and B. Sousedík: A posteriori error estimates applied to flow in a channel with corners. Math. Comput. Simulation 61 (2002), 375–383.

[Q851] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q852] S. Korotov and P. Turchyn: A posteriori error estimation of "quantities of interest" on tetrahedral meshes, Proc. Conf. ECCOMAS, 2004.

[Q853] J. Mackerle: 2D and 3D finite element meshing and remeshing: A bibliography (1990–2001), Engrg. Computations (Swansea) 18 (2001), 1108–1197.

[Q854] Ch. Tapp: Anisotrope Gitter – Generierung und Verfeinerung, Den Naturwissenschaftlichen Fakultäten der Friedrich-Alexander-Universität Erlangen-Nürnberg zur Erlangung des Doktorgrades, 1999, 1–191.

[Q855] M. Zítka: On some aspects of adaptive higher-order finite element method for three-dimensional elliptic problems, Ph.D. Thesis, Faculty of Math. and Phys., Charles Univ., Prague, 2008, 1–119.

[**B27**] **M. Křížek and J. Chleboun**, *Is any composite Fermat number divisible by the factor* $5h2^n + 1$*?*, Tatra Mt. Math. Publ. **11** (1997), 17–21.

Cited in:

[Q856] K. R. Guy: Unsolved problems in number theory, the third edition, Springer, Berlin, 2004.

[**B28**] **M. Křížek and L. Liu**, *Finite element approximation of a nonlinear heat conduction problem in anisotropic media*, Comput. Methods Appl. Mech. Engrg. **157** (1998), 387–397.

Cited in:

[Q857] L. Angermann and S. Wang: Multidimensional exponetially fitted simplicial finite elements for convection-diffusion equations with tensor-valued diffusion, Calcolo 42 (2005), 71–91.

[Q858] S. Deng and Y. Hwang: Solving the temperature distribution field in nonlinear heat conduction problem using the Hopfield neutral network, Numer. Heat Transfer, Part B–Fundamentals 51 (2007), 375–389.

[Q859] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q860] R. Liska and M. Shashkov: Enforcing the discrete maximum principle for linear finite element solutions of elliptic problems, Commun. Comput. Phys. 3 (2008), 852–877.

[Q861] J. Mackerle: Heat transfer analysis by finite element and boundary element methods. A bibliography (1997–1998). Finite Elem. Anal. Des. 34 (2000), 309–320.

[Q862] G. Manzini, M. Putti: Mesh locking effects in the finite volume solution of 2-D anisotropic diffusion problems, J. Comput. Phys. 220 (2007), 751–771.

[Q863] K. B. Nakshatrala and A. J. Valocchi: Non-negative mixed finite element formulations for a tensorial diffusion equation, J. Comput. Phys. 228 (2009), 6726–6752.

[Q864] K. D. Pennell, P. P. E. Carriere, C. Gallo, et al.: Groundwater quality. Water Environ. Res. 71 (1999), 973–1053.

[Q865] L. Stals: Comparison of non-linear solvers for the solution of radiation transport equations, Electronic Trans. Numer. Anal. 15 (2003), 78–93.

[**B29**] **L. Liu and M. Křížek**, *Finite element analysis of a radiation heat transfer problem*, J. Comput. Math. **16** (1998), 327–336.

Cited in:

[Q866] M. Feistauer, K. Najzar, and V. Sobotíková: Error estimates for the finite element solution of elliptic problems with nonlinear Newton boundary conditions, Numer. Funct. Anal. Optim. 20 (1999), 835–851.

[Q867] M. Feistauer, K. Najzar, and V. Sobotíková: On the finite element analysis of problems with nonlinear Newton boundary conditions in nonpolygonal domains, Appl. Math. 46 (2001), 353–382.

[Q868] M. Feistauer, K. Najzar, and K. Švadlenka: On a parabolic problem with nonlinear Newton boundary condition, Comment. Math. Univ. Carolin. 43 (2002), 429–455.

[Q869] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q870] J. Kotzerke,

[Q871] J. Mackerle: Heat transfer analysis by finite element and boundary element methods. A bibliography (1997–1998). Finite Elem. Anal. Des. 34 (2000), 309–320.

[Q872] L. Simon, G. Stoyan: On the existence of a generalized solution to a three-dimensional elliptic equation with radiation boundary condition. Appl. Math. 46 (2001), 241–250.

[Q873] V. Sobotíková: Error estimates for nonlinear boundary value problems solved by nonconforming finite element methods, Habilitation Thesis, Faculty of Electrical Engineering, Czech Technical University, Prague, 2010.

[Q874] P. Sváček: Finite element method for a problem with nonlinear boundary conditions, Ph.D. Thesis, Faculty of Mathematics and Physics, Prague, 2002, 1–106.

[Q875] P. Sváček and K. Najzar: Error estimates for the FE solution of problems with nonlinear Newton boundary conditions, submitted in 2003.

[**B30**] **M. Křížek, L. Liu, and P. Neittaanmäki**, *Postprocessing of Gauss-Seidel iterations*, Numer. Linear Algebra Appl. **6** (1999), 147–156.

Cited in:

[Q876] J. H. Brandts: Acceleration of Krylov subspaces methods by preprocessing of the initial residual. Preprint Univ. of New South Wales, Sydney, 1998, 1–30.

[Q877] J. H. Brandts: Deliberate ill-conditioning of Krylov matrices. Preprint no. 1181, Mathematical Institute, Utrecht Univ., 2001, 1–29.

[Q878] T. M. Ng, B. Farhang-Boroujeny, and H. K. Garg: An accelerated Gauss-Seidel method for inverse modeling, Signal Processing 83 (2003), 517–529.

[B32] **M. Křížek**, *Numerical experience with the finite speed of gravitational interaction*, Math. Comput. Simulation **50** (1999), 237–245.

Cited in:

[Q879] J. Němec: An alternative proof of Painlevé's theorem. Appl. Math. 45 (2000), 291–299.

[Q880] M. Wierer: Obyčejné diferenciální rovnice se zpožděním, Mgr. Thesis, MFF UK Praha, 2000, 1–69.

[B33] **S. Korotov and M. Křížek**, *Finite element analysis of variational crimes for a quasilinear elliptic problem in* $3D$, Numer. Math. **84** (2000), 549–576.

Cited in:

[Q881] L. T. Dechevsky: Near-degenerate finite element and lacunary multiresolution methods of approximation, Saint-Malo Proceedings (ed. by L. L. Schumaker), Vanderbit Univ. Press, 2000, 1–19.

[Q882] L. T. Dechevski and W. L. Wendland: On the Bramble-Hilbert lemma, II: Model applications to quasi-interpolation and linear problems. Internat. J. Pure Appl. Math. 33 (2006), 465–501.

[Q883] L. T. Dechevsky and W. L. Wendland: On the Bramble-Hilbert lemma, II. Preprint 2007/002, Univ. Stuttgart, Berichte aus dem Inst. für Angewandte Anal. und Numer. Simulation, 2007, 1–67.

[Q884] I. Faragó and J. Karátson: Numerical solution of nonlinear elliptic problems via preconditioning operators: Theory and applications. Nova Science Publisher, New York, 2003.

[Q885] H. D. Han, Z. Y. Huang, and D. S. Yin: Exact artificial boundary conditions for quasilinear elliptic equations in unbounded domains. Commun. Math. Sci. 6 (2008), 71–83.

[Q886] P. Knobloch: Variational crimes in a finite element discretization of 3D Stokes equations with nonstandard boundary conditions. East-West J. Numer. Math. 7 (1999), 133–158.

[Q887] T. V. Kolev: Least-squares methods for computational electromagnetics, Ph.D. Thesis, Texas A & M University, 2004.

[Q888] Ch. Pflaum: Semi-unstructured grids. Computing 67 (2001), 141–166.

[Q889] C. H. Yao: Finite element approximation for TV regularization, Internat. J. Numer. Anal. Model. 5 (2008), 516–526.

[**B34**] **M. Křížek and J. Pradlová**, *Nonobtuse tetrahedral partitions*, Numer. Methods Partial Differential Equations **16** (2000), 327–334.

Cited in:

[Q890] H. J. Kim and C. C. Swan: Voxel-based meshing and unit-cell analysis of textile composites Internat. J. Numer. Methods Engrg. 56 (2003), 977–1006.

[Q891] H. J. Kim and C. C. Swan: Algorithm for automated meshing and unit cell analysis of periodic composites with hierarchical tri-quadratic tetrahedral elements, Internat. J. Numer. Methods Engrg. 58 (2003), 1683–1711.

[Q892] J. Mackerle: 2D and 3D finite element meshing and remeshing: A bibliography (1990–2001), Engrg. Computations (Swansea) 18 (2001), 1108–1197.

[**B35**] **S. Korotov, M. Křížek, and P. Neittaanmäki**, *Weakened acute type condition for tetrahedral triangulations and the discrete maximum principle*, Math. Comp. **70** (2001), 107–119.

Cited in:

[Q893] M. Ackerknecht: Discrete maximum principle for the finite element method for elliptic partial differential equations, Master Thesis, Inst. of Math., Univ. of Zurich, 2008, 1–93.

[Q894] R. Araiza: The use of interval-related knowledge in processing 2-D and 3-D data, with an emphasis on applications to geosciences and biosciences, Ph.D. Thesis, Dept. of Comput. Sci., Univ. of Texas at El Paso, 2007, 1–157.

[Q895] E. Bertolazzi and G. Manzini: A second-order maximum principle preserving finite volume method for steady convection-diffusion problems, SIAM J. Numer. Anal. 43 (2005), 2172–2199.

[Q896] S. Burke, C. Ortner, and E. Süli: An adaptive finite element approximation of a variational model of brittle fracture, SIAM J. Numer. Anal. 48 (2010), 980–1012.

[Q897] S. Burke, C. Ortner, and E. Süli: Adaptive finite element approximation of the Francfort-Marigo model of brittle fracture, preprint Univ. of Oxford, 2009, 1–14.

[Q898] E. Burman and A. Ern: Nonlinear crosswind diffusion and discrete maximum principle for stabilized Galerkin approximations, Preprint 204, CERMINCS, France, 2001.

[Q899] E. Burman and A. Ern: Nonlinear diffusion and discrete maximum principle for stabilized Galerkin approximations of the convection-diffusion-reaction equation, Comput. Methods Appl. Mech. Engrg. 191 (2002), 3833–3855.

[Q900] E. Burman and A. Ern: Stabilized Galerkin approximation of convection-diffusion-reaction equations: Discrete maximum principle and convergence, Math. Comp. 74 (2003), 1637–1652.

[Q901] E. Burman and A. Ern: Discrete maximum principle for Galerkin approximations of the Laplace operator on arbitrary meshes. C. R. Math. Acad. Sci. Paris 338 (2004), 641–646.

[Q902] A. Caboussat: Analysis and numerical simulation of free surface flows, Ph.D. Thesis, École Polytechnique de Lausanne, Switzerland, 2003.

[Q903] A. Danilov and Y. Vassilevski: A monotone nonlinear finite volume method for diffusion

equation on conformal polyhedral meshes, Russian J. Numer. Anal. Math. Model. (2009), 207–227.

[Q904] O. Davydov: Discrete maximum principles in finite element analysis, Master Thesis, Dept. of Math. Inform. Technology, Uviv. of Jyväskylä, 2003.

[Q905] A. Drăgănescu, T. F. Dupont, L. R. Scott: Failure of the discrete maximum principle for an elliptic finite element problem, Math. Comp. 74 (2005), 1–23.

[Q906] I. Faragó: Numerical treatment of linear parabolic problems. MTA Doctor Thesis for the Hungarian Academy of Sciences, Eötvös Loránd University, Budapest, 2008.

[Q907] I. Faragó and R. Horváth: Discrete maximum principle and adequate discretizations of linear parabolic problems, SIAM J. Sci. Comp. 28 (2006), 2313–2336.

[Q908] I. Faragó and R. Horváth: A review of reliable numerical models for three-dimensional linear parabolic problems, Internat. J. Numer. Methods Engrg. 70 (2007), 25–45.

[Q909] I. Faragó and R. Horváth: Continuous and discrete parabolic operators and their qualitative properties, IMA J. Numer. Anal. 29 (2009), 606–631.

[Q910] A. Hellander and P. Lötstedt: Incomporating active transport of cellular cargo in stochastic mesoscopic models of living cells, Techn. Rep. 2009-010, Uppsala Univ., submitted.

[Q911] R. Horváth: Sufficient conditions of the discrete maximum-minimum principle for parabolic problems on rectangular meshes, Comput. Math. Appl. 55 (2008), 2306–2317.

[Q912] J.-I. Itoh and T. Zamfirescu: Acute triangulations of the regular icosahedral surface, Discrete Comput. Geom. 31 (2004), 197–206.

[Q913] J.-I. Itoh and T. Zamfirescu: Acute triangulations of the regular dodecahedral surface, Europ. J. Combin. 28 (2007), 1072–1086.

[Q914] A. Jüngel and A. Unterreiter: Discrete maximum and minimum principles for finite element approximations of non-monotone elliptic equations. Numer. Math. 99 (2005), 485–508.

[Q915] J. Karátson: A discrete maximum principle for nonlinear elliptic systems with interface condtions, Proc. of the 6th Internat. Conf. on Large-Scale Sci. Comput., Sozopol, Bulgaria, 2009, (ed. by I. Lirkov et al.), LNCS 5910, Springer-Verlag, 2010, 580–587.

[Q916] M. Klejchová: The discrete maximum principle in the first order finite element method, Thesis, Faculty of Mathematics and Physics, Charles University, Prague, 2010, 1–59.

[Q917] A. Kolcun: Nonconformity problem in 3D grid decompositions, J. of WSCG 10 (2002), 249–253.

[Q918] R. Kornhuber and Q. Zou: Efficient and reliable hierarchical error estimates for the discretization error of elliptic obstacle problem, Math. Comp. 80 (2010), 69–88.

[Q919] K. Lipnikov, M. Shashkov, D. Svyatskiy, and Yu. Vassilevski: Monotone finite volume schemes for diffusion equations on unstructured triangular and shape-regular polygonal meshes, J. Comput. Phys. 227 (2007), 492–512.

[Q920] K. Lipnikov, D. Svyatskiy, and Yu. Vassilevski: Interpolation-free monotone finite volume method for diffusion equations on polygonal meshes, J. Comput. Phys. 228 (2009), 703–716.

[Q921] K. Lipnikov, D. Svyatskiy, and Yu. Vassilevski: A monotone finite volume method for advection-diffusion equations on unstructured polygonal meshes, accepted by J. Comput. Phys. in 2009, 15 pp.

[Q922] J. Mackerle: 2D and 3D finite element meshing and remeshing, a bibliography (1990–2001), Engrg. Comput. 18 (2001), 1108–1197.

[Q923] M. J. Mlacnik and L. J. Durflovsky: Unstructured grid optimization for improved monotonicity of discrete solutions of elliptic equalities with highly anisotropic coefficients, preprint, 2005.

[Q924] R. Muhanna, V. Kreinovich, P. Šolín, J. Chessa, R. Araiza, and G. Xiang: Interval finite element methods: new directions. Proc. of Reliable Engrg. Conf. (REC-2006), Georgia Tech., Savannah, 2006, 229–245.

[Q925] H. Nagarajan and K. B. Nakshatrala: Enforcing non-negativity constrain and maximum principles for diffusion with decay on general computational grids, arXiv: 1003.5257v1 [cs.NA] 27 Mar 2010, 1–41.

[Q926] K. Nikitin and Yu. Vassilevski: A monotone nonlinear finite volume method for advection-diffusion equations on unstructured polyhedral meshes in 3D, Russian J. Numer. Anal. Math. Model. 25 (2010), 335–358.

[Q927] A. Prohl and M. Schmuck: Convergent discretizations for the Nernst-Planck-Poisson system, Numer. Math. 111 (2009), 591–630.

[Q928] H.-G. Roos, M. Stynes, and L. Tobiska: Robust numerical methods for singularly perturbed differential equations. Springer Series in Comput. Math. vol. 24, Springer-Verlag, Berlin, Heidelberg, 2008.

[Q929] Z. Q. Sheng, G. W. Yuan: The finite volume scheme preserving extremum principle for diffusion equations on polygonal meshes, J. Comput. Phys. 230 (2011), 2588–2604.

[Q930] Z. Q. Sheng, J. Yue, G. W. Yuan: Monotone finite volume schemes of nonequilibrium radiation diffusion equations in distorted meshes, SIAM J. Sci. Comput. 31 (2009), 2915–2934.

[Q931] P. Šolín and T. Vejchodský: A weak discrete maximum principle for *hp*-FEM, J. Comput. Appl. Math. 209 (2007), 54–65.

[Q932] P. Šolín and T. Vejchodský: Discrete maximum principle for higher-order finite elements in 1D, Math. Comp. 76 (2007), 1833–1846.

[Q933] P. Šolín, T. Vejchodský, and R. Araiza: On a discrete maximum principle for one-dimensional *hp*-FEM, preprint Univ. of Texas at El Paso, 2005, 1–25.

[Q934] P. Šolín, T. Vejchodský, and R. Araiza: Discrete conservation of nonnegativity for elliptic problems solved by the hp-FEM, Math. Comput. Simulation 76 (2007), 205–210.

[Q935] J. Stańdo: Issues of the finite element method in the context of automatic triangulation and numerical integration (in Polish), Ph.D. Thesis, Uviv. of Lodz, Poland, 2004.

[Q936] V. Thomée and L. Wahlbin: On the existence of maximum principles in parabolic finite

element equations. Math. Comp. 77 (2008), no. 261, 11–19.

[Q937] T. Vejchodský: Comparison principle for a nonlinear parabolic problem of a nonmonotone type, Appl. Math. (Warsaw) 29 (2002), 65–73.

[Q938] T. Vejchodský: Finite element approximation of a nonlinear parabolic heat conduction problem and a posteriori error estimators, Ph.D. Thesis, Faculty of Mathematics and Physics, Charles University, Prague, 2003.

[Q939] T. Vejchodský: Method of lines and conservation of nonnegativity. Proc. ECCOMAS-2004, Jyväskylä, Finland (ed. by P. Neittaanmäki et al.), 2004, 1–18.

[Q940] T. Vejchodský and P. Šolín: Discrete Green's function and maximum principles, Proc. PANM 13 dedicated to the 80th birthday of Professor Ivo Babuška, Math. Inst. Prague (eds. J. Chleboun, K. Segeth, T. Vejchodský), 2006, 247–252.

[Q941] T. Vejchodský and P. Šolín: Discrete maximum principle for higher-order finite elements in 1D, Math. Comp. 76 (2007), 1833–1846.

[Q942] T. Vejchodský and P. Šolín: Discrete maximum principle for a 1D problem with piecewise-constant coefficients solved by *hp*-FEM J. Numer. Math. 15 (2007), 233–243.

[Q943] T. Vejchodský and P. Šolín: Discrete maximum principle for Poisson equation with mixed boundary conditions solved by *hp*-FEM, Adv. Appl. Math. Mech. 1 (2009), 201–214.

[Q944] G. W. Yuan, Z. Q. Sheng: Monotone finite volume schemes for diffusion equations on polygonal meshes, J. Comput. Phys. 227 (2008), 6288–6312.

[Q945] L. Yuan: Acute triangulations, Ph.D. Thesis, Dortmund Univ., Germany, 2006, 1–79.

[Q946] T. Zamfirescu: Acute triangulations: a short survey. Proc. of the Sixth Nat. Conf. of S.S.M.R, Sibiu, Romania, 2002, 9–17.

[Q947] M. Zítka: On some aspects of adaptive higher-order finite element method for three-dimensional elliptic problems, Ph.D. Thesis, Faculty of Math. and Phys., Charles Univ., Prague, 2008, 1–119.

[**B37**] **S. Korotov and M. Křížek**, *Acute type refinements of tetrahedral partitions of polyhedral domains*, SIAM J. Numer. Anal. **39** (2001), 724–733.

Cited in:

[Q948] L. Baňas and A. Prohl: Convergent finite element discretization of the multi-fluid nonstationary incompressible magnetohydrodynamics equations, Math. Comp. 79 (2010), 1957–1999.

[Q949] J. W. Barrett, D. J. Knezevic, and E. Süli: Kinetic models of dilute polymers: Analysis, approximation and computation, Lecture Notes, 2009, 1–225.

[Q950] J. W. Barrett and E. Süli: Finite element approximation of kinetic dilute polymer models with microscopic cut-off, accepted by Math. Model. Numer. Anal. in 2009, 1–50.

[Q951] S. Bartels: Stability and convergence of finite-element approximation schemes for harmonic maps. SIAM J. Numer. Anal. 43 (2005), 220–238.

[Q952] S. Bartels: Combination of global and local approximation schemes for harmonic maps into spheres, J. Comput. Math. 27 (2009), 170–183.

[Q953] S. Bartels: Finite element approximation of harmonic maps between surfaces, Habilitationsschrift, Humbolt Univ., Berlin, 2009, 1–159.

[Q954] S. Bartels and T. Roubíček: Thermoviscoplasticity at small strains, Z. Angew. Math. Mech. 88 (2008), 735–754.

[Q955] E. Bertolazzi and G. Manzini: A second-order maximum principle preserving finite volume method for steady convection-diffusion problems, SIAM J. Numer. Anal. 43 (2005), 2172–2199.

[Q956] A. H. Boschitsch and M. O. Fenley: Hybrid boundary element and finite difference method for solving the nonlinear Poisson-Boltzmann equation, J. Comput. Chemistry 25 (2004), 935–955.

[Q957] O. Davydov: Discrete maximum principles in finite element analysis, Master Thesis, Dept. of Math. Inform. Technology, Uviv. of Jyväskylä, 2003.

[Q958] H. Q. Dinh, A. Yezzi, and G. Turk: Texture transfer during shape transformation, ACM Trans. on Graphics 24 (2005), 289–310.

[Q959] D. Eppstein, J. M. Sullivan, and A. Üngör: Tiling space and slabes with acute tetrahedra, Comput. Geom.: Theory and Appl. 27 (2004), 237–255.

[Q960] J. Haehnle: Numerical approximation of the mumford-shah functional for unit vector fields, Preprint, Univ. Tuebingen, 2009, 1–36.

[Q961] J.-I. Itoh and T. Zamfirescu: Acute triangulations of the regular icosahedral surface. Discrete Comput. Geom. 31 (2004), 197–206.

[Q962] J.-I. Itoh and T. Zamfirescu: Acute triangulations of the regular dodecahedral surface, Europ. J. Combin. 28 (2007), 1072–1086.

[Q963] J. W. Jerome: A trapping principle and convergence results for finite element approximate solutions of steady reaction/diffusion systems, Numer. Math. 109 (2008), 121–142.

[Q964] A. Jüngel and A. Unterreiter: Discrete maximum and minimum principles for finite element approximations of non-monotone elliptic equations, Numer. Math. 99 (2005), 485–508.

[Q965] J. Karátson: A discrete maximum principle for nonlinear elliptic systems with interface condtions, Proc. of the 6th Internat. Conf. on Large-Scale Sci. Comput., Sozopol, Bulgaria, 2009, (ed. by I. Lirkov et al.), LNCS 5910, Springer-Verlag, 2010, 580–587.

[Q966] R. Kornhuber and Q. Zou: Efficient and reliable hierarchical error estimates for the discretization error of elliptic obstacle problems, to appear in Math. Comp.

[Q967] A. Plaza, M. A. Padrón, J. P. Suárez, and S. Falcón: The 8-tetrahedra longest-edge partition of right-type tetrahedra, Finite Elem. Anal. Des. 41 (2004), 253–265.

[Q968] J. Stańdo: Issues of the finite element method in the context of automatic triangulation and numerical integration (in Polish), Ph.D. Thesis, Uviv. of Lodz, Poland, 2004.

[Q969] A. Üngör: Parallel Delaunay refinement and space-time meshing, Ph.D. Thesis, Graduate

College, Univ. of Illinois at Urbana-Champaign, 2002.

[Q970] L. Yuan: Acute triangulations, Ph.D. Thesis, Dortmund Univ., 2006, 1–79.

[Q971] T. Zamfirescu: Acute triangulations: a short survey. Proc. of the Sixth Nat. Conf. of S.S.M.R, Sibiu, Romania, 2002, 9–17.

[Q972] M. Zítka: On some aspects of adaptive higher-order finite element method for three-dimensional elliptic problems, Ph.D. Thesis, Faculty of Math. and Phys., Charles Univ., Prague, 2008, 1–119.

[B40] **M. Křížek, F. Luca, and L. Somer**, *On the convergence of series of reciprocals of primes related to the Fermat numbers*, J. Number Theory **97** (2002), 95–112.

Cited in:

[Q973] A. Chaumont, J. Leicht, T. Müller, and A. Reinhart: The continuing search for large elite primes, Internat. J. Number Theory 5 (2009), 209–218.

[Q974] A. Chaumont and T. Müller: All elite primes up to 250 billions, J. Integer Seq. 9 (2006), Article 06.3.8, 1–5.

[Q975] T. Müller: Searching for large elite primes, Experiment. Math. 15 (2006), 183–186.

[Q976] T. Müller: On anti-elite prime numbers, submitted to J. Integer Seq. in 2007, 1–10.

[Q977] T. Müller: On the fermat periods of natural numbers, J. Integer Seq. 13 (2010), 1–12.

[Q978] T. Müller and A. Reinhart: On generalized elite primes, J. Integer Seq. 11 (2008), issue 3, article no. 08.3.1.

[Q979] Wikipedia, the free encyclopedia, `http://en.wikipedia.org/wiki/fermat`$_n$*umber*

[B42] **J. Brandts and M. Křížek**, *Gradient superconvergence on uniform simplicial partitions of polytopes*, IMA J. Numer. Anal. **23** (2003), 489–505.

Cited in:

[Q980] L. Chen: Superconvergence of tetrahedral linear finite elements, Internat. J. Numer. Anal. Model. 3 (2006), 273–282.

[Q981] L. Chen and H. Li: Superconvergence of gradient recovery schemes on graded meshes for corner singularities, J. Comput. Math. 28 (2010), 11–31.

[Q982] A. Hannukainen and S. Korotov: Techniques for a posteriori error estimation in terms of linear functionals for elliptic type boundary value problems, Far East J. Appl. Math. 21 (2005), 289–304.

[Q983] A. Hannukainen and S. Korotov: Computational technologies for reliable control of global and local errors for linear elliptic type boundary value problems, J. Numer. Anal., Industrial Appl. Math. 2 (2007), 157–176.

[Q984] A. Hannukainen, S. Korotov, and M. Rüter: A posteriori error estimates for some problems in linear elasticity, European Soc. Comput. Methods Sci. Engrg. 4 (2008), 61–72.

[Q985] J. Karátson and S. Korotov: Sharp upper global a posteriori error estimates for nonlinear elliptic variational problems, Appl. Math. 54 (2009), 297–336.

[Q986] K. Kolman: Finite element postprocessing in eigenvalue problems by two-level and superconvergence based methods, Proc. of the Week of Doctoral Students, Vol. 1, Faculty of Mathematics and Physics, Charles Univ., Matfyzpress, Prague, 2003, 48–53.

[Q987] K. Kolman: Superconvergence by the Steklov averaging in the finite element method, Appl. Math. (Warsaw) 32 (2005), 477–488.

[Q988] K. Kolman: Higher-order approximations in the finite element method, Ph. D. Thesis, Charles Univ., Prague, 2010.

[Q989] S. Korotov: A posteriori error estimation of goal-oriented quantities for elliptic type BVPs, J. Comput. Appl. Math. 191 (2006), 216–227.

[Q990] S. Korotov: Error control in terms of linear functionals based on gradient averaging techniques, Proc. Internat. Conf. ICCMSE 2005, Greece, ed. T. Simos, 1–9.

[Q991] S. Korotov: A posteriori error estimation for linear elliptic problems with mixed boundary conditions, Preprint A495, Helsinki Univ. of Technology, Espoo 2006, 1–14.

[Q992] S. Korotov: Two-sided a posteriori error estimates for linear elliptic problems with mixed boundary conditions, Appl. Math. 52 (2007), 235–249.

[Q993] S. Korotov: Global a posteriori error estimates for convection-reaction-diffusion problems, Appl. Math. Model. 32 (2008), 1579–1586.

[Q994] S. Korotov, P. Neittaanmäki, and S. Repin: A posteriori error estimation of “quantities of interest” for elliptic-type boundary value problems, Proc. Conf. ECCOMAS, 2004.

[Q995] S. Korotov and P. Turchyn: A posteriori error estimation of “quantities of interest” on tetrahedral meshes, Proc. Conf. ECCOMAS, 2004.

[Q996] S. Korotov and P. Turchyn: A posteriori error estimation of goal-oriented quantities for elliptic type BVPs, Internat. Conf. of Comput. Methods in Sci. and Engrg., ICCMSE - 2004, Athens, Lecture Series on Computer and Computational Sciences, vol. 1, (eds. T. Simon and G. Maroulis) VSP, Utrecht, 2004, 269–273.

[Q997] B. Li: Lagrange interpolation and finite element superconvergence, Numer. Methods Partial Diffrential Equations 20 (2004), 33–59.

[Q998] Q. Lin, J.-M. Zhou, and H.-T. Chen: Supercloseness and extrapolation of the tetrahedral linear finite elements for elliptic problem (in Chinese), Mathematics in Practice and Theory 39 (2009), 200–208.

[Q999] J. Liu, X. Huo, and Q. D. Zhu: Pointwise supercloseness of quadratic serendipity block finite elements for the variable coefficient elliptic equation, submitted to Numer. Methods Partial Differential Equations in 2009, 1–9.

[Q1000] J. Liu, B. Jia, and Q. D. Zhu: An estimate for the three-dimensional discrete Green’s function and applications, submitted in 2010 , 1–20.

[Q1001] J. Liu, H. Sun and Q. D. Zhu: Superconvergence of tricubic block finite elements, Sci. in China, Ser. A 52 (2009), 959–972.

[Q1002] J. Liu and Q. D. Zhu: Pointwise supercloseness of tensor-product block finite elements, submitted to Numer. Methods Partial Differential Equations in 2008, 1–21.

[Q1003] J. Liu and Q. D. Zhu: Pointwise supercloseness of pentahedral finite elements, Numer. Methods Partial Differential Equations 2009, 1572–1580.

[Q1004] J. S. Ovall: Function, gradient, and Hessian recovery using quadratic edge-bump functions, SIAM J. Numer. Anal. 45 (2007), 1064–1080.

[Q1005] M. Picasso: Adaptive finite elements with large aspect ratio based on an anisotropic error estimator involving first order derivatives, Comput. Methods Appl. Mech. Engrg. 196 (2006), 14–23.

[Q1006] M. Picasso, F. Alauzet, H. Borouchaki, and P.-L. George: A numerical study of some Hessian recovery techniques on isotropic and anisotropic meshes, accepted by SIAM J. Sci. Comput. in 2010, 1–19.

[**B43**] **M. Křížek and L. Liu**, *On the maximum and comparison principles for a steady-state nonlinear heat conduction problem*, Z. Angew. Math. Mech. **83** (2003), 559–563.

Cited in:

[Q1007] R. Araiza: The use of interval-related knowledge in processing 2-D and 3-D data, with an emphasis on applications to geosciences and biosciences, Ph.D. Thesis, Dept. of Comput. Sci., Univ. of Texas at El Paso, 2007, 1–157.

[Q1008] E. Casas and F. Tröltzsch: First- and second-order optimality conditions for a class of optimal control problems with quasilinear elliptic equations, SIAM J. Control Optim. 48 (2009), 688–718.

[Q1009] J. Karátson and S. Korotov: Discrete maximum principles for finite element solutions of some mixed nonlinear elliptic problems using quadratures, J. Comput. Appl. Math. 192 (2006), 75–88.

[Q1010] J. Karátson and S. Korotov: Discrete maximum principles for finite element solutions of nonlinear elliptic problems with mixed boundary conditions, Numer. Math. 99 (2005), 669–698.

[Q1011] R. Liska and M. Shashkov: Enforcing the discrete maximum principle for linear finite element solutions of elliptic problems, Commun. Comput. Phys. 3 (2008), 852–877.

[Q1012] K. B. Nakshatrala and A. J. Valocchi: Non-negative mixed finite element formulations for a tensorial diffusion equation, J. Comput. Phys. 228 (2009), 6726–6752.

[Q1013] P. Šolín and T. Vejchodský: On a discrete maximum principle for one-dimensional *hp*-FEM, preprint Univ. of Texas at El Paso, 2005, 1–25.

[Q1014] P. Šolín and T. Vejchodský: A weak discrete maximum principle for *hp*-FEM, J. Comput. Appl. Math. 209 (2007), 54–65.

[Q1015] P. Šolín, T. Vejchodský, and R. Araiza: Discrete conservation of nonnegativity for elliptic

problems solved by the hp-FEM, Math. Comput. Simulation 76 (2007), 205–210.

[Q1016] T. Vejchodský and P. Šolín: Discrete maximum principle for Poisson equation with mixed boundary conditions solved by *hp*-FEM, Adv. Appl. Math. Mech. 1 (2009), 201–214.

[**B44**] **S. Korotov and M. Křížek**, *Local nonobtuse tetrahedral refinements of a cube*, Appl. Math. Lett. **16** (2003), 1101–1104.

Cited in:

[Q1017] S. Bartels: Finite element approximation of harmonic maps between surfaces, Habilitationsschrift, Humbolt Univ., Berlin, 2009, 1–159.

[Q1018] O. Davydov: Discrete maximum principles in finite element analysis, Master Thesis, Dept. of Math. Inform. Technology, Uviv. of Jyväskylä, 2003.

[Q1019] J. Stańdo: Issues of the finite element method in the context of automatic triangulation and numerical integration (in Polish), Ph.D. Thesis, Uviv. of Lodz, Poland, 2004.

[**B45**] **L. Liu, K. B. Davies, K. Yuan, M. Křížek**, *On symmetric pyramidal finite elements*, Dyn. Contin. Discrete Impuls. Syst., Ser. B, Appl. Algorithms **11** (2004), 213–227.

Cited in:

[Q1020] M. Bergot, G. Cohen, and M. Duruflé: Highre-order finite elements for hybrid meshes using new nodal pyramidal elements, J. Sci. Comput. 42 (2010), 345–381.

[**B46**] **M. Křížek and L. Somer**, *Sophie Germain little suns*, Math. Slovaca **54** (2004), 433–442.

Cited in:

[Q1021] J. Skowronek-Kaziów: Some digraphs arising from number theory and remarks on the zero-divisor graph of the ring Z_n, Inform. Process. Lett. 108 (2008), 165–169.

[**B47**] **L. Liu, T. Liu, M. Křížek, T. Lin, and S. Zhang**, *Global superconvergence and a posteriori error estimators of finite element methods for a quasilinear elliptic boundary value problem of a nonmonotone type*, SIAM J. Numer. Anal. **42** (2004), 1729–1744.

Cited in:

[Q1022] C. Bi and V. Ginting: A residual-type a posteriori error estimate of finite volume element method for a quasi-linear elliptic problem, Numer. Math. 114 (2009), 107–132.

[Q1023] K. Kolman: Finite element postprocessing in eigenvalue problems by two-level and superconvergence based methods, Proc. of the Week of Doctoral Students, Vol. 1, Faculty of Mathematics and Physics, Charles Univ., Matfyzpress, Prague, 2003, 48–53.

[Q1024] K. Kolman: Higher-order approximations in the finite element method, Ph. D. Thesis, Charles Univ., Prague, 2010.

[Q1025] T. Vejchodský: Finite element approximation of a nonlinear parabolic heat conduction problem and a posteriori error estimators, Ph.D. Thesis, Faculty of Mathematics and Physics, Charles University, Prague, 2003.

[Q1026] T. Vejchodský: On a posteriori error estimation strategies for elliptic problems, Proc. Internat. Conf. Presentation of Mathematics '05, TU Liberec, 2006, 373–386.

[Q1027] N. N. Yan: Superconvergence analysis and a posteriori error estimation in finite element methods, Ser. Inf. Comput. Sci., vol. 40, Science Press, Beijing, 2008.

[Q1028] Y. Yang and A. Zhou: Local averaging based a posteriori finite element error control for quasilinear elliptic problems with applications to electric potential computation, Comput. Methods Appl. Mech. Engrg. 196 (2006), 452–465.

[**B49**] **J. Brandts and M. Křížek**, *Superconvergence of tetrahedral quadratic finite elements*, J. Comput. Math. **23** (2005), 27–36.

Cited in:

[Q1029] W. M. He, W. Q. Chen, and Q. D. Zhu: Local superconvergence for second-degree triangular Galerkin finite element method over special nonuniform partition, submitted to BIT Numer. Math. in 2010, 1–10.

[Q1030] W. M. He and Q. D. Zhu: Superconvergence for tensor-product block FEM, submitted to Numer. Methods Partial Differential Equations in 2010, 1–19.

[Q1031] K. Kolman: Finite element postprocessing in eigenvalue problems by two-level and superconvergence based methods, Proc. of the Week of Doctoral Students, Vol. 1, Faculty of Mathematics and Physics, Charles Univ., Matfyzpress, Prague, 2003, 48–53.

[Q1032] K. Kolman: Higher-order approximations in the finite element method, Ph. D. Thesis, Charles Univ., Prague, 2010.

[Q1033] S. Korotov: A posteriori error estimation of goal-oriented quantities for elliptic type BVPs, J. Comput. Appl. Math. 191 (2006), 216–227.

[Q1034] S. Korotov: Error control in terms of linear functionals based on gradient averaging techniques, Proc. Internat. Conf. ICCMSE 2005, Greece, ed. T. Simos, 1–9.

[Q1035] R. Lin: Natural superconvergence in two and three dimensional finite element methods, Dissertation, Wayne State Univ., Detroit, 2005, 1–240.

[Q1036] R. Lin and Z. Zhang: Natural superconvergent points in three-dimensional finite elements, SIAM J. Numer. Anal. 46 (2008), 1281–1297.

[Q1037] J. Liu, X. Huo, and Q. D. Zhu: Pointwise supercloseness of quadratic serendipity block finite elements for the variable coefficient elliptic equation, submitted to Numer. Methods Partial Differential Equations in 2009, 1–9.

[Q1038] J. Liu, B. Jia, and Q. D. Zhu: An estimate for the three-dimensional discrete Green's function and applications, submitted in 2010 , 1–20.

[Q1039] J. Liu, H. Sun and Q. D. Zhu: Superconvergence of tricubic block finite elements, Sci. in China, Ser. A 52 (2009), 959–972.

[Q1040] J. Liu and Q. D. Zhu: Uniform superapproximation of the derivative of tetrahedral quadratic finite element approximation, J. Copmut. Math. 23 (2005), 75–82.

[Q1041] J. Liu and Q. D. Zhu: Maximum-norm superapproximation of the gradient for the linear block finite element, Numer. Methods Partial Differential Equations 23 (2007), 1501–1508.

[Q1042] J. Liu and Q. D. Zhu: Pointwise supercloseness of tensor-product block finite elements, submitted to Numer. Methods Partial Differential Equations in 2008, 1–21.

[Q1043] J. Liu and Q. D. Zhu: Pointwise supercloseness of pentahedral finite elements, Numer. Methods Partial Differential Equations 2009, 1572–1580.

[Q1044] J. Liu, Q. D. Zhu, and J. Zeng: Maximum norm superapproximation of the gradient for the tricubic rectangular parallelpiped finite element, submitted to Appl. Numer. Math. in 2005, 1–13.

[Q1045] A. Naga and Z. Zhang: The polynomial-preserving recovery for higher order finite element methods in 2D and 3D, Discrete Contin. Dyn. Syst. Ser. B 5 (2005), 769–798.

[Q1046] Q. D. Zhu: High accuracy and the theory of post-processing of the finite element method, Science Press, Beijing, 2008.

[**B50**] **M. Křížek**, *Superconvergence phenomena on three-dimensional meshes*, Internat. J. Numer. Anal. Model. **2** (2005), 43–56.

Cited in:

[Q1047] S. M. N. Alan and Z. J. Haas: Coverage and connectivity in three-dimensional networks, Proc. Annual Internat. Conf. on Mobile Computing and Networking, MOBICOM, 2006, 346–357.

[Q1048] S. M. N. Alan and Z. J. Haas: Coverage and connectivity in three-dimensional underwater sensor networks, Wireless Commun. Mobile Comput. 8 (2008), 995–1009.

[Q1049] I. Babuška, U. Banerjee, and J. E. Osborn: Superconvergence in the generalized finite element method, Numer. Math. 107 (2007), 353–395.

[Q1050] G. Fairweather, Q. Lin, Y. Lin, J. Wang, and S. Zhang: Asymptotic expansions and Richardson extrapolation of approximate solutions for second order ellipric problems on rectangular domains by mixed finite element methods, SIAM J. Numer. Anal. 44 (2006), 1122–1149.

[Q1051] K. Kolman: Higher-order approximations in the finite element method, Ph. D. Thesis, Charles Univ., Prague, 2010.

[Q1052] J. S. Ovall: Function, gradient, and Hessian recovery using quadratic edge-bump functions, SIAM J. Numer. Anal. 45 (2007), 1064–1080.

[Q1053] G. Xie, J. Li, L. Xie, and F. Xie: GL method for solving equations in math-physics and engineering, Acta Math. Appl. Sinica 24 (2008), 391–404.

[Q1054] E.-J. Zhong and T.-Z. Huang: Superconvergence of compact difference schemes for Poisson equation, submitted to Numer. Algorithms in 2010, 1–21.

[**B51**] **S. Korotov and M. Křížek**, *Global and local refinement techniques yielding nonobtuse tetrahedral partitions*, Comput. Math. Appl. **50** (2005), 1105–1113.

Cited in:

[Q1055] J. W. Barrett, D. J. Knezevic, and E. Süli: Kinetic models of dilute polymers: Analysis, approximation and computation, Lecture Notes, 2009, 1–225.

[Q1056] J. W. Barrett and E. Süli: Finite element approximation of kinetic dilute polymer models with microscopic cut-off, accepted by Math. Model. Numer. Anal. in 2009, 1–50.

[Q1057] R. Kornhuber and Q. Zou: Efficient and reliable hierarchical error estimates for the discretization error of elliptic obstacle problem, Math. Comp. 80 (2010), 69–88.

[Q1058] M. Möller: Adaptive high-resolution finite element schemes, Ph.D. Thesis, Dortmund Univ., 2008, 1–249.

[Q1059] J. Stańdo: Issues of the finite element method in the context of automatic triangulation and numerical integration (in Polish), Ph.D. Thesis, Uviv. of Lodz, Poland, 2004.

[Q1060] M. Zítka: On some aspects of adaptive higher-order finite element method for three-dimensional elliptic problems, Ph.D. Thesis, Faculty of Math. and Phys., Charles Univ., Prague, 2008, 1–119.

[**B53**] **L. Somer, M. Křížek**, *Structure of digraphs associated with quadratic congruences with composite moduli*, Discrete Math. **306** (2006), 2174–2185.

Cited in:

[Q1061] U. Ahmad and H. Syed: On the heights of power diagrams modulo N, submitted to Czechoslovak Math. J. in 2011.

[Q1062] P. Brunetti: Structural properties of the mapping $g^x \to g^{x^2}$, Preprint, 2009, 1–8.

[Q1063] G. Deng and P. Yuan: Isomorphic digraphs from powers modulo p, accepted by Czechoslovak Math. J. in 2010, 1–9.

[Q1064] K. Glaeser: The digraph of the square mapping on elliptic curves, Preprint, 2009, 1–10.

[Q1065] Y. Meemark and N. Wiroonsri: The quadratic digraph on polynomial rings over finite fields, Finite Fields Appl. 16 (2010), 334–346.

[**B54**] **M. Křížek**, *There is no face-to-face partition of R^5 into acute simplices*, Discrete Comput. Geom. **36** (2006), 381–390..

Cited in:

[Q1066] C. J. Bishop: Nonobtuse triangulations of PSLCS, Preprint, 2010, 1–74.

[Q1067] M. Klejchová: The discrete maximum principle in the first order finite element method, Thesis, Faculty of Mathematics and Physics, Charles University, Prague, 2010, 1–59.

[Q1068] E. Kopczyński, I. Pak, and P. Przytycki: Acute triangulations of polyhedra and $\mathbb{R}^n$, Proc. of the Annual Sympos. on Comput. Geom., Snowbird, Utah, 2010, 307–313.

[Q1069] S. Korotov and T. Vejchodský: A comparison of simplicial and block finite elements, Proc. Internat. Conf. ENUMATH 2009, Uppsala, Springer, 2010, 1–8.

[Q1070] I. Pak: Lectures on discrete and polyhedral geometry, 2008, 1–428.

[Q1071] E. VanderZee, A. N. Hirani, V. Zharnitsky, and D. Guoy: A dihedral acute triangulation of the cube, Comput. Geom. 43 (2010), 445–452.

[B55] **J. Karátson, S. Korotov, and M. Křížek**, *On discrete maximum principles for nonlinear problems*, Math. Comput. Simulation **76** (2007), 99–108.

Cited in:

[Q1072] E. Casas and M. Mateos: Numerical approximation of elliptic control problems, AIP Conf. Proc., vol. 1168, 1318–1321.

[Q1073] E. Casas and M. Mateos: Numerical approximation of elliptic control problems with finitely many pointwise constraints, Proc. Internat. Conf. Comput. Math. Meth. Sci. Engrg., Gijón, ed. J. Vigo-Aguiar, CMMSE 2009, 241–248.

[Q1074] M. Elshebli: Discrete maximum principle for finite element solution of nonstationary diffusion-reaction problems. Appl. Math. Model. 32 (2008), 1530–1541.

[Q1075] D. Kuzmin: Explicit and implicit FEM-FCT algorithms with flux linearization, J. Comput. Phys. 228 (2009), 2517–2534.

[Q1076] D. Kuzmin, M. J. Shaskov, and D. Svyatskiy: A constrained finite element method satisfying the discrete maximum principle for anisotropic diffusion problems, J. Comput. Phys. 228 (2009), 3448–3463.

[Q1077] X. Li and W. Huang: An anisotropic mesh adaptation method for the finite element solution of heterogeneous anisotropic diffusion problems, J. Comput. Phys. 229 (2010), 8072–8094.

[B56] **J. Brandts, S. Korotov, and M. Křížek**, *Dissection of the path-simplex in R^n into n path-subsimplices*, Linear Algebra Appl. **421** (2007), 382–393.

Cited in:

[Q1078] I. Faragó: Numerical treatment of linear parabolic problems. MTA Doctor Thesis for the Hungarian Academy of Sciences, Eötvös Loránd University, Budapest, 2008.

[Q1079] M. Klejchová: The discrete maximum principle in the first order finite element method, Thesis, Faculty of Mathematics and Physics, Charles University, Prague, 2010, 1–59.

[Q1080] D. Z. de Kramer: Beschrijving van Simplices met Lineaire Algebra. Bachelor Thesis, KdV Instituut voor wiskunde, Faculteit der Natuurwetenschappen, Wiskunde en Informatica, Universiteit van Amsterdam, (in Dutch), 2008.

[Q1081] X. Li and W. Huang: An anisotropic mesh adaptation method for the finite element solution of heterogeneous anisotropic diffusion problems, J. Comput. Phys. 229 (2010), 8072–8094.

[Q1082] E. VanderZee, A. N. Hirani, V. Zharnitsky, and D. Guoy: A dihedral acute triangulation of the cube, Comput. Geom. 43 (2010), 445–452.

[Q1083] T. Vejchodský: Angle conditions for discrete maximum principles in higher-order FEM, Proc. Conf. ENUAMTH, Uppsala, 2009, Springer-Verlag, Berlin, Heidelberg, 1–9.

[**B57**] **S. Korotov, M. Křížek, and A. Kropáč**, *Strong regularity of a family of face-to-face partitions generated by the longest-edge bisection algorithm*, Comput. Math. Math. Phys. **48** (2008), 1687–1698.

Cited in:

[Q1084] Á. Plaza, S. Falcón, and J. P. Suárez: On the non-degeneracy property of the longest-edge trisection of triangles, Appl. Math. Comput. 216 (2010), 1687–1698.

[**B58**] **J. Brandts, S. Korotov, and M. Křížek**, *The discrete maximum principle for linear simplicial finite element approximations of a reaction-diffusion problem*, Linear Algebra Appl. **429** (2008), 2344–2357.

Cited in:

[Q1085] J. Karátson: A discrete maximum principle for nonlinear elliptic systems with interface condtions, Proc. of the 6th Internat. Conf. on Large-Scale Sci. Comput., Sozopol, Bulgaria, 2009, (ed. by I. Lirkov et al.), LNCS 5910, Springer-Verlag, 2010, 580–587.

[Q1086] M. Klejchová: The discrete maximum principle in the first order finite element method, Thesis, Faculty of Mathematics and Physics, Charles University, Prague, 2010, 1–59.

[Q1087] X. Li and W. Huang: An anisotropic mesh adaptation method for the finite element solution of heterogeneous anisotropic diffusion problems, J. Comput. Phys. 229 (2010), 8072–8094.

[Q1088] K. Lipnikov, G. Manzini, and D. Svyatskiy: Analysis of the monotonicity conditions in the mimetic finite difference method for elliptic problems, J. Comput. Phys. 230 (2011), 2620–2642.

[Q1089] E. VanderZee, A. N. Hirani, V. Zharnitsky, and D. Guoy: A dihedral acute triangulation of the cube, Comput. Geom. 43 (2010), 445–452.

[Q1090] T. Vejchodský: Discrete maximum principle for prismatic finite elements, Proc. Algorithms 2009, Prague, 266–275.

[Q1091] T. Vejchodský: Higher-order discrete maximum principle for 1D diffusion-reaction problems, Appl. Numer. Math. 60 (2010), 486–500.

[**B59**] **J. Brandts, S. Korotov, and M. Křížek**, *On the equivalence of regularity criteria for triangular and tetrahedral finite element partitions*, Comput. Math. Appl. **55** (2008), 2227–2233.

Cited in:

[Q1092] J. Dalík: Averaging of directional derivatives in vertices of nonobtuse regular triangulations, Numer. Math. 116 (2010), 619–644.

[Q1093] H.-Y. Duan, F. Jia, P. Lin, and R. C. E. Tan: The local L^2 projected C^0 finite element method for Maxwell problem, SIAM J. Numer. Anal. 47 (2009), 1274–1303.

[Q1094] H.-Y. Duan and R. C. E. Tan: On the Poincaré-Friedrichs inequality for piecewise H^1 functions in anisotropic discontinuous Galerkin finite element methods, Math. Comp. 80 (2010), 119–140.

[Q1095] A. Hannukainen: Finite element methods for Maxwell's equations, Master Thesis, Helsinki Univ. of Technology, 2007, 1–60.

[Q1096] S. P. Mao and Z. C. Shi: Error estimates of triangular finite elements under a weak angle condition, J. Comput. Appl. Math. 230 (2009), 329–331.

[B63] **J. Brandts, S. Korotov, M. Křížek, and J. Šolc**, *On nonobtuse simplicial partitions*, SIAM Rev. **51** (2009), 317–335.

Cited in:

[Q1097] J. W. Barrett, D. J. Knezevic, and E. Süli: Kinetic models of dilute polymers: Analysis, approximation and computation, Lecture Notes, 2009, 1–225.

[Q1098] J. W. Barrett and E. Süli: Finite element approximation of kinetic dilute polymer models with microscopic cut-off, submitted to Math. Model. Numer. Anal.

[Q1099] C. J. Bishop: Nonobtuse triangulations of PSLCS, Preprint, 2010, 1–74.

[Q1100] J. Dalík: Averaging of directional derivatives in vertices of nonobtuse regular triangulations, Numer. Math. 116 (2010), 619–644.

[Q1101] M. Elshebli: Discrete maximum principle for finite element solution of nonstationary diffusion-reaction problems. Appl. Math. Model. 32 (2008), 1530–1541.

[Q1102] S. Engblom, L. Frem, A. Hellander, and P. Lötstedt: Simulation of stochastic reaction-diffusion processes on unstructured meshes, SIAM J. Sci. Comput. 31 (2009), 1774–1797.

[Q1103] M. Gonzalez, B. Schmidt, and M. Orliz: Force-stepping integrators in Lagrangian mechanics, Internat. J. Numer. Methods Engrg. 84 (2010), 1407–1450.

[Q1104] E. Kopczyński, I. Pak, and P. Przytycki: Acute triangulations of polyhedra and the Euclidean space, Proc. of the Annual Sympos. on Comput. Geom., Snowbird, Utah, 2010, 307–313.

[Q1105] D. Z. de Kramer: Beschrijving van Simplices met Lineaire Algebra. Bachelor Thesis, KdV Instituut voor wiskunde, Faculteit der Natuurwetenschappen, Wiskunde en Informatica, Universiteit van Amsterdam, (in Dutch), 2008.

[Q1106] E. VanderZee, A. N. Hirani, D. Guoy, and E. A. Ramos: Well-centered triangulation, SIAM J. Sci. Comput. 31 (2010), 4497–4523.

[Q1107] E. VanderZee, A. N. Hirani, V. Zharnitsky, and D. Guoy: A dihedral acute triangulation of the cube, Comput. Geom. 43 (2010), 445–452.

[B65] **L. Somer, M. Křížek**, *On symmetric digraphs of the congruence* $x^k \equiv y \pmod{n}$, Discrete Math. **309** (2009), 1999–2009.

Cited in:

[Q1108] U. Ahmad and H. Syed: On the heights of power diagrams modulo N, submitted to Czechoslovak Math. J. in 2011.

[Q1109] G. Deng and P. Yuan: Isomorphic digraphs from powers modulo p, accepted by Czechoslovak Math. J. in 2010, 1–9.

[Q1110] J. Kramer-Miller: Structural properties of power digraphs modulo n, Preprint, Institute of Technology, 2009, 1–19.

[Q1111] Y. Wei, J. Nan, and G. Tang: The digraphs from finite fields, submitted in 2010, 1–10.

[C1] **M. Křížek**, *An equilibrium finite element method in three-dimensional elasticity*, Apl. Mat. **27** (1982), 46–75.

Cited in:

[Q1112] C. Bernardi, V. Girault, and P. A. Raviart: Finite element methods for Navier-Stokes equations (a new version of the book by Girault-Raviart), in preparation.

[Q1113] P. Burda: A posteriori error estimates for the Stokes flow in 2D and 3D domains. Proc. Conf. Finite Element Methods: Three-dimensional Problems, Univ. of Jyväskylä, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 34–44.

[Q1114] J. Haslinger, I. Hlaváček, and J. Nečas: Numerical methods for unilateral problems in solid mechanics, Handbook of Numer. Anal., vol. IV (eds. P. G. Ciarlet, J. L. Lions), North-Holland, Amsterdam, 1996 (see p. 454, 457, 476).

[Q1115] I. Hlaváček: A finite element solution for plasticity with strain-hardening, RAIRO Anal. Numér. 14 (1980), 347–368.

[Q1116] I. Hlaváček: A finite element analysis for elasto-plastic bodies obeying Hencky's law, Apl. Mat. 26 (1981), 449–461.

[Q1117] I. Hlaváček: Řešení variačních nerovnic metodou konečných prvků na základě duálních variačních formulací (doktorská disertační práce), MÚ ČSAV, Praha, 1983, 1–34.

[Q1118] I. Hlaváček: Dual finite element analysis for some elliptic variational equations and inequalities, Acta Appl. Math. 1 (1983), 121–150.

[Q1119] I. Hlaváček, J. Haslinger, J. Nečas, and J. Lovíšek: Solution of variational inequalities in mechanics, Springer-Verlag, New York, 1988, (see p. 238, 261, 265); translation from Slovak publication: Riešenie variačných nerovností v mechanike, Alfa, Bratislava, 1982; Russian translation: Mir, Moscow, 1986.

[Q1120] Z. Kestřánek: Řešení evoluční variační nerovnice teorie plasticity s isotropním zpevněním deformací metodou konečných prvků (kandidátská disertační práce), Praha, 1982, 1–72.

[Q1121] Z. Kestřánek: Variational inequalities in plasticity with strain-hardening - equilibrium finite element approach, Apl. Mat. 31 (1986), 270–281.

[Q1122] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q1123] S. Korotov: A posteriori estimates for error control in terms of linear functionals for linear elasticity, submitted to Appl. Math. in 2005, 1–18.

[Q1124] L. Liu: Finite element analysis of nonlinear heat conduction problems, Univ. of Jyväskylä, Dept. of Math., Report 75, 1997, 1–95.

[Q1125] K. Rektorys and E. Vitásek (eds.): Survey of applicable mathematics, Kluwer, Amsterdam, 1994.

[Q1126] K. Rektorys a kol.: Přehled užité matematiky, Prometheus, Praha, 1995.

[Q1127] J. E. Roberts and J. M. Thomas: Mixed and hybrid methods, Handbook of Numer. Anal., vol. II, (ed. P. G. Ciarlet, J. L. Lions), North-Holland, Amsterdam, 1991, (see p. 620).

[Q1128] J. Stańdo: Issues of the finite element method in the context of automatic triangulation and numerical integration (in Polish), Ph.D. Thesis, Uviv. of Lodz, Poland, 2004.

[Q1129] M. Vondrák: Slab analogy in theory and practice of conforming equilibrium stress models for finite element analysis of plane elastostatics, Apl. Mat. 30 (1985), 187–217.

[Q1130] M. Vondrák: Několik poznámek k matematickým a fyzikálním aspektům metody konečných prvků a variační formulaci okrajových eliptických problémů, Zpravodaj VZLÚ 2 (1991), 69–85.

[Q1131] A. Ženíšek: Nonlinear elliptic and evolution problems and their finite element approximations, Academic Press, London, 1990, (see p. 385).

[Q1132] A. Ženíšek: Křivkový a plošný integrál (viz kap. 7). Učební text FS VUT, Nakladatelství PC-DIR, Brno, 1993, 1–90.

[Q1133] A. Ženíšek: Green's theorem from the viewpoint of applications, Appl. Math. 44 (1999), 55–80.

[Q1134] A. Ženíšek: Surface integral and Gauss-Ostrogradskij theorem from the viewpoint of applications, Appl. Math. 44 (1999), 169–241.

[Q1135] A. Ženíšek: Sobolevovy prostory, VUTIUM Brno, 2001, 1–234.

[Q1136] A. Ženíšek: Sobolev spaces and their applications in the finite element method. VUTIUM Brno, 2005.

[C2] **I. Hlaváček and M. Křížek**, *Internal finite element approximations in the dual variational method for second order elliptic problems with curved boundaries*, Apl. Mat. **29** (1984), 52–69.

Cited in:

[Q1137] S. Korotov: On equilibrium finite elements in three-dimensional case, Appl. Math. 42 (1997), 233–242.

[Q1138] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q1139] J. E. Roberts and J. M. Thomas: Mixed and hybrid methods, Handbook of Numer. Anal., vol. II, (ed. P. G. Ciarlet, J. L. Lions), North-Holland, Amsterdam, 1991, (see p. 617).

[Q1140] T. Vejchodský: Complementarity – the way towards guaranteed error estimates Proc. Programs and Algorithms of Numer. Math. 15 (ed. T. Vejchodský), Inst. of Math., Prague, 2010, 205–220.

[Q1141] J. Weisz: Aposteriórny odhad chyby približného riešenia okrajových úloh pre niektoré typy nelineárnych eliptických parciálnych diferenciálnych rovníc (kandidátska dizertačná práca), MFF UK, Bratislava, 1990, 1–64.

[Q1142] J. Wiesz: A posteriori error estimate of approximate solutions to a mildly nonlinear elliptic boundary value problem, Comment. Math. Univ. Carolin. 31 (1990), 315–322.

[Q1143] J. Weisz: A posteriori error estimate of approximate solutions to a special nonlinear elliptic boundary value problem, Z. Angew. Math. Mech. 75 (1995), 79–81.

[C3] **M. Křížek and P. Neittaanmäki**, *Finite element approximation for a div-rot system with mixed boundary conditions in non-smooth plane domains*, Apl. Mat. **29** (1984), 272–285.

Cited in:

[Q1144] J.-L. Guermond, L. Quartapelle, and J. Zhu: On a 2D vector Poisson problem with apparently mutually exclusive scalar boundary conditions, Math. Model. Numer. Anal. 34 (2000), 183–200.

[Q1145] X. L. Jiang: A streamline-upwinding Petrov-Galerkin method for the hydrodynamic semiconductor device model. Math. Models Methods Appl. Sci. 5 (1995), 659–681.

[Q1146] M. Picasso: An anisotropic error indicator based on Zienkiewicz-Zhu error estimator: Application to elliptic and parabolic problems, SIAM J. Sci. Comput. 24 (2003), 1328–1355.

[Q1147] M. Vanmaele, K. W. Morton, and E. Süli, A. Borzì: Analysis of the cell vertex finite volume method for the Cauchy-Riemann equations. SIAM J. Numer. Anal. 34 (1997), 2043–2062.

[C4] **V. Preiningerová and M. Křížek**, *Tepelný výpočet magnetického obvodu velkých olejových transformátorů*, Elektrotechnický obzor **73** (1984), 487–492.

Cited in:

[Q1148] J. Mlýnek: Matematické modely vedení tepla v elektrických strojích. Habilitační práce, Tech. Univ. Liberec, 2007.

[C5] **I. Hlaváček and M. Křížek**, *Internal finite element approximation in the dual variational method for the biharmonic problem*, Apl. Mat. **30** (1985), 255–273.

Cited in:

[Q1149] J. Weisz: Aposteriórny odhad chyby približného riešenia okrajových úloh pre niektoré typy nelineárnych eliptických parciálnych diferenciálnych rovníc (kandidátska dizertačná práca), MFF UK, Bratislava, 1990, 1–64.

[**C6**] **M. Křížek and P. Neittaanmäki**, *Solvability of a first order system in three-dimensional non-smooth domains*, Apl. Mat. **30** (1985), 307–315.

Cited in:

[Q1150] C. Matyska: Some problems of contemporary geodynamics (DrSc. Thesis), MFF UK, Prague, 1996.

[Q1151] C. Matyska: Variational principles for the momentum equation of mantle convection with Newtonian and power-law rheologies, Geophys. J. Int. 126 (1996), 281–286.

[Q1152] P. Monk and S. Y. Zhang: Multigrid computation of vector potentials. J. Comput. Appl. Math. 62 (1995), 301–320.

[Q1153] M. Vanmaele, K. W. Morton, E. Süli, and A. Borzì: Analysis of the cell vertex finite volume method for the Cauchy-Riemann equations, SIAM J. Numer. Anal. 34 (1997), 2043–2062.

[**C7**] **I. Hlaváček and M. Křížek**, *On a superconvergent finite element scheme for elliptic systems, I. Dirichlet boundary condition*, Apl. Mat. **32** (1987), 131–154.

Cited in:

[Q1154] I. Babuška, T. Strouboulis, S. K. Gangaraj, and C. S. Upadhyay: Validation of recipes for the roceovery of stresses and derivatives by a computer-based approach, Math. Comput. Model. 20 (1994), 45–89.

[Q1155] I. Babuška, T. Strouboulis, and C. S. Upadhyay: η%-superconvergence of finite element approximations in the interior of general meshes of triangles, Comput. Methods Appl. Mech. Engrg. 122 (1995), 273–305.

[Q1156] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Study of superconvergence by a computer-based approach. Superconvergence of the gradient in finite element solutions of Laplace's and Poisson's equations, CMC Report No. 93-07, Texas A&M Univ., 1993, 1–59.

[Q1157] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Study of superconvergence by a computer-based approach. Superconvergence of the gradient of the displacement, the strain and stress in finite element solutions for plane elasticity. Technical Note BN-1166, Univ. of Maryland, 1994, 1–41.

[Q1158] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Computer-based proof of the existence of superconvergence points in the finite element method; superconvergence of the derivatives in finite element solutions of Laplace's, Poisson's, and elasticity equations. Numer. Methods Partial Differential Equations 12 (1996), 347–392.

[Q1159] R. E. Bank and X. U. Jinchao: Asymptotically exact a posteriori error estimators, Part I: Grid with superconvergence, SIAM J. Numer. Anal. 41 (2003), 2294–2312.

[Q1160] S. Barbeiro and J. A. Ferreira: A superconvergent linear FE approximation for the solution of an elliptic system of PDE's, J. Comput. Appl. Math. 177 (2005), 287–300.

[Q1161] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q1162] C. M. Chen and Y. Q. Huang: High accuracy theory of finite element methods (in Chinese), Hunan Science and Technology Press, Changsha, 1995.

[Q1163] Y. Chen: Superconvergent recovery of gradients of piecewise linear finite element approximations on non-uniform mesh partitions. Numer. Methods Partial Differential Equations 14 (1998), 169–192.

[Q1164] J. Chleboun: An application of the averaged gradient technique, In Programs and Algorithms of Numer. Math. 14, Inst. of Math., Prague, 2008, 65–70.

[Q1165] G. Goodsell and J. R. Whiteman: Superconvergent recovered gradient functions for piecewise linear finite element approximations, with extensions to subdomains, In: The Mathematics of Finite Elements and Applications VI (ed. J. R. Whiteman), 1987, Academic Press, London, 1988, 582–583.

[Q1166] G. Goodsell and J. R. Whiteman: A unified treatment of superconvergent recovered gradient functions for piecewise linear finite element approximations, Internat. J. Numer. Methods Engrg. 27 (1989), 469–481.

[Q1167] G. Goodsell and J. R. Whiteman: Superconvergence of recovered gradients of piecewise quadratic finite element approximations, Part I: L_2-error estimates, Numer. Methods Partial Differential Equations 7 (1991), 61–83.

[Q1168] A. Hannukainen and S. Korotov: Techniques for a posteriori error estimation in terms of linear functionals for elliptic type boundary value problems, Far East J. Appl. Math. 21 (2005), 289–304.

[Q1169] A. Hannukainen and S. Korotov: Computational technologies for reliable control of global and local errors for linear elliptic type boundary value problems, J. Numer. Anal., Industrial Appl. Math. 2 (2007), 157–176.

[Q1170] A. Hannukainen, S. Korotov, and M. Rüter: A posteriori error estimates for some problems in linear elasticity, European Soc. Comput. Methods Sci. Engrg. 4 (2008), 61–72.

[Q1171] J. Karátson and S. Korotov: Sharp upper global a posteriori error estimates for nonlinear elliptic variational problems, Appl. Math. 54 (2009), 297–336.

[Q1172] K. Kolman: Higher-order approximations in the finite element method, Ph. D. Thesis, Charles Univ., Prague, 2010.

[Q1173] S. Korotov: A posteriori error estimation of goal-oriented quantities for elliptic type BVPs, J. Comput. Appl. Math. 191 (2006), 216–227.

[Q1174] S. Korotov: Error control in terms of linear functionals based on gradient averaging techniques, Proc. Internat. Conf. ICCMSE 2005, Greece, ed. T. Simos, 1–9.

[Q1175] S. Korotov: A posteriori estimates for error control in terms of linear functionals for linear elasticity, submitted to Appl. Math. in 2005, 1–18.

[Q1176] S. Korotov: A posteriori error estimation for linear elliptic problems with mixed boundary conditions, Preprint A495, Helsinki Univ. of Technology, Espoo 2006, 1–14.

[Q1177] S. Korotov: Two-sided a posteriori error estimates for linear elliptic problems with mixed boundary conditions, Appl. Math. 52 (2007), 235–249.

[Q1178] S. Korotov, S. Repin, P. Neittaanmäki: A posteriori error estimation of goal-oriented quantities by the superconvergence path recovery, J. Numer. Math. 11 (2003), 33–59.

[Q1179] S. Korotov, P. Neittaanmäki, and S. Repin: A posteriori error estimation in terms of linear functionals for boundary value problems of elliptic type, Proc. Conf. ENUMATH 2003, Prague, Springer-Verlag, Berlin, 2004, 587–595.

[Q1180] S. Korotov, P. Neittaanmäki, and S. Repin: A posteriori error estimation of "quantities of interest" for elliptic-type boundary value problems, Proc. Conf. ECCOMAS, 2004.

[Q1181] S. Korotov and P. Turchyn: A posteriori error estimation of "quantities of interest" on tetrahedral meshes, Proc. Conf. ECCOMAS, 2004.

[Q1182] S. Korotov and P. Turchyn: A posteriori error estimation of goal-oriented quantities for elliptic type BVPs, Internat. Conf. of Comput. Methods in Sci. and Engrg., ICCMSE - 2004, Athens, Lecture Series on Computer and Computational Sciences, vol. 1, (eds. T. Simon and G. Maroulis) VSP, Utrecht, 2004, 269–273.

[Q1183] A. M. Lakhany, I. Marek, and J. R. Whiteman: Superconvergence results on mildly stuctured triangulations, Comput. Methods Appl. Mech. Engrg. 189 (2000), 1–75.

[Q1184] A. M. Lakhany and J. R. Whiteman: Superconvergent recovery operators: derivative recovery techniques, In: Finite Element Methods: Superconvergence, Postprocessing and A Posteriori Estimates, LN in Pure and Appl. Math. vol. 196, Marcel Dekker, New York, 1998, 195–215.

[Q1185] P. Neittaanmäki, S. Korotov, and J. Martikainen: A posteriori error estimation of "quantities of interest" on "quantity-adapted" meshes. Conjugate Gradient Algorithms and Finite Element Methods, Springer-Verlag, Berlin, 2004.

[Q1186] P. Neittaanmäki and S. Repin: Reliable methods for computer simulation. Error control and a posteriori estimates, Elsevier, Amsterdam, 2004.

[Q1187] P. Neittaanmäki, S. Repin, and P. Turchyn: New a posteriori error indicator in terms of linear functionals for linear elliptic problems, Russian J. Numer. Anal. Math. Model. 23 (2008), 77–87.

[Q1188] M. Rüter, S. Korotov, and Ch. Steenbock: Goal-oriented error estimates based on different FE-spaces for the primal and the dual problem with applications to fracture mechanics, Comput. Mech. 39 (2007), 787–797.

[Q1189] V. Thomée, J. Xu, and N. Zhang: Superconvergence of the gradient in piecewise linear finite element approximation to a parabolic problem, SIAM J. Numer. Anal. 26 (1989), 553–573.

[Q1190] L. B. Wahlbin: Lecture notes on superconvergence in Galerkin finite element methods, Cornell Univ., 1994, 1–243.

[Q1191] L. B. Wahlbin: Superconvergence in Galerkin finite element methods, LN in Math., vol. 1605, Springer-Verlag, Berlin, 1995.

[Q1192] J. R. Whiteman and G. Goodsell: Superconvergent recovery for stresses from finite element approximations on subdomains for planar problems of linear elasticity, In: The Mathematics of Finite Elements and Applications VI (ed. J. R. Whiteman), 1987, Academic Press, London, 1988, 29–53.

[Q1193] J. R. Whiteman and G. Goodsell: A survey of gradient superconvergence for finite element approximations to second order elliptic problems on triangular and tetrahedral meshes, In: The Mathematics of Finite Elements and Applications VII (ed. J. R. Whiteman), 1990, Academic Press, London, 55–74.

[**C8**] **I. Hlaváček and M. Křížek**, *On a superconvergent finite element scheme for elliptic systems, II. Boundary conditions of Newton's or Neumann's type*, Apl. Mat. **32** (1987), 200–213.

Cited in:

[Q1194] I. Babuška, T. Strouboulis, S. K. Gangaraj, and C. S. Upadhyay: Validation of recipes for the roceovery of stresses and derivatives by a computer-based approach, Math. Comput. Model. 20 (1994), 45–89.

[Q1195] I. Babuška, T. Strouboulis, and C. S. Upadhyay: η%-superconvergence of finite element approximations in the interior of general meshes of triangles, Comput. Methods Appl. Mech. Engrg. 122 (1995), 273–305.

[Q1196] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Study of superconvergence by a computer-based approach. Superconvergence of the gradient in finite element solutions of Laplace's and Poisson's equations, CMC Report No. 93-07, Texas A&M Univ., 1993, 1–59.

[Q1197] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Study of superconvergence by a computer-based approach. Superconvergence of the gradient of the displacement, the strain and stress in finite element solutions for plane elasticity. Technical Note BN-1166, Univ. of Maryland, 1994, 1–41.

[Q1198] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Computer-based proof of the existence of superconvergence points in the finite element method; superconvergence of the derivatives in finite element solutions of Laplace's, Poisson's, and elasticity equations. Numer. Methods Partial Differential Equations 12 (1996), 347–392.

[Q1199] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q1200] C. M. Chen and Y. Q. Huang: High accuracy theory of finite element methods (in Chinese), Hunan Science and Technology Press, Changsha, 1995.

[Q1201] Y. Chen: Superconvergent recovery of gradients of piecewise linear finite element approximations on non-uniform mesh partitions. Numer. Methods Partial Differential Equations 14 (1998), 169–192.

[Q1202] J. Chleboun: An application of the averaged gradient technique, In Programs and Algorithms of Numer. Math. 14, Inst. of Math., Prague, 2008, 65–70.

[Q1203] G. Goodsell and J. R. Whiteman: A unified treatment of superconvergent recovered gradient functions for piecewise linear finite element approximations, Internat. J. Numer. Methods Engrg. 27 (1989), 469–481.

[Q1204] G. Goodsell and J. R. Whiteman: Superconvergence of recovered gradients of piecewise quadratic finite element approximations, Part I: L_2-error estimates, Numer. Methods Partial Differential Equations 7 (1991), 61–83.

[Q1205] A. Hannukainen and S. Korotov: Computational technologies for reliable control of global and local errors for linear elliptic type boundary value problems, J. Numer. Anal., Industrial Appl. Math. 2 (2007), 157–176.

[Q1206] A. Hannukainen, S. Korotov, and M. Rüter: A posteriori error estimates for some problems in linear elasticity, European Soc. Comput. Methods Sci. Engrg. 4 (2008), 61–72.

[Q1207] J. Karátson and S. Korotov: Sharp upper global a posteriori error estimates for nonlinear elliptic variational problems, Appl. Math. 54 (2009), 297–336.

[Q1208] S. Korotov: A posteriori estimates for error control in terms of linear functionals for linear elasticity, submitted to Appl. Math. in 2005, 1–18.

[Q1209] S. Korotov: A posteriori error estimation for linear elliptic problems with mixed boundary conditions, Preprint A495, Helsinki Univ. of Technology, Espoo 2006, 1–14.

[Q1210] S. Korotov: Two-sided a posteriori error estimates for linear elliptic problems with mixed boundary conditions, Appl. Math. 52 (2007), 235–249.

[Q1211] A. M. Lakhany, I. Marek, and J. R. Whiteman: Superconvergence results on mildly stuctured triangulations, Comput. Methods Appl. Mech. Engrg. 189 (2000), 1–75.

[Q1212] A. M. Lakhany and J. R. Whiteman: Superconvergent recovery operators: derivative recovery techniques, In: Finite Element Methods: Superconvergence, Postprocessing and A Posteriori Estimates, LN in Pure and Appl. Math. vol. 196, Marcel Dekker, New York, 1998, 195–215.

[Q1213] L. B. Wahlbin: Lecture notes on superconvergence in Galerkin finite element methods, Cornell Univ., 1994, 1–243.

[Q1214] L. B. Wahlbin: Superconvergence in Galerkin finite element methods, LN in Math., vol. 1605, Springer-Verlag, Berlin, 1995.

[Q1215] J. R. Whiteman and G. Goodsell: A survey of gradient superconvergence for finite element approximations to second order elliptic problems on triangular and tetrahedral meshes, In: The Mathematics of Finite Elements and Applications VII (ed. J. R. Whiteman), 1990, Academic Press, London, 55–74.

[Q1216] R. Wohlgemuth: Superkonvergenz des Gradienten im Postprocessing von Finite-Elemente-Methoden, Preprint Nr. 94, Tech. Univ. Chemnitz, 1989, 1–15.

[**C9**] **I. Hlaváček and M. Křížek**, *On a superconvergent finite element scheme for elliptic systems, III. Optimal interior estimates*, Apl. Mat. **32** (1987), 276–289.

Cited in:

[Q1217] I. Babuška, T. Strouboulis, S. K. Gangaraj, and C. S. Upadhyay: Validation of recipes for the roceovery of stresses and derivatives by a computer-based approach, Math. Comput. Model. 20 (1994), 45–89.

[Q1218] I. Babuška, T. Strouboulis, and C. S. Upadhyay: $\eta\%$-superconvergence of finite element approximations in the interior of general meshes of triangles. Comput. Methods Appl. Mech. Engrg. 122 (1995), 273–305.

[Q1219] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Study of superconvergence by a computer-based approach. Superconvergence of the gradient in finite element solutions of Laplace's and Poisson's equations, CMC Report No. 93-07, Texas A&M Univ., 1993, 1–59.

[Q1220] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Study of superconvergence by a computer-based approach. Superconvergence of the gradient of the displacement, the strain and stress in finite element solutions for plane elasticity. Technical Note BN-1166, Univ. of Maryland, 1994, 1–41.

[Q1221] I. Babuška, T. Strouboulis, C. S. Upadhyay, and S. K. Gangaraj: Computer-based proof of the existence of superconvergence points in the finite element method; superconvergence of the derivatives in finite element solutions of Laplace's, Poisson's, and elasticity equations. Numer. Methods Partial Differential Equations 12 (1996), 347–392.

[Q1222] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q1223] C. M. Chen and Y. Q. Huang: High accuracy theory of finite element methods (in Chinese), Hunan Science and Technology Press, Changsha, 1995.

[Q1224] J. Chleboun: An application of the averaged gradient technique, In Programs and Algorithms of Numer. Math. 14, Inst. of Math., Prague, 2008, 65–70.

[Q1225] G. Goodsell and J. R. Whiteman: A unified treatment of superconvergent recovered gradient functions for piecewise linear finite element approximations, Internat. J. Numer. Methods Engrg. 27 (1989), 469–481.

[Q1226] G. Goodsell and J. R. Whiteman: Superconvergence of recovered gradients of piecewise quadratic finite element approximations, Part I: L_2-error estimates, Numer. Methods Partial Differential Equations 7 (1991), 61–83.

[Q1227] A. Hannukainen and S. Korotov: Computational technologies for reliable control of global and local errors for linear elliptic type boundary value problems, J. Numer. Anal., Industrial Appl. Math. 2 (2007), 157–176.

[Q1228] A. Hannukainen, S. Korotov, and M. Rüter: A posteriori error estimates for some problems in linear elasticity, European Soc. Comput. Methods Sci. Engrg. 4 (2008), 61–72.

[Q1229] J. Karátson and S. Korotov: Sharp upper global a posteriori error estimates for nonlinear elliptic variational problems, Appl. Math. 54 (2009), 297–336.

[Q1230] S. Korotov: A posteriori estimates for error control in terms of linear functionals for linear elasticity, submitted to Appl. Math. in 2005, 1–18.

[Q1231] S. Korotov: A posteriori error estimation for linear elliptic problems with mixed boundary conditions, Preprint A495, Helsinki Univ. of Technology, Espoo 2006, 1–14.

[Q1232] S. Korotov: Two-sided a posteriori error estimates for linear elliptic problems with mixed boundary conditions, Appl. Math. 52 (2007), 235–249.

[Q1233] A. M. Lakhany, I. Marek, and J. R. Whiteman: Superconvergence results on mildly

stuctured triangulations, Comput. Methods Appl. Mech. Engrg. 189 (2000), 1–75.

[Q1234] A. M. Lakhany and J. R. Whiteman: Superconvergent recovery operators: derivative recovery techniques, In: Finite Element Methods: Superconvergence, Postprocessing and A Posteriori Estimates, LN in Pure and Appl. Math. vol. 196, Marcel Dekker, New York, 1998, 195–215.

[Q1235] A. I. Pehlivanov: Interior estimates of type superconvergence of the gradient in the finite element method, C. R. Acad. Bulgare Sci. 42 (1989), 29–32.

[Q1236] L. B. Wahlbin: Lecture notes on superconvergence in Galerkin finite element methods, Cornell Univ., 1994, 1–243.

[Q1237] L. B. Wahlbin: Superconvergence in Galerkin finite element methods, LN in Math., vol. 1605, Springer-Verlag, Berlin, 1995.

[Q1238] J. R. Whiteman and G. Goodsell: A survey of gradient superconvergence for finite element approximations to second order elliptic problems on triangular and tetrahedral meshes, In: The Mathematics of Finite Elements and Applications VII (ed. J. R. Whiteman), 1990, Academic Press, London, 55–74.

[**C10**] **M. Křížek and V. Preiningerová**, *Třírozměrné řešení teplotního pole v magnetickém obvodu velkých transformátorů*, Elektrotechnický obzor **76** (1987), 646–652.

Cited in:

[Q1239] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q1240] L. Liu: Finite element analysis of nonlinear heat conduction problems, Univ. of Jyväskylä, Dept. of Math., Report 75, 1997, 1–95.

[**C11**] **M. Křížek and P. Neittaanmäki**, *On time-harmonic Maxwell equations with nonhomogeneous conductivities: solvability and FE-approximation*, Apl. Mat. **34** (1989), 480–499.

Cited in:

[Q1241] A. Alonso: A domain decomposition approach for heterogeneous time-harmonic Maxwel equations. Comput. Methods Appl. Mech. Engrg. 143 (1997), 97–112.

[Q1242] A. Alonso: A mathematical justification of the low-frequency heterogeneous time-harmonic Maxwell equations. Math. Models Methods Appl. Sci. 9 (1999), 475–489.

[Q1243] A. Alonso and A. Valli: An domain decomposition approach for heterogeneous time-harmonic Maxwell equations. Comput. Methods Appl. Mech. Engrg. 143 (1997), 97–112.

[Q1244] A. Alonso and A. Valli: An optimal domain decomposition preconditioner for low-frequency time-harmonic Maxwell equations. Math. Comp. 68 (1999), 607–631.

[Q1245] Ch. G. Makridakis and P. Monk: Time-discrete finite element schemes for Maxwell's equations. RAIRO Modèl. Math. Anal. Numér. 29 (1995), 171-197.

[Q1246] J. Mlýnek: Metoda bikonjugovaných gradientů a její modifikace pro řešení soustav s komplexními koeficienty (kandidátská disertační práce), MÚ ČSAV, Praha, 1992, 1–75.

[Q1247] P. Monk: On the p and $h-p$ extension of Nédélecs curl conforming elements. J. Comput. Appl. Math. 53 (1994), 117-137.

[Q1248] P. Monk: Superconvergence of finite element approximations to Maxwell's equations, Numer. Methods Partial Differential Equations 10 (1994), 793–812.

[Q1249] P. Monk: Finite element methods for Maxwell's equations. Preprint Univ. of Delawere, 1996, 1–13.

[Q1250] P. Monk: A posteriori error indicator for Maxwell's equations. J. Comput. Appl. Math. 100 (1998), 173–190.

[C12] **M. Křížek**, *On semiregular families of triangulations and linear interpolation*, Appl. Math. **36** (1991), 223–232.

Cited in:

[Q1251] G. A. Acosta and R. G. Durán: Error estimates for $\mathcal{Q}_1$ isoparametric elements satisfying a weak angle condition, SIAM J. Numer. Anal. 38 (2000), 1073–1088.

[Q1252] T. Apel: A note on anisotropic interpolation error estimates for isoparametric quadrilateral finite elements, Preprint SFB 393/96-10, TU Chemnitz-Zwickau, 1996, 1–14.

[Q1253] T. Apel: Anisotropic interpolation error-estimates for isoparametric quadrilateral finite-elements. Computing 60 (1998), 157–174.

[Q1254] T. Apel: Anisotropic finite elements: Local estimates and applications. Advances in Numerical Mathematics, B. G. Teubner, Stuttgart, Leipzig, 1999.

[Q1255] T. Apel and M. Dobrowolski: Anisotropic interpolation with applications to the finite element method, Computing 47 (1992), 277–293.

[Q1256] T. Apel and G. Lube: Anisotropic mesh refinement for singularly perturbed reaction diffusion problems, Preprint SFB 393/96-11, TU Chemnitz-Zwickau, 1996, 1–25.

[Q1257] T. Apel and G. Lube: Anisotropic mesh refinement in stabilized Galerkin methods. Numer. Math. 74 (1996), 261–282.

[Q1258] T. Apel and G. Lube: Anisotropic mesh refinement for singularly perturbed reaction diffusion model problem. Appl. Numer. Math. 26 (1998), 415–433.

[Q1259] T. Apel, S. Nicaise, and J. Schöberl: Crouzeix-Raviart type finite elements on anisotropic meshes. Numer. Math. 89 (2001), 193–223.

[Q1260] R. Blaheta, R. Kohut, A. Kolcun, and O. Jakl: Regular grids and local grid refinement, Proc. Conf. Geomechanics 93, ed. Z. Rakowski, Brookfield, Rotterdam, 1994, 181–184.

[Q1261] G. C. Buscaglia and A. E. Dari: Anisotropic mesh optimization and its application in adaptivity. Internat. J. Numer. Methods Engrg. 40 (1997), 4119–4136.

[Q1262] L. T. Dechevsky: Near-degenerate finite element and lacunary multiresolution methods of approximation, Saint-Malo Proceedings (ed. by L. L. Schumaker), Vanderbit Univ. Press, 2000, 1–19.

[Q1263] L. T. Dechevski and W. L. Wendland: On the Bramble-Hilbert lemma, II: Model applications to quasi-interpolation and linear problems. Internat. J. Pure Appl. Math. 33 (2006), 465–501.

[Q1264] L. T. Dechevsky and W. L. Wendland: On the Bramble-Hilbert lemma, II. Preprint 2007/002, Univ. Stuttgart, Berichte aus dem Inst. für Angewandte Anal. und Numer. Simulation, 2007, 1–67.

[Q1265] R. G. Durán: Error estimates for 3-D narrow finite elements. Math. Comp. 68 (1999), 187–199.

[Q1266] H. Elman, D. Silvester, and A. Wathen: Finite elements and fast iterative solvers with applications in incompressible fluid dynamics. Numer. Math. Sci. Comput., Oxford Univ. Press, Oxford, 2005.

[Q1267] M. Feistauer: Mathematical Methods in Fluid Dynamics, Pitman Monographs and Surveys in Pure and Applied Mathematics, vol. 67, Longman Scientific & Technical, Harlow, 1993 (see p. 185).

[Q1268] M. Feistauer, J. Felcman, and I. Straškraba: Mathematical and Computational Methods for Compressible Flow, Oxford Univ. Press, Oxford, 2003.

[Q1269] Ch. Grossmann and H.-G. Roos: Numerik partiellen Differentialgleichungen, Teubner Studienbücher, Mathematik, Stuttgart, 1994.

[Q1270] W. Guo and M. Stynes: Pointwise error estimates for a streamline diffusion scheme on a Shiskin mesh for a convection-diffusion problem. IMA J. Numer. Anal. 17 (1997), 29–59.

[Q1271] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q1272] L. Liu: Finite element analysis of nonlinear heat conduction problems, Univ. of Jyväskylä, Dept. of Math., Report 75, 1997, 1–95.

[Q1273] S. P. Mao, S. Nicaise, and Z. C. Shi: Error estimates of Morley triangular element satisfying the maximum angle condition, preprint, 2009, 1–15.

[Q1274] Z. Milka: Numerické řešení stacionární úlohy vedení tepla s nelineární podmínkou sálání. Sborník kurzu: Programy a algoritmy numerické matematiky 6, Bratříkov, MÚ ČSAV, Praha, 1992, 111–120.

[Q1275] Z. Milka: Řešení stacionární úlohy vedení tepla s nelineární Newtonovou okrajovou podmínkou metodou konečných prvků, (kandidátská disertační práce), MÚ ČSAV, Praha, 1992, 1–49.

[Q1276] Z. Milka: Finite element solution of a stationary heat conduction equation with the radiation boundary condition, Appl. Math. 38 (1993), 67–79.

[Q1277] A. Prachař: Analysis of the discountinuous Galerkin methods for elliptic problems, Ph.D.

Thesis, Faculty of Mathematics and Physics, Prague, 2006, 1–118.

[Q1278] A. Prachař: On discountinuous Galerkin methods and semiregular triangulations, Appl. Math. 51 (2006), 605–618.

[Q1279] J. R. Shewchuk: What is a good linear finite element? Interpolation, conditioning, anisotropy, and quality measures, Preprint Dept. of Eletrical Engrg. and Comput. Sci., Univ. of California at Berkeley, 2002, 1–66.

[Q1280] D. Y. Shi, Z. C Shi, and J, Wu: A note on the quadrilateral mesh condition $RDP(N, \phi)$, J. Comput. Math. 25 (2007), 27–30.

[Q1281] P. D. Zavattieri, G. C. Buscaglia, and E. A. Dari: Finite element mesh optimization in three-dimensions, Latin Amer. Appl. Res. 26 (1996), 233–236.

[Q1282] A. Ženíšek: Nonlinear elliptic and evolution problems and their finite element approximations, Academic Press, London, 1990, (see p. ix, 396).

[Q1283] A. Ženíšek: The maximum angle condition in the finite element method. Proc. Conf. Finite Element Methods: Fifty Years of the Courant Element, Marcel Dekker, Inc., New York, 1994, 477–489.

[Q1284] A. Ženíšek: Maximum-angle condition and triangular finite elements of the Hermite type, Math. Comp. 64 (1995), 929–941.

[Q1285] A. Ženíšek: The maximum angle condition in the finite element method for monotone problems with applications in magnetostatics, Numer. Math. 71 (1995), 399–417.

[Q1286] A. Ženíšek: Finite element variational crimes in the case of semiregular elements, Appl. Math. 41 (1996), 367–398.

[Q1287] A. Ženíšek: Convergence in the case of semiregular triangular finite elements. Prague Math. Conf., ICARIS, Prague, 1996, 365–370.

[Q1288] A. Ženíšek: Finite element variational crimes in the case of semiregular elements. Z. Angew. Math. Mech. 76 (1996), Suppl. 1, 591–592.

[Q1289] A. Ženíšek: Finite element approximations of the Hermite type on triangles and tetrahedrons, Proc. Conf. Finite Element Methods: Three-dimensional Problems, Jyäskyla, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 322–340.

[Q1290] A. Ženíšek: Sobolev spaces and their applications in the finite element method. VUTIUM Brno, 2005.

[Q1291] A. Ženíšek: Variational problems in domain with cusp points and the finite element method, submitted in 2005, 1–28.

[Q1292] A. Ženíšek and M. Vanmaele: Finite element variational crimes in the case of semiregular elements, preprint VUT Brno, 1–21.

[Q1293] A. Ženíšek and M. Vanmaele: The interpolation theorem for narrow quadrilateral isoparametric finite elements, Numer. Math. 72 (1995), 123–141.

[Q1294] A. Ženíšek and M. Vanmaele: Maximum-angle condition and triangular finite elements of Hermite type, Math. Comp. 64 (1995), 929–941.

[Q1295] A. Ženíšek and M. Vanmaele: Applicability of the Bramble-Hilbert lemma in interpolation problems of narrow quadrilateral isoparametric finite elements, J. Comput. Appl. Math. 63 (1995), 109–122.

[Q1296] A. Ženíšek and J. Hoderová-Zlámalová: Semiregular Hermite tetrahedral finite elemets. Appl. Math. 46 (2001), 295–315.

[Q1297] J. Zlámalová: Semiregular finite elements in solving some nonlinear problems, Appl. Math. 46 (2001), 53–77.

[C13] **M. Křížek and V. Preiningerová**, *Výpočet třírozměrného teplotního pole ve statoru synchronních a asynchronních strojů metodou konečných prvků*, Elektrotechnický obzor **80** (1991), 78–84.

Cited in:

[Q1298] I. Faragó, S. Korotov, and P. Neittaanmäki: Galerkin approximations for the linear parabolic equation with the third boundary condition (submitted in 2001), 1–16.

[Q1299] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q1300] L. Liu: Finite element analysis of nonlinear heat conduction problems, Univ. of Jyväskylä, Dept. of Math., Report 75, 1997, 1–95.

[C14] **I. Hlaváček and M. Křížek**, *Weight minimization of elastic bodies weakly supporting tension.*
I. Domains with one curved side, Appl. Math. **37** (1992), 201–240.

Cited in:

[Q1301] J. Chleboun and L. S. Xanthis: The method of arbitrary lines in optimal shape design: An efficient coupling with boundary design sensitivity formulae, submitted in 1996, 1–14.

[Q1302] J. Haslinger and P. Neittaanmäki: Finite element approximation for optimal shape, material and topology design, John Wiley & Sons, Chichester, 1996.

[Q1303] P. Kočandrle: Optimalizace tvaru rovinných elastických těles (disertační práce), FAV, Západočeská universita, Plzeň, 1994, 1–154.

[Q1304] P. Kočandrle and P. Rybníček: On the numerical solution of weight minimization of elastic bodies weakly supporting tensions, Appl. Math. 40 (1995), 21–31.

[Q1305] M. Kočvara and J. Outrata: A numerical approach to the design of masonry structures. Proc. 16th IFIP Conf. on Systems, Modelling and Optimization, Compiegne, 1993, 1–12.

[Q1306] J. Outrata, M. Kočvara, and J. Zowe: Nonsmooth approach to optimization problems with equilibrium constraints, Kluwer Academic Publishers, Amsterdam, 1998.

[C15] **I. Hlaváček and M. Křížek**, *Weight minimization of elastic bodies weakly supporting tension.*
II. Domains with two curved sides, Appl. Math. **37** (1992), 289–312.

Cited in:

[Q1307] J. Chleboun and L. S. Xanthis: The method of arbitrary lines in optimal shape design: An efficient coupling with boundary design sensitivity formulae, submitted in 1996, 1–14.

[Q1308] J. Haslinger and P. Neittaanmäki: Finite element approximation for optimal shape, material and topology design, John Wiley & Sons, Chichester, 1996.

[Q1309] P. Kočandrle and P. Rybníček: On the numerical solution of weight minimization of elastic bodies weakly supporting tensions, Appl. Math. 40 (1995), 21–31.

[C18] **I. Hlaváček, M. Křížek, and V. Pištora**, *How to recover the gradient of linear elements on nonuniform triangulations*, Appl. Math. **41** (1996), 241–267.

Cited in:

[Q1310] M. Berzins: Mesh quality: a function of geometry, error estimates or both? Engineering with Computers 15 (1999), 236–247.

[Q1311] M. Berzins: Solution-based mesh quality indicators for triangular and tetrahedral meshes, Internat. J. Comput. Geom. Appl. 10 (2000), 333–346.

[Q1312] Y. Chen: Superconvergent recovery of gradients of piecewise linear finite element approximations on non-uniform mesh partitions. Numer. Methods Partial Differential Equations 14 (1998), 169–192.

[Q1313] J. Chleboun: An application of the averaged gradient technique, In Programs and Algorithms of Numer. Math. 14, Inst. of Math., Prague, 2008, 65–70.

[Q1314] J. Dalík: Quadratic interpolation in vertices of planar triangulations and an application, preprint, VUT Brno, 2004, 1–31.

[Q1315] J. Dalík: Approximations of the partial derivatives by averaging, submitted to Math. Comput. Simulation in 2009, 1–10.

[Q1316] J. Dalík: Averaging of directional derivatives in vertices of nonobtuse regular triangulations, Numer. Math. 116 (2010), 619–644.

[Q1317] J. Dalík: Complexity of the method of averaging, Proc. Programs and Algorithms of Numer. Math. 15 (ed. T. Vejchodský), Inst. of Math., Prague, 2010, 65–77.

[Q1318] A. Kliková: Finite volume–finite element solution of compressible flow, Ph.D. Thesis, Charles Univ., Prague, 2000, 1–188.

[Q1319] A. M. Lakhany, I. Marek, and J. R. Whiteman: Superconvergence results on mildly stuctured triangulations, Comput. Methods Appl. Mech. Engrg. 189 (2000), 1–75.

[Q1320] M. Picasso, F. Alauzet, H. Borouchaki, and P.-L. George: A numerical study of some Hessian recovery techniques on isotropic and anisotropic meshes, accepted by SIAM J. Sci. Comput. in 2010, 1–19.

[C19] **L. Liu, M. Křížek, and P. Neittaanmäki**, *Higher order finite element approximation of a quasilinear elliptic boundary value problem of a non-monotone type*, Appl. Math.

41 (1996), 467–478.

Cited in:

[Q1321] C. Bi and V. Ginting: A residual-type a posteriori error estimate of finite volume element method for a quasi-linear elliptic problem, Numer. Math. 114 (2009), 107–132.

[Q1322] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q1323] J. Malík: Generalized G-convergence for quasilinear elliptic differential operators, Nonlinear Anal., Theory, Methods and Appl. 68 (2008), 304–314.

[**C20**] **L. Liu and M. Křížek**, *The second order optimality conditions for nonlinear mathematical programming with $C^{1,1}$ data*, Appl. Math. **42** (1997), 311–320.

Cited in:

[Q1324] D. Bednařík and K. Pastor: On relations of vector optimization results with $C^{1,1}$-data, Acta Math. Sinica 26 (2010), 2031–2040.

[Q1325] I. Ginchev: On scalar and vector ℓ-stable functions, Nonlinear Anal. Theory Methods Appl. 74 (2011), 182–194.

[Q1326] I. Ginchev and A. Guerraggio: Second-order conditions for constrained vector optimization problems with ℓ-stable data, Optimization 60 (2011), 179–199.

[Q1327] I. Ginchev, A. Guerraggio, and M. Rocca: From scalar to vector optimization, Appl. Math. 51 (2006), 5–36.

[Q1328] I. Ginchev, A. Guerraggio, and M. Rocca: Second-order conditions in $C^{1,1}$ constrained vector optimization, Math. Programming, Ser. B, 2004, 1–24. 104 (2005), 389–405.

[Q1329] C. Gutiérrez, B. Jiménez, and V. Novo: On second-order Fritz John type optimality conditions in nonsmooth multiobjective programming, Math. Programming 123 (2010), 199–223.

[Q1330] K. M. Miettinen: Nonlinear multiobjective optimization, Kluwer Academic Publishers, Dordrecht, 1999.

[Q1331] D. La Torre, M. Rocca: On $C^{1,1}$ optimization problem, J. Comput. Anal. Appl. 7 (2005), 383–395.

[**C22**] **L. Liu, P. Neittaanmäki, and M. Křížek**, *Second-order optimality conditions for nondominated solutions of multiobjective programming with $C^{1,1}$-data*, Appl. Math. **45** (2000), 381–397.

Cited in:

[Q1332] D. Bednařík and K. Pastor: On relations of vector optimization results with $C^{1,1}$-data, Acta Math. Sinica 26 (2010), 2031–2040.

[Q1333] I. Ginchev: On scalar and vector ℓ-stable functions, Nonlinear Anal. Theory Methods Appl. 74 (2011), 182–194.

[Q1334] I. Ginchev and A. Guerraggio: Second-order conditions for constrained vector optimization problems with ℓ-stable data, Optimization 60 (2011), 179–199.

[Q1335] I. Ginchev, A. Guerraggio, and M. Rocca: From scalar to vector optimization, Appl. Math. 51 (2006), 5–36.

[Q1336] I. Ginchev, A. Guerraggio, and M. Rocca: Isolated minimizers and proper efficiency in $C^{0,1}$ constrained vector optimization problems, J. Math. Anal. Appl. 309 (2005), 353–368.

[Q1337] I. Ginchev, A. Guerraggio, and M. Rocca: Second-order conditions in $C^{1,1}$ constrained vector optimization, Math. Programming, Ser. B, 2004, 1–24. 104 (2005), 389–405.

[Q1338] I. Ginchev, A. Guerraggio, and M. Rocca: Second-order conditions in $C^{1,1}$ vector optimization with inequality and equality constaints, LN in Economics and Math. Systems 563 (2006), 29–44.

[Q1339] I. Ginchev, A. Guerraggio, and M. Rocca: Locally Lipschitz vector optimization with inequality and equality constaints, Appl. Math. 55 (2010), 77–88.

[Q1340] C. Gutiérrez, B. Jiménez, and V. Novo: On second-order Fritz John type optimality conditions in nonsmooth multiobjective programming, Math. Programming 123 (2010), 199–223.

[Q1341] V. I. Ivanov: Characterizations of nonsmooth generalized polarly cone-monotone maps, Studia Sci. Math. Hungar. 42 (2005), 445–458.

[Q1342] B. Jiménez and V. Novo: First order optimality conditions in vector optimization involving stable functions Optimization 57 (2008), 449–471.

[Q1343] D. La Torre: On generalized derivatives for $C^{1,1}$ vector optimization problems, J. Appl. Math. 7 (2003), 365–376.

[Q1344] D. La Torre, M. Rocca: Remarks on second order generalizaed derivatives, Appl. Math. E - Notes (2003), 130–137.

[Q1345] D. La Torre, M. Rocca: On $C^{1,1}$ optimization problem, J. Comput. Anal. Appl. 7 (2005), 383–395.

[C23] **M. Křížek and L. Somer**, *A necessary and sufficient condition for the primality of Fermat numbers*, Math. Bohem. **126** (2001), 541–549.

Cited in:

[Q1346] S. Gun, B. Ramakrishnan, B. Sahu, and R. Thangadurai: Distribution of quadratic nonresidues which are not primitive roots, Math. Bohem. 130 (2005), 387—396.

[Q1347] K. R. Guy: Unsolved problems in number theory, the third edition, Springer, Berlin, 2004.

[C24] **I. Hlaváček and M. Křížek**, *On exact results in the finite element method*, Appl. Math. **46** (2001), 467–478.

Cited in:

[Q1348] I. Faragó, S. Korotov, and T. Szabó: On modification of continuous and discrete maximum principles for reaction-diffusion problems, submitted to Adv. Appl. Math. Mech. in 2010, 1–12.

[Q1349] Q. Lin: Free calculus. A liberation from concepts and proofs, World Scientific, Singapore, 2008.

[Q1350] Q. Lin and J. Lin: Finite elements methods: Accuracy and improvement, Science Press, Beijing, 2006.

[Q1351] L. Meng and Q. D. Zhu: The ultraconvergence of derivative for bicubic finite element, Comput. Methods Appl. Mech. Engrg. 196 (2007), 3771–3778.

[Q1352] Q. D. Zhu and Q. Zhao: SPR technique and finite element correction, Numer. Math. 96 (2003), 185–196.

[**C25**] **M. Křížek**, *Colouring polytopic partitions in* R^d, Math. Bohem. **127** (2002), 251–264.

Cited in:

[Q1353] T. Dokchitser and V. Dokchitser: On the 6-colour conjecture in $\mathbb{R}^3$, Preprint Univ. Cambridge, 2003, 1–6.

[**C27**] **L. Somer and M. Křížek**, *On a connection of number theory with graph theory*, Czechoslovak Math. J. **54** (2004), 465–485.

Cited in:

[Q1354] U. Ahmad and H. Syed: On the heights of power diagrams modulo N, submitted to Czechoslovak Math. J. in 2011.

[Q1355] W. Carlip and M. Mincheva: Symmetry of iteration graphs, Czechoslovak Math. J. 58 (2008), 131–145.

[Q1356] G. Deng and P. Yuan: Isomorphic digraphs from powers modulo p, accepted by Czechoslovak Math. J. in 2010, 1–9.

[Q1357] Y. Meemark and N. Wiroonsri: The quadratic digraph on polynomial rings over finite fields, Finite Fields Appl. 16 (2010), 334–346.

[Q1358] J. Skowronek-Kaziów: Properties of digraphs connected with some congruences relations, Czechoslovak Math. J. 59 (2009), 39–49.

[Q1359] J. Skowronek-Kaziów: Some digraphs arising from number theory and remarks on the zero-divisor graph of the ring Z_n, Inform. Process. Lett. 108 (2008), 165–169.

[Q1360] T. M. J. Vasiga: Error detection in number-theoretic and algebraic algorithms, Thesis, Univ. of Waterloo, Canada, 2008, 1–176.

[Q1361] Y. Wei, J. Nan, and G. Tang: The cubic mapping graph for the ring of Gaussian integers modulo n, submitted to Czechoslovak Math. J. in 2010, 1–13.

[Q1362] Y. Wei, J. Nan, and G. Tang: The digraphs from finite fields, submitted in 2010, 1–10.

[Q1363] Y. Wei, J. Nan, G. Tang, and H. Su: The cubic mapping graph of the residue classes of integers, Ars Combinatorica 97 (2010), 101–110.

[**C28**] **L. Beilina, S. Korotov, and M. Křížek**, *Local nonobtuse tetrahedral partitions near Fichera-like corners*, Appl. Math. **50** (2005), 569–581.

Cited in:

[Q1364] L. Zhu, S. Giani, P. Houston, and D. Schötzau: Energy norm a-posteriori error estimation for *hp*-adaptive discontinuous Galerkin method for elliptic problems in three dimensions, submitted in 2010, 1–33.

[Q1365] M. Zítka: On some aspects of adaptive higher-order finite element method for three-dimensional elliptic problems, Ph.D. Thesis, Faculty of Math. and Phys., Charles Univ., Prague, 2008, 1–119.

[**C30**] **L. Somer, M. Křížek**, *On semiregular digraphs of the congruence* $x^k \equiv y \pmod n$, Comment. Math. Univ. Carolin. **48** (2007), 41–58.

Cited in:

[Q1366] U. Ahmad and H. Syed: On the heights of power diagrams modulo N, submitted to Czechoslovak Math. J. in 2011.

[Q1367] G. Deng and P. Yuan: Isomorphic digraphs from powers modulo p, accepted by Czechoslovak Math. J. in 2010, 1–9.

[Q1368] Y. Wei, J. Nan, and G. Tang: The digraphs from finite fields, submitted in 2010, 1–10.

[**C31**] **J. Brandts, S. Korotov, and M. Křížek**, *Simplicial finite elements in higher dimensions*, Appl. Math. **52** (2007), 251–265.

Cited in:

[Q1369] I. Faragó: Discrete maximum principle for finite element parabolic models in higher dimensions, Math. Comput. Simulation 80 (2010), 1601–1611.

[Q1370] M. E. Mincsovics: Discrete maximum principle for finite element parabolic operators, Proc. of the 6th Internat. Conf. on Large-Scale Sci. Comput., Sozopol, Bulgaria, 2009, (ed. by I. Lirkov et al.), LNCS 5910, Springer-Verlag, 2010, 604–612.

[**C32**] **M. Křížek, A. Šolcová, and L. Somer**, *Construction of Šindel sequences*, Comment. Math. Univ. Carolin. **48** (2007), 373–388.

Cited in:

[Q1371] N. J. A. Sloane: The on-line encyclopaedia of integer sequences, 2007, A028355, A028356, published eletronically at `http://www.research.att.com/~njas/sequences/`

[**D1**] **M. Křížek**, *Ravnovesnye elementy v zadačach linějnoj uprugosti*, Variational -Difference Methods in Mathematical Physics V, ed. N.S.Bachvalov and Ju. A. Kuzněcov, Moscow, 1983, Viniti, Moscow, 1984, 81–92.

Cited in:

[Q1372] M. Vondrák: Slab analogy in theory and practice of conforming equilibrium stress models for finite element analysis of plane elastostatics, Apl. Mat. 30 (1985), 187–217.

[**D2**] **P. Neittaanmäki and M. Křížek**, *Conforming FE-method for obtaining the gradient of a solution to the Poisson equation*, Efficient Solutions of Elliptic Systems, Proc. of a GAMM-Seminar, ed. W.Hackbusch, Kiel, 1984, Vieweg & Sohn, Wiesbaden, 1984, 74–86.

Cited in:

[Q1373] J.-L. Guermond, L. Quartapelle, and J. Zhu: On a 2D vector Poisson problem with apparently mutually exclusive scalar boundary conditions, Math. Model. Numer. Anal. 34 (2000), 183–200.

[Q1374] W. Hackbush: Multi-grid methods and applications, Springer-Verlag, Berlin, 1985, (see p. 236).

[Q1375] C. Matyska: Some problems of contemporary geodynamics (DrSc. Thesis), MFF UK, Prague, 1996.

[Q1376] C. Matyska: Variational principles for the momentum equation of mantle convection with Newtonian and power-law rheologies, Geophys. J. Int. 126 (1996), 281–286.

[Q1377] A. I. Pehlivanov and G. F. Carey: Interior error estimates for least-squares mixed finite element methods, TICAM Report 98-05, Univ. of Texas at Austin, 1998, 1–15.

[Q1378] M. Vanmaele, K. W. Morton, E. Süli, and A. Borzì: Analysis of the cell vertex finite volume method for the Cauchy-Riemann equations, SIAM J. Numer. Anal. 34 (1997), 2043–2062.

[**D3**] **P. Neittaanmäki and M. Křížek**, *Superconvergence of the finite element schemes arising from the use of averaged gradients*, Accuracy Estimates and Adaptive Refinements in Finite Element Computations, Lisbon, 1984, 169–178.

Cited in:

[Q1379] Y. Chen: Superconvergent recovery of gradients of piecewise linear finite element approximations on non-uniform mesh partitions. Numer. Methods Partial Differential Equations 14 (1998), 169–192.

[Q1380] A. M. Lakhany, I. Marek, and J. R. Whiteman: Superconvergence results on mildly stuctured triangulations, Comput. Methods Appl. Mech. Engrg. 189 (2000), 1–75.

[Q1381] Q. Lin: High accuracy from linear elements, Proc. of the Beijing Sympos. on Differential Geometry and Differential Equations (ed. Feng Kang), Science Press, Beijing, 1984, 258–262.

[Q1382] Q. Lin and J. C. Xu: Linear finite elements with high accuracy, J. Comput. Math. 3 (1985), 115–133.

[Q1383] Q. Lin and Q. Zhu: Asymptotic expansion for the derivative of finite elements, J. Comput. Math. 2 (1984), 361–363.

[Q1384] Q. Lin and Q. Zhu: Local asymptotic expansion and extrapolation for finite elements, J. Comput. Math. 4 (1986), 263–265.

[Q1385] J. R. Whiteman and G. M. Thompson: Finite element calculations of parameters for singularities in problems of fracture, In: The Mathematics of Finite Elements and Applications V, (ed. J. R. Whiteman), Academic Press, London, 1984, 27–47.

[**D4**] **V. Preiningerová, M. Křížek, and V. Kahoun**, *Temperature distribution in large transformer cores*, Proc. of GANZ Conf., ed. M.Franyó, Budapest, 1985, 254–261.

Cited in:

[Q1386] S. Korotov: Variational crimes and equilibrium finite elements in three-dimensional space, Univ. of Jyväskylä, Dept. of Math., Report 74, 1997, 1–111.

[Q1387] J. Mlýnek: Matematické modely vedení tepla v elektrických strojích. Habilitační práce, Tech. Univ. Liberec, 2007.

[**D5**] **M. Křížek**, *Superconvergence results for linear triangular elements*, Proc. Internat. Conference EQUADIFF 6, ed. J. Vosmanský and M. Zlámal, Brno, 1985, LN in Math. 1192, Springer-Verlag, Berlin, Heidelberg, 1986, 315–320.

Cited in:

[Q1388] C. M. Chen: Superconvergence for triangular finite elements, Science in China, Ser. A-Math., 42 (1999), 917–924.

[Q1389] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q1390] C. M. Chen and Y. Q. Huang: High accuracy theory of finite element methods (in Chinese), Hunan Science and Technology Press, Changsha, 1995.

[Q1391] S. J. Goebbels: The sharpness of a pointwise error bound in connection with linear finite elements, Numer. Funct. Anal. Optim. 18 (1997), 541–553.

[Q1392] Q. Lin: Tetrahedral or cubic mesh? Proc. Conf. Finite Element Methods: Three-dimensional Problems, Univ. of Jyväskylä, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 160–182.

[Q1393] Q. Lin and N. N. Yan: The construction and analysis for efficient finite elements (Chinese), Hebei Univ. Publ. House, 1996.

[Q1394] L. B. Wahlbin: Lecture notes on superconvergence in Galerkin finite element methods, Cornell Univ., 1994, 1–243.

[Q1395] L. B. Wahlbin: Superconvergence in Galerkin finite element methods, LN in Math., vol. 1605, Springer-Verlag, Berlin, 1995.

[Q1396] N. N. Yan: Superconvergence analysis and a posteriori error estimation in finite element methods, Ser. Inf. Comput. Sci., vol. 40, Science Press, Beijing, 2008.

[Q1397] Q. D. Zhu: High accuracy and the theory of post-processing of the finite element method, Science Press, Beijing, 2008.

[Q1398] Q. D. Zhu and Q. Lin: Superconvergence theory of finite element methods (in Chinese), Hunan Science and Technology Publishers, Hunan, 1989, (see p. 178).

[Q1399] A. Ženíšek: Nonlinear elliptic and evolution problems and their finite element approximations, Academic Press, London, 1990, (see p. 383).

[**D6**] **P. Neittaanmäki and M. Křížek**, *Postprocessing of a finite element scheme with linear elements*, Numerical Techniques in Continuum Mechanics, Proc. of a GAMM-Seminar, ed. W.Hackbusch and K.Witsch, Kiel, 1986, Vieweg & Sohn, Wiesbaden, 1987, 69–83.

Cited in:

[Q1400] C. M. Chen and Y. Q. Huang: High accuracy theory of finite element methods (in Chinese), Hunan Science and Technology Press, Changsha, 1995.

[**D10**] **P. Neittaanmäki and M. Křížek**, *On $\mathcal{O}(h^4)$-superconvergence of piecewise bilinear FE-approximations*, Proc. of the Second Internat. Symposium on Numer. Anal., Prague, 1987, ed. I. Marek, BSP Teubner (Teubner-Texte zur Mathematik, Band 107), Leipzig, 1988, 250–255.

Cited in:

[Q1401] L. B. Wahlbin: Superconvergence in Galerkin finite element methods, LN in Math., vol. 1605, Springer-Verlag, Berlin, 1995.

[Q1402] L. Zhang and L. Li: On superconvergence of isoparametric bilinear finite elements. Comm. Numer. Methods Engrg. 12 (1996), 849–862.

[**D11**] **M. Křížek**, *Higher order global accuracy of a weighted averaged gradient of the Courant element on irregular meshes*, Finite Element Methods: Fifty Years of the Courant Element (eds. M. Křížek, P. Neittaanmäki, R. Stenberg), LN in Pure and Appl. Math., vol. 164, Marcel Dekker, 1994, 267–276.

Cited in:

[Q1403] L. Angermann: A posteriori error estimates for FEM with violated Galerkin orthogonality. Numer. Methods Partial Differential Equations 18 (2002), 241–259.

[Q1404] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q1405] J. Dalík: Quadratic interpolation in vertices of planar triangulations and an application, preprint, VUT Brno, 2004, 1–31.

[Q1406] J. Dalík: Optimal-oder quadratic interpolation in vertices of unstructured triangulations, Appl. Math. 53 (2008), 547–560.

[Q1407] J. Dalík: Averaging of directional derivatives in vertices of nonobtuse regular triangulations, Numer. Math. 116 (2010), 619–644.

[Q1408] I. Hlaváček and J. Chleboun: Shape design sensitivity formulae approximated by means of a recovered gradient method, Proc. Conf. Finite Element Methods: Superconvergence, Post-processing and A Posteriori Estimates, Univ. of Jyväskylä, 1996, Marcel Dekker, New York, 1998, 135–146.

[Q1409] Q. Lin: Tetrahedral or cubic mesh? Proc. Conf. Finite Element Methods: Three-dimensional Problems, Univ. of Jyväskylä, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 160–182.

[Q1410] Q. Lin and N. N. Yan: The construction and analysis for efficient finite elements (Chinese), Hebei Univ. Publ. House, 1996.

[Q1411] L. B. Wahlbin: Superconvergence in Galerkin finite element methods, LN in Math., vol. 1605, Springer-Verlag, Berlin, 1995.

[Q1412] S. W. Walker and M. J. Shelley: Shape optimization of peristaltic pumping, J. Copmut. Phys. 229 (2010), 1260–1291.

[Q1413] Q. D. Zhu: High accuracy and the theory of post-processing of the finite element method, Science Press, Beijing, 2008.

[**D13**] **S. Korotov and M. Křížek**, *Finite element analysis of variational crimes for a nonlinear heat conduction problem in three-dimensional space*, Proc. Second European Conf. on Numer. Math. and Advanced Applications, ENUMATH 97, Heidelberg (ed. by H. G. Bock et al), World Sci. Publishing, Singapore, 1998, 421–428.

Cited in:

[Q1414] I. Faragó and J. Karátson: Numerical solution of nonlinear elliptic problems via preconditioning operators: Theory and applications. Nova Science Publisher, New York, 2003.

[Q1415] C. H. Yao: Finite element approximation for TV regularization, Internat. J. Numer. Anal. Model. 5 (2008), 516–526.

[**D15**] **M. Křížek, L. Liu, and P. Neittaanmäki**, *Finite element analysis of a nonlinear elliptic problem with a pure radiation condition*, Applied Nonlinear Analysis (Proc. Conf. devoted to the 70th birthday of Prof. J. Nečas, Lisbon, 1999), Kluwer, Amsterdam, 1999, 271–280.

Cited in:

[Q1416] M. Feistauer, K. Najzar, and V. Sobotíková: Error estimates for the finite element solution of elliptic problems with nonlinear Newton boundary conditions, Numer. Funct. Anal. Optim. 20 (1999), 835–851.

[Q1417] M. Feistauer, K. Najzar, and V. Sobotíková: On the finite element analysis of problems with nonlinear Newton boundary conditions in nonpolygonal domains, Appl. Math. 46 (2001), 353–382

[Q1418] M. Feistauer, K. Najzar, P. Sváček, and V. Sobotíková: Numerical analysis of problems with nonlinear Newton boundary conditions, ENUMATH 99, Proc. of the 3rd European Conf. on Numer. Methods and Advanced Applications, Univ. of Jyväskylä (P. Neittaanmäki, T. Tiihonen, and P. Tarvainen eds.), World Scientific, Singapore, 2000, 486–493.

[Q1419] M. Feistauer, K. Najzar, and K. Švadlenka: On a parabolic problem with nonlinear Newton boundary condition, Comment. Math. Univ. Carolin. 43 (2002), 429–455.

[Q1420] V. Sobotíková: Error estimate for the finite element solution of an elliptic problem with a nonlinear boundary condition in nonpolygonal domains, preprint FEL ČVUT, Praha, 2002, 1–13.

[Q1421] V. Sobotíková: The finite element analysis of an elliptic problem with a nonlinear Newton boundary conditions, Proc. Conf. ENUMATH V, Prague 2003, Springer-Verlag, Berlin, 2004, 765–774.

[Q1422] V. Sobotíková: An error estimate for the finite element solution of an elliptic problem with a nonlienear Newton boundary condition in nonpolygonal domains, Numer. Funct. Anal. Optim. 24 (2003), 621–635.

[Q1423] P. Sváček: Finite element method for a problem with nonlinear boundary conditions, Ph.D. Thesis, Faculty of Mathematics and Physics, Prague, 2002, 1–106.

[Q1424] P. Sváček and K. Najzar: Error estimates for the FE solution of problems with nonlinear Newton boundary conditions, submitted in 2003.

[**D17**] **J. Brandts and M. Křížek**, *History and future of superconvergence in three-dimensional finite element methods*, MSRI Workshop on superconvergence, Berkeley, March 2000, and also Proc. Conf. Finite Element Methods: Three-dimensional Problems, Jyväskylä, July 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Gakkotosho, Tokyo, 2001, 22–33.

Cited in:

[Q1425] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q1426] L. Chen: Superconvergence of tetrahedral linear finite elemnets, Internat. J. Numer. Anal. Model. 3 (2006), 273–282.

[Q1427] Q. Lin: Tetrahedral or cubic mesh? Proc. Conf. Finite Element Methods: Three-dimensional Problems, Univ. of Jyväskylä, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 160–182.

[Q1428] Q. Lin: Superconvergence analysis for FEMs, Proc. Conf. Xiamen, May 29-June 3, 2001.

[Q1429] Q. Lin: High performance FEMs, Proc. Internat. Sympos. on Computational and Applied PDEs, Zhanjiajie, China, 2001, 1–17.

[Q1430] Q. Lin: Finite element method, superconvergence and post-processing. In: Finite Element Handbook for Engineers (in Chinese), Beijing, 2002, Chapt. 16.

[Q1431] Q. Lin and J. Lin: Finite elements methods: Accuracy and improvement, Science Press, Beijing, 2006.

[Q1432] Q. Lin, L. Tobiska, and A. Zhou: On the superconvergence of nonconforming low order elements applied to the Poisson equation, Preprint Nr. 17, Fakultät für Mathematik, Otto-von-Guericke-Universität Magdeburg, 2001, 1–14.

[Q1433] Q. Lin, L. Tobiska, and A. Zhou: Superconvergence and extrapolation of non-conforming low order finite elements applied to the Poisson equation, IMA J. Numer. Anal. 25 (2005), 160–181.

[Q1434] Q. Lin, J.-M. Zhou, and H.-T. Chen: Supercloseness and extrapolation of the tetrahedral linear finite elements for elliptic problem (in Chinese), Mathematics in Practice and Theory 39 (2009), 200–208.

[Q1435] R. Lin: Natural superconvergence in two and three dimensional finite element methods, Dissertation, Wayne State Univ., Detroit, 2005, 1–240.

[Q1436] R. Lin and Z. Zhang: Natural superconvergent points in 3D finite elements, Preprint Dept. of Math., Wayne State Univ., 2004, 1–30, submitted to SIAM J. Numer. Anal.

[Q1437] J. Liu, X. Huo, and Q. D. Zhu: Pointwise supercloseness of quadratic serendipity block finite elements for the variable coefficient elliptic equation, submitted to Numer. Methods Partial Differential Equations in 2009, 1–9.

[Q1438] J. Liu, B. Jia, and Q. D. Zhu: An estimate for the three-dimensional discrete Green's function and applications, submitted in 2010 , 1–20.

[Q1439] J. Liu, H. Sun and Q. D. Zhu: Superconvergence of tricubic block finite elements, Sci. in China, Ser. A 52 (2009), 959–972.

[Q1440] J. Liu and Q. Zhu: Maximum-norm superapproximation of the gradient for the trilinear rectangular block finite element, Numer. Methods Partial Differential Equations 23 (2007), 1501–1508.

[Q1441] J. Liu and Q. D. Zhu: Pointwise supercloseness of tensor-product block finite elements, submitted to Numer. Methods Partial Differential Equations in 2008, 1–21.

[Q1442] J. Liu and Q. D. Zhu: Pointwise supercloseness of pentahedral finite elements, Numer. Methods Partial Differential Equations 2009, 1572–1580.

[Q1443] G. Matthies, P. Skrzypacz, and L. Tobiska: Superconvergence of a 3d finite element method for stationary Stokes and Navier-Stokes problems, Numer. Methods Partial Differential Equations 21 (2005), 701–725.

[Q1444] A. A. Naga: On recovery-type a posteriori error estimators in adaptive C^0 Galerkin finite element methods, Dissertation, Wayne State Univ., Detroit, 2004.

[Q1445] G. Xie, J. Li, L. Xie, and F. Xie: GL method for solving equations in math-physics and engineering, Acta Math. Appl. Sinica 24 (2008), 391–404.

[Q1446] N. N. Yan: Superconvergence analysis and a posteriori error estimation in finite element methods, Ser. Inf. Comput. Sci., vol. 40, Science Press, Beijing, 2008.

[Q1447] E.-J. Zhong and T.-Z. Huang: Superconvergence of compact difference schemes for Poisson equation, submitted to Numer. Algorithms in 2010, 1–21.

[Q1448] Q. D. Zhu: Unsymmetric point structure of superconvergence for cubic triangular element. Proc. Conf. on Superconvergence, Hunan Normal Univ., Chang-sha, 2004, 1–6.

[Q1449] Q. D. Zhu: High accuracy and the theory of post-processing of the finite element method, Science Press, Beijing, 2008.

[**D19**] M. Křížek, L. Liu, P. Neittaanmäki, *On harmonic and biharmonic finite elements*, Proc. Conf. Finite Element Methods: Three-dimensional Problems, Univ. of Jyväskylä, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Gakkōtosho, Tokyo, 2001, 143–151.

Cited in:

[Q1450] Q. Lin and J. Lin: Finite elements methods: Accuracy and improvement, Science Press, Beijing, 2006.

[**D21**] **M. Křížek and J. Šolc**, *Acute versus nonobtuse tetrahedralizations*, In: Conjugate Gradient Algorithms and Finite Element Methods, Springer-Verlag, Berlin, 2004, 161–170.

Cited in:

[Q1451] J. Karátson and S. Korotov: Continuous and discrete maximum principles for nonlinear elliptic problems. Proc. Internat. Conf. on Comput. and Math. Methods in Sci. and Engrg. (E. Brändas, J. Vigo-Aguiar eds.), Uppsala, 2004, 191–200.

[Q1452] J. Karátson and S. Korotov: On the discrete maximum principles for finite element solutions of nonlinear elliptic problems. Proc. Conf. ECCOMAS 2004 (P. Neittaanmäki et al eds.), Univ. of Jyväskylä, 2004, 1–12.

[Q1453] J. Karátson and S. Korotov: Discrete maximum principles for FEM solutions of some nonlinear elliptic interface problems, Internat. J. Numer. Anal. Model. 6 (2009), 1–16.

[**D23**] **S. Korotov and M. Křížek**, *Dissection of an arbitrary polyhedron into nonobtuse tetrahedra*, Reports of the Dept. of. Math. Inform. Technology, Series B, Sci. Comput. No. B 3/2002, Univ. of Jyväskylä, also in Proc. Conf. ECCOMAS 2004, vol. 2, eds. P. Neittaanmäki et al., Jyväskylä, 1–6.

Cited in:

[Q1454] J. Stańdo: Issues of the finite element method in the context of automatic triangulation and numerical integration (in Polish), Ph.D. Thesis, Uviv. of Lodz, Poland, 2004.

[**D25**] **J. Brandts, S. Korotov, and M. Křížek**, *The strengthened Cauchy-Bunyakowski-Schwarz inequality for n-simplicial linear finite elements*, Proc. of the Third Conf. on Numer. Anal. Appl. (Z. Li et al. eds), Bulgaria, NAA 2004, LNCS 3401, Springer-Verlag, Berlin, Heidelberg, 2005, 203–210.

Cited in:

[Q1455] B. Aksoylu and M. Holst: Optimality of multilevel preconditioners for local mesh refinement in three dimensions, SIAM J. Numer. Anal. 44 (2006), 1005–1025.

[**F3**] **M. Křížek, K. Segeth**, *Numerické modelování problémů elektrotechniky*, Karolinum, Praha, 2001.

Cited in:

[Q1456] M. Dostál: Numerical methods for MDH problems, Proc. Seminar Programs and Algorithms of Numerical Mathematics 12 (eds. J. Chleboun, P. Přikryl, and K. Segeth), Dolní Maxov, Mathematical Institute, Prague, 2004, 41–46.

[Q1457] Z. Kounický: The calculation of magnetic field distribution in nonlinear anisotropic media using the finite element method, Master thesis, Faculty of Math. and Phys., Charles Univ., 2008, 1–92.

[Q1458] P. Kubásek: Výpočetní srovnání *hp*-adaptivních přístupů, Master thesis, Faculty of Math. and Phys., Charles Univ., 2008, 1–68.

[Q1459] J. Mlýnek: The application of the thermal balance method for computation of warming in electrical machines, Proc. PANM 13 dedicated to the 80th birthday of Professor Ivo Babuška, Math. Inst. Prague (eds. J. Chleboun, K. Segeth, T. Vejchodský), 2006, 196–201.

[Q1460] J. Mlýnek: Matematické modely vedení tepla v elektrických strojích. Habilitační práce, Tech. Univ. Liberec, 2007.

[Q1461] J. Mlýnek: Výpočet oteplení elektrických strojů. Sborník semináře: Matematika na vysokých školách, Herbertov (ed. L. Herrmann), SF ČVUT, Praha, 2007, 71–73.

[Q1462] J. Mlýnek: Box Method application in electrical engineering, Proc. Internat. Conf. Presentation of Mathematics '07 (eds. J. Příhonská, K. Segeth, D. Andrejsová), Tech. Univ. of Liberec, 2007, 63–68.

[Q1463] J. Mlýnek: Variational formulation of the heat conduction problem, Proc. Internat. Conf. Presentation of Mathematics'08 (ed. J. Příhonská, K. Segeth, D. Andrejsová), Tech. Univ. Liberec, 2008, 45–50.

[**G6**] **M. Křížek**, *On semiregular families of decompositions of a polyhedron into tetrahedra and linear interpolation*, Mathematical Methods in Engineering, Plzeň, 1991, ŠKODA Plzeň, 1991, 269–274.

Cited in:

[Q1464] J. Mackerle: 2D and 3D finite element meshing and remeshing: A bibliography (1990–2001), Engrg. Computations (Swansea) 18 (2001), 1108–1197.

[**H6**] **M. Křížek and P. Neittaanmäki**, *On a global superconvergent recovery technique for the gradient from piecewise linear FE-approximations*, Preprint nr. 33, Univ. of Jyväskylä, 1984, 1–17.

Cited in:

[Q1465] V. Kantchev and R. D. Lazarov: Superconvergence of the gradient of linear finite elements for 3D Poisson equation, Proc. Internat. Conf. Optimal Algorithms (ed. B. Sendov), Blagoevgrad, 1986, Izd. Bulg. Akad. Nauk, Sofia, 1986, 172–182.

[**I1**] **M. Křížek and P. Neittaanmäki**, *Bibliography on superconvergence*, Proc. Conf. Finite Element Methods: Superconvergence, Postprocessing and A Posteriori Estimates, Marcel Dekker, New York, 1998, 315–348.

Cited in:

[Q1466] I. Babuška, U. Banerjee, and J. E. Osborn: Superconvergence in the generalized finite element method, Numer. Math. 107 (2007), 353–395.

[Q1467] I. Babuška and T. Strouboulis: The finite element method and its reliability, Calderon Press, Oxford, 2001, p. 413.

[Q1468] C. M. Chen: Structure theory of superconvergence of finite elements (in Chinese), Hunan Science and Technology Press, Changsha, 2001.

[Q1469] W. Chen: Analysis of the mixed finite methods for the eigenvalue problems. Collected works, Shandong Univ., Jinan, 2003, 1–49.

[Q1470] C. M. Chen: Orthogonality correction technique in superconvergence analysis, Internat. J. Numer. Anal. Model. 2 (2005), 31–42.

[Q1471] M. Li, Q. Lin, and S. Zhang: Extrapolation and superconvergence of the Steklov eigenvalue problem, Adv. Comput. Math. 33 (2010), 25–44.

[Q1472] J. Lin and Q. Lin: Superconvergence of a finite element method for the biharmonic equation. Numer. Methods Partial Differential Equations 18 (2002), 420–427.

[Q1473] Q. Lin: Tetrahedral or cubic mesh? Proc. Conf. Finite Element Methods: Three-dimensional Problems, Univ. of Jyväskylä, 2000, GAKUTO Internat. Ser. Math. Sci. Appl., vol. 15, Tokyo, 2001, 160–182.

[Q1474] Q. Lin and J. Lin: Finite elements methods: Accuracy and improvement, Science Press, Beijing, 2006.

[Q1475] Q. Lin, T. Liu, and S. Zhang: Superconvergence estimates of finite element methods for American options, Appl. Math. 54 (2009), 181–201.

[Q1476] Q. Lin, J. Zhou, and N. N. Yan: Superconvergence in high-order Galerkin finite element methods. J. Math. Study 32 (1999), 217–231.

[Q1477] R. Lin: Natural superconvergence in two and three dimensional finite element methods, Dissertation, Wayne State Univ., Detroit, 2005, 1–240.

[Q1478] R. Lin and Z. Zhang: Numerical study of natural superconvergence in least-squares finite element methods for elliptic problems, Appl. Math. 54 (2009), 251–266.

[Q1479] P. K. Moore: Applications of Lobatto polynomials to an adaptive finite element method: a posteriori error estimates for hp-adaptivity and grid-to-grid interpolation. Numer. Math. 94 (2003), 367–401.

[Q1480] A. A. Naga: On recovery-type a posteriori error estimators in adaptive C^0 Galerkin finite element methods, Dissertation, Wayne State Univ., Detroit, 2004.

[Q1481] L. Zhang, T. Strouboulis, and I. Babuška: η%-superconvergence of finite element solutions and error estimators. Adv. Comput. Math. 15 (2001), 393–404.

[Q1482] S. Zhang. Y. Lin, and M. Rao: Defect correction and a posteriori error estimation of Petrov-Galerkin methods for nonlinear Volterra integro-differential equations. Appl. Math. 45 (2000), 241–263.

[**K1**] **M. Křížek**, *Padesát let metody konečných prvků*, Pokroky Mat. Fyz. Astronom. **37** (1992), 129–140.

Cited in:

[Q1483] T. Vejchodský: Aposteriorní odhady chyby v metodě konečných, Pokroky Mat. Fyz. Astronom. 53 (2008), 104–112.

[**K4**] **M. Křížek**, *O problému tří těles*, Rozhledy mat.-fyz. **70** (1992), 105–112.

Cited in:

[Q1484] A. Doktor: Zeptám se počítače, Rozhledy mat.-fyz. 70 (1992), 223–229.

[Q1485] J. Němec: Numerical solution of the three-body problem (in Czech), Mgr. Thesis, MFF UK, Prague, 1996, 1–68.

[Q1486] J. Němec: Lagrangeovy librační body. Rozhledy mat.-fyz. 76 (1999), 12–18.

[Q1487] J. Němec: An alternative proof of Painlevé's theorem. Appl. Math. 45 (2000), 291–299.

[**K11**] **M. Křížek**, *O Fermatových číslech*, Pokroky Mat. Fyz. Astronom. **40** (1995), 243–253.

Cited in:

[Q1488] A. Šolcová: D'Artagnan mezi matematiky — pocta Pierru Fermatovi k 400. výročí narození, Pokroky Mat. Fyz. Astronom. 46 (2001), 286–298.

[**K15**] **M. Křížek, M. Práger, E. Vitásek**, *Spolehlivost numerických výpočtů*, Pokroky Mat. Fyz. Astronom. **42** (1997), 8–23.

Cited in:

[Q1489] J. Šolc: Numerické problémy v geodetických aplikacích. Diplomová práce, Stavební fakulta ČVUT, Praha, 2002, 1–61.

[**K17**] **M. Křížek, L. Liu**, *Matematika ve starověké Číně*, Pokroky Mat. Fyz. Astronom. **42** (1997), 223–233.

Cited in:

[Q1490] J. Veselý: Zlatý řez a co vše s ním souvisí? Učitel matematiky 6 (1998), 153–158.

[Q1491] J. Vild, V. Vytlačil, and K. Kašák: Animation of modular arithmetic and its applications, Proc. Internat. Conf. Presentaion of Mathematics '09, Tech. Univ. Liberec, 2010, 121–128.

[**K19**] **M. Křížek**, *Gaussův příspěvek k eukleidovské geometrii*, Rozhledy mat.-fyz. **74** (1997), 254–258.

Cited in:

[Q1492] K. Horák: Konstrukce pravidelného sedmnáctiúhelníku. Rozhledy mat.-fyz. 74 (1997), 259–260.

[Q1493] J. Pradlová: Rovinné mozaiky aneb Keplerova harmonie světa. Učitel matematiky 9 (2001), 85–97.

[**K20**] **M. Křížek**, *Metoda RSA pro šifrování zpráv pomocí velkých prvočísel*, Rozhledy mat.-fyz. **75** (1998), 101–107.

Cited in:

[Q1494] A. Šolcová: Fermatův odkaz, Cahiers du CEFRES 28 (2002), 173–202.

[**K21**] **A. Šolcová, M. Křížek**, *Čas plyne, jméno zůstává: Albert Einstein*, Pokroky Mat. Fyz. Astronom. **43** (1998), 265–277.

Cited in:

[Q1495] R. Kolomý: V Praze byla odhalena pamětní deska Albertu Einsteinovi. Matematika – fyzika – informatika IX (1999), 250–255.

[Q1496] V. Procházka: Nová pamětní deska Albertu Einsteinovi v Praze, Num. listy 1999, 78–80.

[**K22**] **J. Pradlová, M. Křížek**, *Grupy kolem nás*, Rozhledy mat.-fyz. **76** (1999), 209–216, 261–267; **77** (2000), 5–12.

Cited in:

[Q1497] V. Pravda: Maticové Lieovy grupy a Lieovy algebry, Pokroky Mat. Fyz. Astronom. 52 (2007), 219–230.

[**K23**] **M. Křížek**, *Má ryze teoretická matematika uplatnění v technické praxi?*, Pokroky Mat. Fyz. Astronom. **44** (1999), 14–24.

Cited in:

[Q1498] F. Kuřina: O užitečnosti školské matematiky, Matematika-fyzika-informatika 8 (1998/99), 385–391.

[Q1499] F. Kuřina, Z. Půlpán: Podivuhodný svět elementární matematiky. Elementární matematika čtená podruhé. Academia, Praha, 2006.

[**K26**] **A. Šolcová, M. Křížek**, *Nová pamětní deska na počest Alberta Einsteina*, Pokroky Mat. Fyz. Astronom. **44** (1999), 258–261.

Cited in:

[Q1500] P. Šámal, A. Rymarev: Domy na Starém Městě pražském III., nakl. Lidové noviny, Praha, 2008.

[**K41**] **J. H. Brandts, M. Křížek**, *Padesát let metody sdružených gradientů aneb Zvládnou počítače soustavy miliónů rovnic o miliónech neznámých?*, Pokroky Mat. Fyz. Astronom. **47** (2002), 103–113.

Cited in:

[Q1501] K. Maleček, M. Bořík: Zobrazení dvojrozměrných prostorů. Lineární operátory. Sborník 23. konference o geometrii a počítačové grafice, 2004, 1–6.

[**K42**] **M. Křížek**, *Od Fermatových prvočísel ke geometrii*, Cahiers du CEFRES **28** (2002), 131–161.

Cited in:

[Q1502] M. Klazar: Prvočísla obsahují libovolně dlouhé posloupnosti, Pokroky Mat. Fyz. Astronom. 49 (2004), 177–187.

[Q1503] F. Kuřina: I elementární matematika může být krásná, Pokroky Mat. Fyz. Astronom. 48 (2003), 115–128.

[**K46**] **F. Katrnoška, M. Křížek**, *Genetický kód a teorie monoidů aneb 50 let od objevu struktury DNA*, Pokroky Mat. Fyz. Astronom. **48** (2003), 207–222.

Cited in:

[Q1504] F. Cvrčková: Jak se čtou genomy: bioinformatika jakožto obor na pomezí biologie a exaktních věd, Pokroky Mat. Fyz. Astronom. 51 (2006), 288–300.

[Q1505] L. Kárná: Genetický kód aneb Studovala příroda teorii kódů, Pokroky Mat. Fyz. Astronom. 56 (2011), č. 2.

[**K52**] **M. Křížek, A. Šolcová**, *Prvočíslo 11 v kódování*, Rozhledy mat.-fyz **78** (2004), 208–214.

Cited in:

[Q1506] J. Mlýnek: Informační bezpečnost, Pokroky Mat. Fyz. Astronom. 51 (2006), 89–98.

[Q1507] J. Mlýnek: Zabezpečení obchodních informací, Computer Press, Brno, 2007.

[**K53**] **F. Křížek, M. Křížek, J. Šolc**, *Jakou hmotnost má černá díra uprostřed naší Galaxie?*, Pokroky Mat. Fyz. Astronom. **49** (2004), 104–113.

Cited in:

[Q1508] K. Bartuška: O některých sporných názorech v současné didaktice fyziky, Pokroky Mat. Fyz. Astronom. 49 (2004), 337–343.

[**K54**] **A. Šolcová, M. Křížek**, *Numerický matematik a astronom Zdeněk Kopal*, Pokroky Mat. Fyz. Astronom. **49** (2004), 244–257.

Cited in:

[Q1509] V. Kopecký: Editorial, Astropis XII (2005), Speciál str. 5.

[Q1510] E. Těšínská, Z. Dolejšek, M. Heyrovský, M. Rotter (eds.): Fyzik Václav Dolejšek 1895–1945, Matfyzpress, Praha, 2005, str. 48.

[**K59**] **M. Křížek, F. Luca, L. Somer**, *Algebraické vlastnosti Fibonacciových čísel*, Pokroky Mat. Fyz. Astronom. **50** (2005), 127–140.

Cited in:

[Q1511] M. Jarošová: Souvislost Fibonacciho čísel s jinými matematickými pojmy, Matematika v proměnách věků IV (ed. E. Fuchs), Dějiny matematiky, sv. 32, Akad. nakl. CERM, Brno, 2007, 181–196.

[Q1512] A. Šolcová: Further Development of Fermat's ideas in Connection with Applied Mathematics in Engineering, Ph.D. Thesis, Czech Technical Univesrity, Prague, 2005, 1–115.

[**K60**] **J. Brandts, S. Korotov, M. Křížek**, *O triangulacích bez tupých úhlů*, Pokroky Mat. Fyz. Astronom. **50** (2005), 193–207.

Cited in:

[Q1513] A. Porazilová: Shortest paths on polyhedral surfaces. Dissertation Thesis, Faculty of Applied Sciences, Univ. of West Bohemia, Pilsen, 2008, 1–80.

[**K74**] **V. Pravda, M. Křížek**, *Citace: dobrý sluha, špatný pán*, Pokroky Mat. Fyz. Astronom. **52** (2007), 28–36.

Cited in:

[Q1514] P. Ráb a I Kadlecová: Vývoj vědeckého výkonu Akademie věd v posledních deseti letech, Akademický Bulletin 9/2007.

[**K75**] A. **Šolcová, M. Křížek**, *Procházky Prahou matematickou, fyzikální a astronomickou (2. část)*, Pokroky Mat. Fyz. Astronom. **52** (2007), 127–141.

Cited in:

[Q1515] H. Durnová: Antonín Svoboda (1907–1980) — průkopník výpočetní techniky v Československu, Pokroky Mat. Fyz. Astronom. 52 (2007), 322–329.

[**K81**] **A. Šolcová, M. Křížek**, *Nobelova cena na dosah — zapomenutý osud fyzika Vladimíra Vanda*, Pokroky Mat. Fyz. Astronom. **53** (2008), 7–21.

Cited in:

[Q1516] H. Durnová: Sovietization of Czechoslovak computing: the rise and fall of the SAPO project, IEEE Annals of the History of Computing, 2010, 1–18.

[Q1517] P. Pavlíková: 125 let od narození Miloše Kösslera (1884–1961) Pokroky Mat. Fyz. Astronom. 54 (2009), 144–156.

[Q1518] P. Pavlíková: Miloš Kössler (1884–1961), Matfyzpress, Praha, to appear.