

Publications of Tony F. Chan

1979-2000

1. T.F. Chan, J.G. Lewis, *Computing standard deviation: accuracy*. Comm. ACM, **22**, 1979, RESEARCH ARTICLE.
2. T.F. Chan, W. Coughran, Jr., E.H. Grosse, M.T. Heath, *A numerical library and its support*. ACM Trans. Math. Software, **6**, 1980, RESEARCH ARTICLE.
3. M. Fortin, R. Glowinski, T. Chan, *Resolution numerique de problemes faiblement non lineaires par des methodes de la grangien augmente*. Augmented Lagrangian Methods: Applications to the Numerical Solution of Boundary Value Problems, **15**, 1983, RESEARCH ARTICLE.
4. T.F. Chan, K.K. Tung, T. Kubota, *Large kamplitude internal waves of permanent form*. Studies in Applied Math., **66**, 1982, 1-44, RESEARCH ARTICLE.
5. T.F. Chan, *An improved algorithm for computing the singular value decomposition*. ACM Trans. on Math. Software, **8**, 1982, 72-83, RESEARCH ARTICLE.
6. T.F. Chan, *Algorithm 581: An improved algorithm for computing the singular value decomposition*. ACM Trans. on Math. Software, **8**, 1982, 84-88, RESEARCH ARTICLE.
7. T.F. Chan, H.B. Keller, *Arclength continuation and mult-grid techniques for nonlinear elliptic Eigenvalue problems*. SIAM J. Sci. Stat. Comp., 1982, 173-194, RESEARCH ARTICLE.
8. T.F. Chan, K.R. Jackson, B. Zhu, *Alternating direction incomplete factorizations*. SIAM J. Numer. Anal., **20**, 1983, 239-257, RESEARCH ARTICLE.
9. T.F. Chan, G.B. Golub, R.J. Leveque, *Algorithms for computing the sample variance: analysis and recommendations*. The American Statistician, **37**, 1983, 242-247, RESEARCH ARTICLE.
10. T.F. Chan, *Deflation techniques and block-elimination algorithms for solving bordered singular systems*. SIAM J. Sci. Stat. Comp., **5**, 1984, 121-134, RESEARCH ARTICLE.
11. T.F. Chan, *Newton-like pseudo-arclength methods for computing simple turning points*. SIAM J. Sci. Stat. Comp., **5**, 1984, 135-148, RESEARCH ARTICLE.
12. T.F. Chan, *On the existence and computation of LU-factorizations with small pivots*. Mathematics of Computation, **42**, 1984, RESEARCH ARTICLE.
13. T.F. Chan, *Deflated decomposition of solutions of nearly singular systems*. SIAM J. Numer. Anal., **21**, 1984, RESEARCH ARTICLE.
14. T.F. Chan, *Stability analysis of finite difference schemes for the advection-diffusion equation*. SIAM J. Numer. Anal., **21**, 1984, 272-284, RESEARCH ARTICLE.
15. T.F. Chan, K.R. Jackson, *Nonlinearly preconditioned Krylov subspace methods for discrete Newton algorithms*. SIAM J. Sci. Stat. Comp., **5**, 1984, RESEARCH ARTICLE.
16. T.F. Chan, *Techniques for large sparse systems arising from continuation methods*. Numerical Methods for Bifurcation Problems, (ed. H. Mittelmann, T. Kupper and H. Weber) Birkhauser, International Series of Numerical Mathematics, **70**, 1984, 116-128, RESEARCH EXPOSITORY ARTICLE.
17. T.F. Chan, Y. Saad, *Iterative methods for solving bordered systems with applications to continuation methods*. SIAM J. Sci. Stat. Comp., **6**, 1985, 438-451, RESEARCH ARTICLE.
18. T.F. Chan, T. Kerkhoven, *Fourier methods with extended stability intervals for the Korteweg-de Vries equation*. SIAM J. Numer. Anal., **22**, 1985, 441-454, RESEARCH ARTICLE.
19. T.F. Chan, R. Schreiber, *Parallel networks for multi-grid algorithms: architecture and complexity*. SIAM J. Sci. Stat. Comp., **6**, 1985, 698-711, RESEARCH ARTICLE.

20. T.F. Chan, F. Saied, *A comparison of some elliptic solvers for general two dimensional regions*. SIAM J. Sci. Stat. Comp., **6**, 1985, 742-760, RESEARCH ARTICLE.
21. T.F. Chan, *An approximate Newton method for coupled nonlinear systems*. SIAM J. Numer. Anal., **22**, 1985, 904-913, RESEARCH ARTICLE.
22. T.F. Chan, D. Lee, L. Shen, *Difference schemes for the parabolic wave equation in ocean acoustics*. Computers and Math. with Applications, **11**, 1985, 747-754, RESEARCH ARTICLE.
23. T.F. Chan, D. Lee, L. Shen, *A stable explicit scheme for the ocean acoustic wave equation*. Computers and Math. with Applications, **11**, 1985, 929-936, RESEARCH ARTICLE.
24. T.F. Chan, K.B. Jackson, *The use of iterative linear equation solvers in codes for large systems of stiff IVPs for ODEs*. SIAM J. Sci. Stat. Comp., **7**, 1986, 278-417, RESEARCH ARTICLE.
25. T.F. Chan, *An efficient modular algorithm for coupled nonlinear systems*. Springer-Verlag Lect. Notes in Math., **1230**, 1986, 73-85, RESEARCH ARTICLE.
26. T.F. Chan, R. Bank, *PLTAIGC: A multi-grid continuation program package for solving parametrized nonlinear elliptic systems*. SIAM J. Sci. Stat. Comp., **7**, 1986, 540-559, RESEARCH ARTICLE.
27. T.F. Chan, D. Lee, L. Shen, *Stable explicit schemes for equations of Schrödinger type*. SIAM J. Numer. Anal., **23**, 1986, 274-281, RESEARCH ARTICLE.
28. T.F. Chan, D. Resasco, *On the condition of nearly singular matrices under rank-one perturbations*. Linear Algebra and Its Application, **76**, 1986, 223-232, RESEARCH ARTICLE.
29. T.F. Chan, D. Lee, L. Shen, *An explicit scheme for the prediction of ocean acoustic propagation in three dimensions*. System Simulation and Scientific Computation, **2**, 1985, 131-134, RESEARCH ARTICLE.
30. T.F. Chan, D.C. Resasco, *Generalized deflated block elimination*. SIAM J. Numer. Anal., **23**, 1986, 913-924, RESEARCH ARTICLE.
31. T.F. Chan, Y. Saad, *Multigrid algorithms on the hypercube multiprocessor*. IEEE Trans. Computers, **11**, 1986, 969-977, RESEARCH ARTICLE.
32. T.F. Chan, Y. Saad, M.H. Schultz, *Solving elliptic partial differential equations on the hypercube multiprocessor*. Hypercube Multiprocessors (Ed. M.T. Heath), 1986, 196-210, RESEARCH EXPOSITORY ARTICLE.
33. T.F. Chan, *An alternative to the SVD: rank revealing QR factorizations*. Advanced Algorithms and Architecture for Signal Processing (Ed. J. Speiser), 1986, 31-38, RESEARCH ARTICLE.
34. T.F. Chan, R.S. Tuminaro, *Implementation of multigrid algorithms on hypercubes*. Hypercube Multiprocessors (Ed. M.T. Heath), 1987, 738-746, RESEARCH ARTICLE.
35. T.F. Chan, D.C. Resasco, *Hypercube implementation of domain-decomposed fast poisson solvers*. Hypercube Multiprocessors (Ed. M.T. Heath), 1987, 730-737, RESEARCH ARTICLE.
36. T.F. Chan, *On implementation of Kernal numerical algorithms for computational fluid dynamics on hypercubes*. Hypercube Multiprocessors (Ed. M.T. Heath), 1987, 747-755, RESEARCH EXPOSITORY ARTICLE.
37. T.F. Chan, R.S. Tuminaro, *A survey of parallel multigrid algorithms*. Parallel Computations and Their Impact on Mechanics (Ed. A.K. Noor), **86**, 1987, 155-170, RESEARCH EXPOSITORY ARTICLE.
38. T.F. Chan, *Obstacles which split computer science and numerical analysis*. SIGNUM Newsletter, **22**, 1987, 19-26, EXPOSITORY ARTICLE.

39. T.F. Chan, D.C. Resasco, *Analysis of domain decomposition preconditioners on irregular regions*. Advances in Comp. Math for Part I Diff. Equa VI, 1987, 317-322 , RESEARCH ARTICLE.
40. T.F. Chan, *An optimal circulant preconditioner for Teoplitz systems*. SIAM J. Sci. Stat. Comput., **9**, 1988, RESEARCH ARTICLE.
41. T.F. Chan, D.C. Resasco, *A framework for the analysis and construction of domain decomposition preconditioners*. Proceedings of 1st International Symposium on Domain Decomp. Meth. for Par. Diff. Equ. (Eds. Glowinski et al), 1988, 217-230, RESEARCH ARTICLE.
42. T.F. Chan, D.E. Foulser, *Effectively well-conditioned linear systems*. SIAM Sci. Stat. Comput., **9**, 1988, 963-969 , RESEARCH ARTICLE.
43. T.F. Chan, G.H. Golub, R.J. LeVeque, *Updating formulae and a pairwise algorithm for computing sample variances*. Compstate **82**: Part 1: Proceedings in Computational Statistics (Ed. H. Caussinus el al), 1982. RESEARCH ARTICLE.
44. T.F. Chan, *Rank revealing QR factorizations*. Linear Algebra and Its Applications, **88/89**, 1987, 67-82, RESEARCH ARTICLE.
45. T.F. Chan, L. Shell, *Stability analysis of difference schemes for variable coefficient schrodinger type equations*. SIAM J. Numer. Anal., **24**, 1985, RESEARCH ARTICLE.
46. T.F. Chan, D.C. Resasco, *A domain decomposed fast poisson solver on a rectangle*. Siam J. Sci. Stat. Comput., **8**, 1987, s4-s26, RESEARCH ARTICLE.
47. T.F. Chan: *Analysis of preconditioners for domain decomposition*. Siam J. Numer. Anal: **24**, 1987, 382-390, RESEARCH ARTICLE.
48. T.F. Chan, R. Tuminaro, *Design and implementation of parallel multigrid Algorithms*. Multigrid Methods: Theory, Applications, and Supercomputing, (Ed. S.F. McCormick), 1988, 101-115 , RESEARCHARTICLE.
49. T.F. Chan, X. Lin, W.J. Karplus, *The fast Hartley transform on the hypercube multiprocessors*. ACM 1988, Proceedings of the 3rd Conference on Hypercube Concurrent Computers and Applications, **II**, 1988, 1451- 1454, RESEARCH ARTICLE.
50. T.F. Chan, H.C. Elman, *Fourier Analysis of Iterative Methods for Elliptic Problems*. SIAM Review, **31**,1989,20 - 49, RESEARCH ARTICLE.
51. T.F. Chan, *Domain decomposition algorithms and computational fluid dynamics*. The International J. of Supercomputer Applications, **2**, 1988, 72 - 83, RESEARCH EXPOSITORY ARTICLE.
52. T.F. Chan, C.-C. J. Kuo, C. Tong, *Parallel elliptic preconditioners: fourier analysis and performance on the connection machine*. Computer Physics Communications, **53**, 1989, 237 - 252, RESEARCH ARTICLE.
53. T.F. Chan, *Boundary probe domain decomposition preconditioners for fourth order problems*. Proc . 2nd International Symposium on Domain Deocomposition Methods, Jan 14-16, UCLA, SIAM, Philadelphia, Chan et al (eds), 1988, 160 - 167, RESEARCH ARTICLE.
54. Chan, Tony F., *The physics of the parallel machines*, Workshop on Opportunities and Constraints of Parallel Computing, 1988, p. 15-20, RESEARCH ARTICLE.
55. E. Barszcz, T.F. Chan, D.C. Jespersen, R.S. Tuminaro, *FL052 on hypercubes : performance of a parallel code for the Euler equations on hypercubes*. J. of High Speed Computing, **1**, 1989,481 - 503, RESEARCH ARTICLE.
56. R.E. Banks, T.F. Chan, W.M. Coughran, R.K . Smith, *The alternate-block-factorization procedure for systems of partial differential equations..* BIT, **29**, 1989, 938 - 954, RESEARCH ARTICLE.

57. T.F. Chan, R. Tummamaro, *Analysis of parallel multigrid algorithm*. Proceedings of the Fourth Copper Mountain Conference on Multigrid Methods, April, J. Mandel and S. McCormick (Eds.), SIAM Philadelphia, 1989, 66-86, RESEARCH ARTICLE.
58. E. Barszcz, T.F. Chan, D. Jespersen, R.S. Ruminaro, *Performance of a Euler code on hypercubes*. Proceedings of the Fourth Conference on Hypercubes, Concurrent Computers and application, March 6-8, Monterey, CA, 1989, 933-940, RESEARCH ARTICLE.
59. T.F. Chan, D. Goovaerts, *Schur complement domain decomposition algorithms for spectral methods*. Applied Numerical Mathematics, **6**, 1989-90, 53-64, RESEARCH ARTICLE.
60. T.F. Chan, C.-C. Jay Kuo, *Two-color fourier analysis of iterative algorithms for elliptic problems with Red /black ordering*. SIAM.J. Sci. Stat. Comput., **4**, 1990, 767-793, RESEARCH ARTICLE.
61. T.F. Chan, Pre Christian Hansen, *Computing truncated singular value decomposition least squares solutions by rank revealing QR-factorizations*. SIAM.J. Sci. Stat. Comput., **3**, 1990, 519-530, RESEARCH ARTICLE.
62. T.F. Chan, D. Goovaerts, *A note on the efficiency of domain decomposed incomplete factorizations*. SIAM J. Sci. Stat. Comput. (Note: Title Change), **11**, 1990, 794-803, RESEARCH ARTICLE.
63. T. F. Chan, *Fourier analysis of relaxed incomplete factorization preconditioners*. SIAM J. Sci. Stat. Comp., **11**, 1991, 668 -680, RESEARCH ARTICLE.
64. C.-C. J. Kuo, T.F. Chan, C. Tong, *Multilevel filtering elliptic preconditioners* . SIAM J. Matrix Anal., **11**, 1990, 403 -429, RESEARCH ARTICLE.
65. T.F. Chan, D. Keyes, *Interface preconditionings for domain decomposed convection-difussion operators*. Domain Decomposition Methods, Proceedings of SIAM Conference on Domain Decomposition Methods, Houston, March 1989, T.F. Chan et al (eds.), SIAM Philadelphia, 1990, 245-262 , RESEARCH ARTICLE .
66. T.F. Chan, *Hierarchcial algorithms and architectures for paralled scientific computing*. Proceedings of the ACM International Conference on Supercomputing, Amsterdam, The Netherlands, June 1990, 318 -329, RESEARCH EXPOSITORY ARTICLE.
67. D. Goovaerts, T.F. Chan, R. Piessens, *The eigenvalue spectrum of domain decomposed preconditioners*. Appl. Numer. Math., **8**, 1991, 389-410, RESEARCH ARTICLE.
68. T.F. Chan, T. Hou, P.L. Lions, *Geometry related convergence results for domain decomposition algorithms*. SIAM J. Numer. Analysis, **28**, 1991, 378-391, RESEARCH ARTICLE.
69. T.F. Chan, T. Mathew, *An application of the probing technique to the vertex space method in domain decomposition*. Proceedings of 4th Domain Decomposition Conference, Moscow, May 1990, R. Glowinski et al (eds.), SIAM Philadelphian, 1991, 101-111, RESEARCH ARTICLE.
70. C.H. Tong, T.F. Chan, C.-C. J. Kuo *A domain decomposition preconditioner based on a change to a multilevel nodal basis*. SIAM J. Sci. Stat. Comput., **12**, 1991, 1486-1495, RESEARCH ARTICLE.
71. T.F. Chan, Thomas Y. Hou, *Eigendecomposition of domain decomposition interface operators for constant coefficient elliptic problems*. (NOTE: Title Change) SIAM J. Sci. Stat. Comput., **12**, 1991, 1471-1479, RESEARCH ARTICLE.
72. T.F. Chan, W. E, J. Sun, *Domain decomposition interface preconditioners for fourth-order elliptic problems*. Appl. Numer. Math., **8**, 1991, 317-331, RESEARCH ARTICLE.
73. C.H. Tong, T.F. Chan, C.-C. J. Kuo, *Multilevel filtering preconditioners: extensions to more general elliptic problems*. SIAM J. Sci. Stat. Comput., **13**, 1992, 227-242, RESEARCH ARTICLE.
74. T.F. Chan, T. P. Mathew, *The interface probing technique in domain decomposition*. SIAM J. Matrix Anal. Appl., **13**. 1992, 212-238 , RESEARCH ARTICLE.

75. J. Donato, T.F. Chan, *Fourier analysis of incomplete factorization preconditioners for three-dimensional anisotropic problems*. SIAM J. Sci. Stat. Comp., **13**, 1992, 319-338, RESEARCH ARTICLE.
76. T.F. Chan, *The physics of the parallel machines*. Opportunities and Constraints of Parallel Computing (Ed. Jorge L.C. Sanz), 1989, 15-20 , RESEARCH ARTICLE.
77. T.F. Chan, P.C. Hansen, *A look-ahead Levinson algorithm for indefinite toeplitz systems*. SIAM, J. Matrix Anal, Appl., **13**, 1992, 490-506 , RESEARCH ARTICLE.
78. T.F. Chan, D. Goovaerts, *On the relationship between overlapping and nonoverlapping domain decomposition methods*. SIAM, J. Matrix Anal, Appl., **13**, 1992, 663-670, RESEARCH ARTICLE.
79. T.F. Chan, P.C. Hansen, *Some applications of the rank revealing QR factorization*. SIAM J. Sci. Stat. Comput ., **13**, 1992, 727- 741, RESEARCH ARTICLE.
80. T.F. Chan, T.P. Mathew, J.P. Shao, *Fourier and probe variants of the vertex space domain decomposition algorithm*. Proc. of 5th Int'l Symp on Domain Decomposition Methods for PDEs, D. Keys et al (eds.) SIAM Philadelphia, 1992, 236-249, RESEARCH ARTICLE.
81. T.F. Chan, J. Olkin, D.W. Cooley, *Solving quadratically constrained least squares using black box un-constrained solvers*. BIT, **32**, 1992, 481-495, RESEARCH ARTICLE.
82. T.F. Chan, P.C. Hansen, *Fortran subroutines for general Toeplitz systems*. ACM Trans. on Math. Software, **18.3**, 1992, 256-273, RESEARCH ARTICLE.
83. R. Chan, T.F. Chan, *Circulant preconditioners for elliptic problems*. J. Numer. Lin. Alg. and Appl., **1**, 1992, 77- 101, RESEARCH ARTICLE.
84. Lorenzelli, F.; Yao, K.; Chan, T.F.; Hansen, P.C., *Systolic rank revealing QR algorithm*, Proceedings of the International Conference on Application, 1992, p. 430-444, CONFERENCE PAPER.
85. R.E. Bank, T.F. Chan, *An analysis of the composite step biconjugate gradient method*. Numer. Math., **66**, 1993, 295- 319, RESEARCH ARTICLE.
86. T.F. Chan, T.P. Mathew, J. Shao , *Efficient variants of the vertex space domain decomposition algorithm*. SIAM J. Sci. Comput., **15.6**, 1994, 1349- 1374, RESEARCH ARTICLE.
87. T.F. Chan, J. Olkin, *Circulant preconditioners for Toeplitz-block matrices*. Numerical Algorithms, **6**, 1994, 89-101, RESEARCH ARTICLE.
88. T.F. Chan, E. Gallopoulos, V. Simoncini, T. Szeto, C.H. Tong, *A quasi-minimal residual variant of the BI-CGSTAB algorithm for nonsymmetric systems*. SIAM J. Sci. Comput., **15.2**, 1994, 338-347, RESEARCH ARTICLE.
89. T.F. Chan, T.P. Mathew, *Domain decomposition preconditioners for convection diffusion problems*. Contemporary Math., **157**, 1994, 157-175, RESEARCH ARTICLE.
90. T.F. Chan, P.C. Hansen, F. Lorenzelli, K. Yao, *A systolic implementation of the Chan/Foster RRQR algorithm*. IEEE Trans. on Signal Processing, **42.8**, 1994, 2205-2208, RESEARCH ARTICLE.
91. R.E. Bank, T.F. Chan, *A composite step bi-conjugate gradient algorithm for nonsymmetric linear systems*. Numer. Algorithms, **7**, 1994, 1-16, RESEARCH ARTICLE.
92. T.F. Chan, J. Shao, *Optimal coarse grid size in domain decomposition*. J. of Computational Math., **12.4**, 1994, 291-297, RESEARCH ARTICLE.
93. T.F. Chan, T. Szeto, *A composite step conjugate gradients squared algorithm for solving nonsymmetric linear systems*. Numer. Algorithms, **7**, 1994, 17-32, RESEARCH ARTICLE.
94. T.F. Chan, T. Mathew, *Domain decomposition algorithms*. Acta Numerica, 1994, 61-143, RESEARCH ARTICLE.

95. T.F. Chan, P.C. Hansen, *Low-rank revealing QR factorizations*. Numer. Linear Algebra with Appl., **1.1**, 1994, 33-44, RESEARCH ARTICLE.
96. T.F. Chan, W.K. Szeto, *A sign cut version of the recursive spectral bisection graph partitioning algorithm*. In Proc. SIAM Conf. Numer. Lin. Alg., Snowbird, Utah. J.G. Lewis (ed.) SIAM, Philadelphia, 1994, 562-566, RESEARCH ARTICLE.
97. T.F. Chan, B. Smith, J. Zou, *Multigrid and domain decomposition methods for unstructured meshes*. In Proc. of 3rd Int'l Conf on Advances in Num. Meth. and Appl., Sofia, Bulgaria. World Scientific Singapore. I.T. Dimor, Bl. Sendov, P.S. Vassilevski (eds.), 1994, 53-62, RESEARCH ARTICLE.
98. T.F. Chan, J. Zou, *Additive Schwarz domain decomposition methods for elliptic problems on unstructured meshes*. Numer. Algorithms, **8**, 1994, 329-346, RESEARCH ARTICLE.
99. T.F. Chan, B. Smith, *Domain decomposition and multigrid algorithms for elliptic problems on unstructured meshes*. Contemporary Mathematics (A revised version appeared in Elec. Trans. Numer. Anal. Vol. 2, 1994, 171-182.), **180**, 1994, 175-189, RESEARCH ARTICLE.
100. T.F. Chan, T. Szeto, *The composite step family of nonsymmetric conjugate gradient methods*. Matrix Analysis and Parallel Computing, Keio Univ., 1994, 215-228, RESEARCH ARTICLE.
101. X.-D. Liu, S. Osher, T.F. Chan, *Weighted essentially non-oscillatory schemes*. J. of Computational Physics, **115.1**, 1994, 200-212, RESEARCH ARTICLE.
102. Hansen, Per Christian; Chan, Tony F., *Corrigendum: algorithm 729 FORTRAN subroutines for general Toeplitz systems*, ACM transactions on mathematical software, v. 20, (1), 1994, p. 160, RESEARCH ARTICLE.
103. CHAN, TF; MATHEW, TP; ONG, Meg, *Wavelet Preconditioners*, Proceedings of the Fifth SIAM Conference on Applied Linear Algebra, 1994, p. 544-548, CONFERENCE PAPER.
104. T.F. Chan, P.S. Vassilevski, *A framework for block ILU factorizations using block-size reduction*. Math. of Computation, **64.209**, 1995, 129-156, RESEARCH ARTICLE.
105. T.F. Chan, Y.C. Chang, *Performance modelling for high order finite difference methods on the connection machine CM-2*. Int'l J. Supercomputer and Applications (UCLA CAM Report 93-04), **9**, 1995, 40-57, RESEARCH ARTICLE.
106. T.F. Chan, B. Smith, J. Zou, *Overlapping Schwarz methods on unstructured meshes using non-matching coarse grids*. Numer. Math. (UCLA CAM Report 94-8), **73**, 1996, 149-167, RESEARCH ARTICLE.
107. T.F. Chan, J.P. Shao, *Parallel complexity of domain decomposition methods and optimal coarse grid size*. Parallel Comp. (UCLA CAM Report 94-15), **21**, 1995, 1033-1049, RESEARCH ARTICLE.
108. T.F. Chan, G.H. Golub, P. Mulet, *A Nonlinear primal dual method for TV-based image restoration*. In Proc. of ICAOS'96, 12th Int'l Conf. on Analysis and Optimization of Systems: Images, and PDE's, Paris, June 26-28, 1996, M. Berger et al (eds), No. 219 in Lecture Notes in Control and Information Sciences, 1996, 241-252, RESEARCH ARTICLE.
109. R.H. Chan, T.F. Chan, C.K. Wong, , *Cosine transform based preconditioners for total variation minimization problems in image processing*. In Proc. of IMACS Conf. on Iter. Methods, Blagoevgrad, Bulgaria, June, 1995, S. Margenov and P. Vassilevski, eds., IMACS, 1995, 311-329, RESEARCH ARTICLE.
110. T.F. Chan, R.H. Chan, H.M. Zhou, *Continuation methods for total variation denoising problems*. Advanced Signal processing algorithms, Proc. of SPIE - The Int'l Soc. of Photo-Optical Instru. Engineers 10-12, Franklin T. Luk (ed.), 1995, 314-325, RESEARCH ARTICLE.
111. T.F. Chan, J.C. Sun, *Matrix analysis to additive Schwarz methods*. J. Comp. Math, **13**, 1995, 325-336, RESEARCH ARTICLE.

112. H.-K. Zhao, T.F. Chan, B. Merriman, S. Osher) *A variational level set approach to multiphase motion*. J. of Comp. Phys., **127**, 1996, 179-195, RESEARCH ARTICLE.
113. T.F. Chan, J. Zou, *A convergence theory of multilevel additive Schwarz methods on unstructured meshes*. Numer. Alg., **13**, 1996, 365-398, RESEARCH ARTICLE.
114. T.F. Chan, T. Szeto, *Composite step product methods for solving nonsymmetric linear systems*. SIAM J. Sci. Comp., **17**, 1996, 1491-1508, RESEARCH ARTICLE.
115. T.F. Chan, I. Sharapov, *Subspace correction multilevel methods for elliptic eigenvalue problems*. In Proc. of the 9th Domain Decomposition Conf., Norway, 1996, RESEARCH ARTICLE.
116. Van Der Vorst, H.A.; Chan, T.F. , *Parallel preconditioning for sparse linear equations*, Zeitschrift für angewandte mathematik und mechanik, v. 76, (SUPPL. 3), 1996, p. 167-170, RESEARCH ARTICLE.
117. T.F. Chan, S.D. Margenov, P.S. Vassilevski, *Performance of Block-ILU factorization preconditioners based on a block size reduction for 2D elasticity systems*. SIAM J. Sci. Comp., **18**, 1997, 1355-1366, RESEARCH ARTICLE.
118. T.F. Chan, S. Go, J. Zou, *Multilevel domain decomposition and multigrid methods for unstructured meshes: algorithms and theory*. In Proc . 8th Int'l Conf. on Domain Decomposition, R. Glowinski, J. Periaux, Z.-C. Shi and O. Widlund (eds.), John Wiley & Sons, 1997, 159-176, RESEARCH ARTICLE.
119. M.-C. Yeung, T.F. Chan, *Probabilistic analysis of Gaussian elimination without pivoting*. SIAM J. Matrix Anal., **18**, 1997, 499-517, RESEARCH ARTICLE.
120. T.F. Chan, H. van der Vorst, *Linear systems solver: sparse iterative methods*. In "Parallel Numerical Algorithms", Proc. of the ICASW / LaRC Workshop on Parallel Numerical Algorithms, D. Keys, et al (eds.), Kluwer Publications, 91-118, RESEARCH ARTICLE.
121. T.F. Chan, H. van der Vorst, *Approximate and incomplete factorizations*. In "Parallel Numerical Algorithms", Proc. of the ICASW / LaRC Workshop on Parallel Numerical Algorithms, D. Keyes, et al (eds.), Kluwer Publications, 167-202, RESEARCH ARTICLE.
122. T.F. Chan, P. Mulet, *Iterative methods for total variation image restoration* in "Iterative Methods in Scientific Computing", R.H. Chan, T.F. Chan and G.H. Golub (eds), Springer-Verlag, 1997, 359-381, RESEARCH ARTICLE.
123. D.M. Strong, P. Blomgren, T.F. Chan, *Spatially adaptive local feature-driven total variation minimizing image restoration*. Proceedings of SPIE, **3167**, 1997, RESEARCH ARTICLE.
124. T.F. Chan, S. Go, J. Zou, *Boundary treatments for multilevel methods on unstructured meshes*. SIAM J. Sci. Comp., **21(1)**, 1999, 46-66, RESEARCH ARTICLE.
125. P. Blomgren, T.F. Chan, P. Mulet, *Extensions to total variation denoising*. Proceedings of SPIE, San Diego, CA, **3162**, 1997, RESEARCH ARTICLE.
126. C.J. Alpert., T.F. Chan, D.J.-H. Huang, I. Markov, K. Yan, *Quadratic placement revisited*. Proc. ACM / IEEE Design Automation Conference, Anaheim, CA, June, 1997, 752-757, RESEARCH ARTICLE.
127. T.F. Chan, S. Go, L. Zikatanov, *Lecture notes on multilevel methods for elliptic problems on unstructured grids*. Abridged version in "Computational Fluid Dynamics Review", Hafez and Oshima (eds.), Wiley, 1997,488-511, INVITED SURVEY.
128. T.F. Chan, S. Go, L. Zikatanov, *Lecture notes on multilevel methods for elliptic problems on unstructured grids*. Lecture notes for the 1997-02 Lecture Series "Computational Fluid Dynamics", von Karman Inst., Belgium, March 3-7, 1997, INVITED LECTURE SERIES.
129. R. Chan, T.F. Chan, W. Wan, *Multigrid for differential-convolution problems arising in image processing*. In "Scientific Computing", edited by G. Golub, S. Liu, F. Luk and R. Plemmons, Springer, Singapore, 1997, 58-72, RESEARCH ARTICLE.

130. T.F. Chan, P. Blomgren, P. Mulet, C.K. Wong, *Total Variation Image Restoration: Numerical Methods and Extensions*. Proc. of Int'l Conf. Image Proc., Santa Barbara, CA, 1997, 384-387, RESEARCH ARTICLE.
131. T. F. Chan, P. Ciarlet, Jr., W. Szeto, *On the optimality of the median cut spectral bisection graph partitioning method*. SIAM J. Sci. Comp., **18**, 1997, 943-948, RESEARCH ARTICLE.
132. T.F. Chan, W.L. Wan, *Analysis of projection methods for solving linear systems with multiple right-hand sides*. SIAM J. Sci. Comput., **18(6)**, 1997, 1698-1721, RESEARCH ARTICLE.
133. T.F. Chan, Q. Ye, *A mixed product Krylov subspace method for solving nonsymmetric linear systems*. Asian J. Math., **1(3)**, 1997, 422-434, RESEARCH ARTICLE.
134. T.F. Chan, W.P. Tang, W.L. Wan, *Wavelet sparse approximate inverse preconditioners*. BIT, **37**, 1997, 644-660, RESEARCH ARTICLE.
135. T.F. Chan, X.-C. Tai, *Augmented Lagrangian and total variation methods for recovering discontinuous coefficients from elliptic equations*. In "Computational Science for the 21st Century", Bristean, et al (eds.), Wiley, 1997, 597-607, RESEARCH ARTICLE.
136. C.J. Alpert, T.F. Chan, D. J.-H. Huang, A.B. Kahng, I.L. Markov, P. Mulet, K. Yan, *Faster minimization of linear wirelength for global placement*. In Proc. ACM/IEEE Int'l. Symp. on Physical Design, Napa, CA, 1997, 4-11, RESEARCH ARTICLE.
137. T.F. Chan, L. de Pillis, H. van der Vorst., *Transpose-free formulations of Lanczos-type methods for non-symmetric linear systems*. Numerical Algorithms, **17**, 1998, 51-66, RESEARCH ARTICLE.
138. T.J. Barth, T.F. Chan, W.-P. Tang, *A parallel non-overlapping domain-decomposition algorithm for compressible fluid flow problems on triangulated domains*. Contemporary Mathematics, **218**, 1998, 23-41, RESEARCH ARTICLE.
139. X.-C. Tai, J. Frøyen, M.S. Espedal, T.F. Chan, *Overlapping domain decomposition and multigrid methods for inverse problems*. Contemporary Mathematics, **218**, 1998, 523-529, RESEARCH ARTICLE.
140. T.F. Chan, J. Xu, L. Zikatanov, *An agglomeration multigrid method for unstructured grids*. Contemporary Mathematics, **218**, 1998, 67-81, RESEARCH ARTICLE.
141. P. Blomgren, T.F. Chan, *Color TV: total variation methods for restoration of vector-valued images*. IEEE Transactions on Image Processing, **7(3)**, 1998, 304-309, RESEARCH ARTICLE.
142. C.J. Alpert, T.F. Chan, A.B. Kahng, I.L. Markov, P. Mulet, *Faster maximization of linear wirelength for global placement*. IEEE Trans. on CAD, **17**, 1998, 3-13, RESEARCH ARTICLE.
143. Barth, TJ; Chan, TF; Tang, WP, *Parallel domain-decomposition preconditioning for computational fluid dynamics - Invited talk*, Lecture notes in computer science, v. 1573, 1999, p. 176-202, RESEARCH ARTICLE.
144. T.F. Chan, H.M. Zhou, *Feature preserving lossy image compression using nonlinear PDE's*. Proceedings of SPIE meeting on Adv. Signal Processing Algorithms, Architectures & Implementations VIII, F. Luk (ed.), San Diego, **3461**, 1998, 316-327, RESEARCH ARTICLE.
145. C.R. Vogel, T.F. Chan, R. Plemmons, *Fast algorithms for phase-diversity-based blind deconvolution*. Proceedings of SPIE Conference, Bonaccini and Tyson (eds.), Kona, HI, **3353**, 1998, 994-1005, RESEARCH ARTICLE.
146. T.F. Chan, S. Go, J. Zou, *Multilevel spectral partitioning of unstructured grids*. In Proc. of the 11th Domain Decomposition Conf., C.H. Lai. et al (eds.), DDM Press, Greenwich, UK, July, 1998. 190-196, RESEARCH ARTICLE.
147. R.H. Chan, T.F. Chan, M.K. Ng, W.-C. Tang, C.-K. Wong. *Preconditioned iterative methods for high-resolution image reconstruction with multisensors*. In Proc. SPIE Conf., F. Luk (ed.), San Diego, CA, **3461**, 1998, 348-357, RESEARCH ARTICLE.

148. T.F. Chan, C.K. Wong, *Total variation blind deconvolution*. IEEE Transactions on Image Processing, **7(3)**, 1998, 370-375, RESEARCH ARTICLE.
149. T.F. Chan, E. Chow, Y. Saad, M.-C. Yeung, *Preserving symmetry in preconditioned Krylov subspace methods*. SIAM J. Sci. Comp., **20(2)**, 1999, 568-581, RESEARCH ARTICLE.
150. T.F. Chan, P. Vanek, *Multilevel algebraic elliptic solvers*. High Performance Computing and Networking, P. Sloot. et al (eds.). Lecture Notes in Compo Sci., **1593**, 1999, 1001-1014. RESEARCH ARTICLE.
151. R.H. Chan, T.F. Chan, C.K. Wong, *Cosine transform based preconditioners for total variation deblurring*. IEEE Trans. Image Proc., **8(10)**, 1999, 1472-1478, RESEARCH ARTICLE.
152. T.F. Chan, G. Golub, P. Mulet, *A nonlinear primal-dual method for total variation-based image restoration*. SIAM J. Sci. Comp., **20(6)**, 1999, 1964-1977. RESEARCH ARTICLE.
153. T.F. Chan, M.K. Ng, *Galerkin projection methods for solving multiple linear systems*. SIAM J. Sci. Comp., **21(3)**, 1999, 836-850, RESEARCH ARTICLE.
154. T.F. Chan, P. Mulet. *On the convergence of the lagged diffusivity fixed point method in total variation image restoration*. SIAM J. Num. Anal.. **36(2)**, 1999, 354-367, RESEARCH ARTICLE.
155. T.F. Chan, L. Vese, *An Active Contour Model without Edges*. Lecture Notes in Computer Science, M. Nielsen, P. Johansen, O. Olsen, J. Weickert (eds.), Scale-Space Theories in Computer Vision, Second Int'l Conf., Scale-Space '99, 1999, 140-151, RESEARCH ARTICLE.
156. M.-C. Yeung, T.F. Chan, *MI(K) BiCGSTAB A BiCGSTAB variant-based on multiple Lanczos starting vectors*. SIAM J. SCI. COMPUT., **21**, 1999, 1263-1290, RESEARCH ARTICLE.
157. C.J. Alpert, A.E. Caldwell, T.F. Chan, D.J.-H. Huang, A.B. Kahng, I.L. Markov, M.S. Moroz, *Analytic engines are unnecessary in top-down partitioning-based placement*. VLSI Design, **10/1**, 1999, 99-116, RESEARCH ARTICLE.
158. P. Blomgren, T. F. Chan, P. Mulet, L. Vese, W.L. Wan, *Variational PDE models and methods for image processing*. in *Numerical Analysis 1999*, Research Notes in Mathematics Series, Chapman & Hall/CRC, D.F. Griffiths, G.A. Watson (eds.), 1999, 43-67, RESEARCH ARTICLE.
159. T.F. Chan, V. Eijkhout, *Design of a library of parallel preconditioners*. High Performance Computing Appl., **14/2**, 2000, 91-101, RESEARCH ARTICLE.
160. T.F. Chan, B. Sandberg, L. Vese, *Active contours without edges for vector-valued images*. Special Issue, J. Visual Comm. and Image Representation, **11**, 2000, 130-141, RESEARCH ARTICLE.
161. W.L. Wan, T.F. Chan, B. Smith, *An energy-minimizing interpolation for robust multigrid methods*. SIAM J. on Scientific Computing. **21/4**, 2000, 1632-1649, RESEARCH ARTICLE.
162. W.K. Ng, R.H. Chan, T.F. Chan, A. M. Yip, *Cosine transform preconditioners for high resolution image reconstruction*. Lin. Alg. Appl., **316**, 2000, 89-104, RESEARCH ARTICLE.
163. T.F. Chan, C.K. Wong, *Convergence of the alternating minimization algorithm for blind deconvolution*. Lin. Alg. Appl., **316**, 2000, 259-286, RESEARCH ARTICLE.
164. T.F. Chan, W.-L. Wan, *Robust multigrid methods for non-smooth coefficients elliptic linear systems*. J. Comp. Applied Math, **123**, 2000, 323-352, RESEARCH ARTICLE.
165. T.F. Chan, A. Marquina, P. Mulet., *High-order total variation-based image restoration*. SIAM J. on Sci. Computing, **22/2**, 2000, 503-516, RESEARCH ARTICLE.
166. T.F. Chan, H.M. Zhou, *Total variation improved wavelet thresholding in image compression*. Proc. of 2000 Int'l Conf on Image Processing, Vancouver, BC, Canada, **2**, 2000, 391-394, RESEARCH ARTICLE.
167. T.F. Chan, P. Vanek, *Detection of strong coupling algebraic multigrid solvers*. European multigrid

conference, Gent, Belgium, Springer, accepted. Lecture Notes in Computational Sci. and Engineering, E. Dick, K. Rienmslagh, J. Vierendeels (eds), Springer, Berlin, **14**, 2000, 11-23, INVITED PAPER.

168. T.F. Chan, J. Cong, T. Kong, J. Shinned, *Multilevel Optimization for Large-Scale Circuit Placement*. in Proceedings IEEE International Conference on Computer Aided Design, 2000, 171-176, RESEARCH ARTICLE.

169. T.F. Chan, J. Shen, *Variational restoration of non-flat image features: models and algorithms*. SIAM J. Appl. Math, **61(4)**, 2000, 1338-1361, RESEARCH ARTICLE.

170. T.F. Chan, P. Vanek, *Detection of strong coupling algebraic multigrid solvers*. European Multigrid Conference, LNCSE Series, Springer Verlag, **14**, 2000, 11-23, RESEARCH ARTICLE.

171. Jonsson, E.A., Huang, S.-C., Chan, T., *Incorporating frame-to-frame coupling in simultaneous reconstruction of dynamic image sequences in PET*, IEEE Nuclear Science Symposium and Medical Imaging Conference, **Vol. 2**, 15/220-15/223, 2000, RESEARCH ARTICLE.

172. Chan, T.F., Vese, L.A., *An efficient variational multiphase motion for the Mumford-Shah segmentation model*, Conference Record of the Asilomar Conference on Signals, Systems and Computers, **Vol. 1**, 490-494, 2000. RESEARCH ARTICLE.

2001

173. T.F. Chan, S. Osher, J. Shen, *The TV digital filter and nonlinear denoising*. IEEE Trans. Image Proc., **10/2**, 2001, 231-241, RESEARCH ARTICLE.

174. T.F. Chan, L. Vese, *A Level Set Algorithm for Minimizing the Mumford-Shah Functional in Image Processing*. in Proceedings of IEEE of the 1st. IEE Workshop Variational and Level Set. Methods in Computer, 2001, 161-168, RESEARCH ARTICLE.

175. T.F. Chan, S.H. Kang, *Total variation denoising and enhancement of color images based on the CB and HSV color models*. J. Visual Comm. Image Rep., **12/4**, 2001, 422-435, RESEARCH ARTICLE.

176. T.F. Chan, J. Shen, *PDE models for image inpaintings and applications*. Proceedings Int'l Conf. Imaging Sci. Sys. Tech., Ed. H.R. Arabna, 2001, 30-36, RESEARCH ARTICLE.

177. T.F. Chan, J. Shen, *Non-texture inpainting by curvature-driven diffusions (CDD)*. J. Visual Comm. Image Repr., **12/4**, 2001, 436-449, RESEARCH ARTICLE.

178. D. Roble, T.F. Chan, *Math in the entertainment industry*. in Mathematics Unlimited - 2001 and beyond, B. Engquist and W. Schmid (Eds), Springer, 2001, 971-990, INVITED SURVEY PAPER.

179. T.F. Chan, H.M. Zhou, *Adaptive ENO-wavelet transforms for discontinuous functions*. in Proc. of 12 Int'l conf. on domain decomposition methods, Chiba Univ., Japan Oct. 25-29, 1999, T. Chan, T. Kako, H. Kawarada, O. Pirroneau (eds), 2001, 93-100, RESEARCH ARTICLE.

180. T.F. Chan, L.A. Vese, *Active contours without edges*. IEEE Transactions on image processing, **10**, 2001, 266-277, RESEARCH ARTICLE.

2002

181. T.F. Chan, J. Shen, *Mathematical models for local non-texture inpaintings*. SIAM J. Appl. Math., **62/3**, 2002, 1019-1043, RESEARCH ARTICLE.

182. T.F. Chan, S.H. Kang, J. Shen, *Euler's Elastica and Curvature Based Inpaintings*. SIAM J. Applied Math., **63(2)**, 2002, 564-592, RESEARCH ARTICLE.

183. P. Blomgren, T.F. Chan, *Modular solvers for constrained image restoration problems*. Num. Lin. Alg. Appl., **9/5**, 2002, 347-358, RESEARCH ARTICLE.

184. T.F. Chan, L. Vese, *Active contour and segmentation models using geometric PDE's for medical imaging*. In "Geometric methods in Bio-medical image processing", R. Malladi (Ed.), Springer series on mathematics and visualization, 2002, 63- 76, RESEARCH ARTICLE.
185. T.F. Chan, K. Chen, *On two variants of an algebraic wavelet preconditioner*. SIAM ,J. Sci. Comp., **24/1**, 2002, 260-283, RESEARCH AHTICLE.
186. T .F. Chan, J. Shen, *Inpainting based on nonlinear transport and diffusion*. Contemporary Mathematics, **313**, 2002, 53-65, RESEARCH ARTICLE.
187. T.F. Chan, H.M. Zhou, *ENO-wavelet Transforms for Piecewise Smooth Functions*. SIAM J. Numer. Anal, **40 (4)**, 2002, 1369-1404, RESEARCH ARTICLE.
188. T.F. Chan, L. Vese, *A Multiphase Level Set Framework for Image Segmentation Using the Mumfor and Shah Model*. International Journal of Computer Vision (Special Issue), **50(3)**, 2002 , RESEARCH ARTICLE.
189. T.F. Chan, J. Shen, *Inpainting based on nonlinear transport and diffusion in Inverse Problems, Image Anal. And Medical Imaging*. Ed. Z. Nashed and O. Scherzer, Amer. Math. Soc. Contemp (Research paper refereed by three referees)., **313**, 2002, 53-65, RESEARCH ARTICLE.
190. S.H. Kang, T.F. Chan, S. Soatto, *Inpainting from Multiple View*. Proceedings of first Itn'l Symposium on 3D Data Processing Visualization Transmission, IEEE Computer Society, 2002, 622-625, RESEARCH ARTICLE.
191. T.F. Chan, J. Shell, *Bayesian Inpainting Based on Geometric Image Models*. Recent Progress in Computational & Applied PDE's, Kluwer Academic, 2002, 73-98, RESEARCH ARTICLE.
192. J.R. Rommelse, H.-X. Lin, T.F. Chan, *A Robust Level Set Algorithm for Image Segmentation and its Parallel Implementation*. Proc. DCABES, 2002, 16-20, RESEARCH ARTICLE.
193. Chan, T.F., Sharapov, I., *Subspace correction multi-level methods for elliptic eigenvalue problems*, Numerical Linear Algebra with Applications, **Vol. 9, Issue 1**, 1-20, 2002, RESEARCH ARTICLE.
- 2003**
194. T.F. Chan, J. Shen, *On the role of the BV image model in image restoration*. Contemporary Mathematics, **330**, 2003, 25-41, RESEARCH ARTICLE.
195. R.H. Chan, T.F. Chan, L. Shen, Z. Shen, *Wavelet Deblurring Algorithms for Spatially Varying Blur from High-Resolution Image Reconstruction*. Linear Algebra and Its Applications, **366**, 2003, 139-155, RESEARCH ARTICLE.
196. T.F. Chan, .T. Shen, L. Vese, *Variational PDE models in image processing*. Notices of the AMS, 50(1), 2003, 14-26, RESEARCH ARTICLE.
197. T.F. Chan, H.M.Zhou, *ENO-wavelet Transfers and Some Applications, in the book Beyond Wavelets, edited by G. V. Welland*. Academic Press, 2003, 107-133, RESEARCH ARTICLE.
198. D. Dugatkin, H.M. Zhou, TF. Chan, M. Effros, *Lagrangian Optimization of a Group Testing for ENO Wavelets Algorithm*. Proceedings Conference on Information Sciences and Systems, Princeton University, 2003, RESEARCH ARTICLE.
199. T.F. Chan. J. Cong, T. Kong, J. Shinnerl, K Sze, *An Enhanced Multilevel Algorithm for Circuit Placement*. Proceedings IEEE Internation Conference on Computer-Aided Design, 2003, 299-30G, RESEARCH ARTICLE.
200. T.F. Chan,J. Cong, T. Kong, J. Shinnerl, *Multilevel Circuit Placement*. Multilevel Optimization in VLSICAD, Kluwer Academic Publishers, Boston, 2003, RESEARCH ARTICLE.
201. D. Strong, T.F. Chan, *Edge-preserving and Scale-dependent Properties of Total Variation Regularization*. Inverse Problems, **19 (6)**, 2003, 165-187, RESEARCH ARTICLE.

202. T.F. Chan, X.-C. Tai, *Identification of discontinuous coefficients from elliptic problems using total variation regularization*. SIAM J. on Sci. Computing (UCLA CAM Report 97-35), **25**, 2003, 881-904, RESEARCH ARTICLE.
203. W.L. Wan, T.F. Chan, *Wave Propagation Analysis of Multigrid Methods for Convection dominated Problems*. Proc. Of the 14th Int'l Conf. On Domain Decomposition Methods, Merida, Mexico, 2003, 171-182, RESEARCH ARTICLE.
204. R.H. Chan, T.F. Chan, L. Shen, Z. Shen, *Wavelet Algorithms for High-Resolution Image Reconstruction*. J. Sci. Comp., **24**, 2003, 1408-1432, RESEARCH ARTICLE.
205. W.L. Wan, T.F. Chan, *A Phase Error Analysis of Multigrid Methods for Hyperbolic Equations*. SIAM J. Sci. Comp., **25(3)**, 2003, 857-880, RESEARCH ARTICLE.
206. D.A. Huckaby, T.F. Chan, *On the convergence of Steward's QLP Algorithms for approximating the SVD*. Numer. Alg., **32**, 2003, 287-316, RESEARCH ARTICLE.
207. L. Demanet, B. Song, *Image inpainting by correspondence maps: A deterministic approach*. Variational Level Set Methods, Prod. Of Workshop in Int'l Conf. Image Proc., 2003, RESEARCH ARTICLE.
208. T.F. Chan, *The Mathematics Doctorate: A Time for Change*. Carnegie Essays on the Doctorate: Mathematics, Notices of the AMS, **50**, 2003, 896-903, RESEARCH ARTICLE.
209. X. Gu, Y. Wang, T. F. Chan, P. M. Thompson and S.-T. Yau, *Genus Zero Surface Conformal Mapping and Its Application to Brain Surface Mapping*, Information Processing in Medical Imaging, 18th International Conference, IPMI 2003, Ambleside, UK, July 2003. Proceedings, 172-184. RESEARCH ARTICLE.
210. Heimsund, Bjørn-Ove; Chan, Tony; Nilssen, Trygve K.; Tai, Xue-Cheng, *Level set methods for a parameter identification problem*, Analysis and optimization of differential systems (Constanta, 2002), 189–200, Kluwer Acad. Publ., Boston, MA, 2003, RESEARCH ARTICLE.
- 2004**
211. T.F. Chan, X.-C. Tai, *Level set and total variation regularization for elliptic inverse problems with discontinuous coefficients*. J. of Comp Phys., **193**, 2004, 40-66, RESEARCH ARTICLE.
212. X.-C. Tai, T.F. Chan, *Multiple level set methods with applications for identifying piecewise constant functions*. International Journal of Numerical Analysis and Modeling, **1**, 2004, 25-47, RESEARCH ARTICLE.
213. E.H. Wu, M.K. Ng, A.M. Yip, T.F. Chan, *A Clustering Model for Mining Evolving Web User Patterns in Data Stream Environment*. Proceedings IDEAL, Lecture Notes in Computer Science, **3177**, 2004, 565-571, RESEARCH ARTICLE.
214. A.M. Yip, E.H. Wu, M.K. Ng, T.F. Chan, *Unsupervised Dense Regions Discovery in DNA Microarray Data*. In Proceedings IDEAL, Lecture Notes in Computer Science, **3177**, 2004, 71-77, RESEARCH ARTICLE.
215. A.M. Yip, E.H. Wu, M.K. Ng, T.F. Chan, *An Efficient Algorithm for Dense Regions Discovery from Large-Scale Data Streams*. Proceeding PAKDD, Lecture Notes in Computer Science, **3056**, 2004, 116-120, RESEARCH ARTICLE.
216. J.R. Rommelse, H.X. Lin, T.F. Chan, *Efficient Active Contour and K-means Algorithms in Image Segmentation*. J. Scientific Programming, **12**, 2004, 101-120, RESEARCH ARTICLE.
217. X. Gu, Y. Wang, T.F. Chan, P.M. Thompson, S.-T. Yau, *Genus zero surface conformal mapping and its application to brain surface mapping*. IEEE Transaction on Medical Imaging: **23**, 2004, 949-958, RESEARCH ARTICLE.
218. Y. Wang, X. Gu, T.F. Chan, P.M. Thompson, S.-T. . Yau, *Volumetric harmonic brain mapping*. IEEE Int'l Symposium on Biomedical Imaging: From Nano to Macro, 2004) 1275-1278, RESEARCH ARTICLE.

219. E. Wu, M. Ng, A. Yip T. Chan, *Discretization of multidimensional web data for informativ dense regions discovery*. In Computational and Information Sciences (CIS04)) Lecture Notes in computer Science, **3314**, 2004, 718-724, RESEARCH ARTICLE.

220. Wang, Y., Gu, X., Chan, T.F., Thompson, P.M., Yau, S.-T., *Intrinsic brain surface conformal mapping using a variational method*, Proceedings of SPIE - The International Society for Optical Engineering, 2004, 241-252, 2004, RESEARCH ARTICLE.

2005

221. D. Huckaby, T. Chan, *Stewart's Pivoted QLP Decomposition for Low-Ranked Matrices*. Numer. Lin. Alg. Applic., Special Issue on Structured and Matrices and Applications, 12, 2005, 153-159, RESEARCH ARTICLE.

222. T.F. Chan, S. Esedoglu, *Aspects of total variation regularized L^1 function approximation*. SIAM J. Appl. Math, **65:5**, 2005, 1817-1837, RESEARCH ARTICLE.

223. T.F. Chan, A.M. Yip, F.E. Park, *Simultaneous total variation image inpainting and blind deconvolution*. International J. of Imaging Systems and Technology, **15:1**, 2005, 92-102, RESEARCH ARTICLE.

224. B. Sandberg, T.F. Chan, *A logic framework for active contours on multi-channel images*. J. Vis. Commun. Image R., **16**, 2005, 333-358, RESEARCH ARTICLE.

225. Y. Wang, X. Gu, K.M. Hayashi, T.F. Chan, *Surface parameterization using riemann surface structure*. 10th IEEE International Conference on Computer vision (ICCV), Beijing, China, 2005, 1061-1066, RESEARCH ARTICLE.

226. Y. Wang, M.C. Chiang, P.M. Thompson, T.F. Chan, *Mutual information-based 3D surface matching with applications to face recognition and brain mapping*. 10 IEEE International Conf. on Comp. vision (ICCV), Beijing, China, 2005, 527-534, RESEARCH ARTICLE.

227. L.M. Lui, Y. Wang, T.F. Chan, *Solving PDE on manifold using global conformal parametrization*. Variational, Geometric and Level Set Methods in Computer Vision: Third International Workshop, VLISM, Beijing, China, 2005, 307-319, RESEARCH ARTICLE.

228. Y. Wang, M.C. Chiang, P.M. Thompson, *Automated surface matching using mutual information applied to riemann surface structures*. Medical Image Computing and Computer-Assisted Intervention-MICCAI 2005; 8th International Conf., Palm Springs (Oct). Proceedings, Part II, 2005, 666-674, RESEARCH ARTICLE.

229. Y. Wang, X. Gu, K.M. Hayashi, T.F. Chan, P.M. Thompson, S.T. Yau, *Brain surface parameterization using riemann surface structure*. Medical Image Compo. and Computer-Assisted Intervention MICCAI 2005; 8th International Conf., Palm Springs (Oct), Proceedings, Part II, 2005, 657-665, RESEARCH ARTICLE.

230. Y. Wang, L.M. Lui, T.F. Chan, P.M. Thompson, *Optimization of brain conformal mapping with landmarks*. Medical Image Computing and Computer-Assisted Intervention - MICCAI 2005; 8th Int'l Conf., Palm Springs, Oct. 2005, Proceedings, Part. II, 2005, 675-683, RESEARCH ARTICLE.

231. Y. Wang, M. C. Chiang, P.M. Thompson, T.F. Chan, *3D surface matching with mutual information and riemann surface structures*. Proceedings of the 8th IASTED Int'l Conf. on Computer Graphics and Imaging (CGIM), Honolulu, HI, Ang. 2005, 2005, 94-99, RESEARCH ARTICLE.

232. Y. Wang, X. Gu, K.M. Hayashi, T.F. Chan, P.M. Thompson, S.T. Yau, *Brain surface conformal parameterization*. Proceedings of the 8th IASTED, Int'l Conf. on Computer Graphics and Imaging (CGIM), Honolulu, HI, Aug. 2005, 2005, 76-81, RESEARCH ARTICLE.

233. Y. Wang, L.M. Lui, T.F. Chan, P.M. Thompson, *Combination of brain conformal mapping and landmark: A variational approach*. Proceedings of the 8th IASTED, Int'l Conf. on Computer Graphics and Imaging (CGIM), Honolulu, HI, Aug. 2005, 2005, 70-75, RESEARCH ARTICLE.

234. T.F. Chan, S. Esedoglu, M. Mikolova, *Finding the global minimum for binary image restoration*. Proceedings of the Int'l Conference on Image Processing (ICIP), 2005, I-121-124, RESEARCH ARTICLE.

235. T.F. Chan, W. Zhu, *Level set based shape prior segmentation*. Proc. IEEE Conf. On Computer Vision and Pattern Recognition, CVPR (2), 2005, 1164-1170, RESEARCH ARTICLE.
236. J.-F. Aujol, T. Chan, *Combined geometric-texture image classification*. VLISM 2005, LNCS 3752, 2005, 161-172, RESEARCH ARTICLE.
237. J.-F. Aujol, G. Gilboa, T. Chan, S. Osher, *Structure-texture decomposition by a TV-Gabor model*. VLISM 2005, LNCS 3752, 2005, 85-96, RESEARCH ARTICLE.
238. T.F. Chan, J. Shen, *Variational image inpainting*. Comm. Pure Applied Math., LVIII, 2005, 579-619, RESEARCH ARTICLE.
239. T.F. Chan, S. Esedogly, F.E. Park, A.M. Yip, *Recent developments in total variation image restoration*. In Handbook of Mathematical Models in computer vision, Berlin: Springer, 2005, 17-32, RESEARCH ARTICLE.
240. A.M. Yip, C. Ding, T.F. Chan, *Dynamic cluster formation using level set methods*. In Proc. PAKDD 05: Advances in Knowledge Discovery and Data Mining. Lecture Notes in Artificial Intelligence, Berlin: Springer, 3518, 2005, 388-398, RESEARCH ARTICLE.
241. T.F. Chan, J. Cong, K. Sze, *Multilevel generalized force-directed method for circuit placement*. Proceedings of the Int'l Symposium on Physical Design, San Francisco, CA, 2005, 185-192, RESEARCH ARTICLE.
242. T.F. Chan, J. Cong, M. Romesis, J. Shinnerl, K. Sze, M. Xie, *Enhanced robustness in multilevel mixed-size placement*. Proceedings of SRC TEC HCON, 2005, RESEARCH ARTICLE.
243. Chan, T.F., Cong, J., Romesis, M., Shinnerl, J.R., Sze, K., Xie, M., *mPL6: A robust multilevel mixed-size placement engine*, Proceedings of the International Symposium on Physical Design, 227-229, 2005, RESEARCH ARTICLE.
244. Chung, E.T., Chan, T.F., Tai, X.-C. *Electrical impedance tomography using level set representation and total variational regularization*, Journal of Computational Physics, Vol. 205 Issue 1, 357-372, 2005, RESEARCH ARTICLE.

2006

245. L.M. Lui, Y. Wang, T.P. Chan, P.M. Thompson, *Automatic landmark tracking applied to optimize brain conformal mapping*. IEEE Intl Symposium on Biomedical Imaging: from Nano to Macro (ISBI), Arlington, VA, Apr, 2006, 205-208, RESEARCH ARTICLE.
246. L.M. Lui, Y. Wang, T.F. Chan, P.M. Thompson, *Automatic landmark tracking and its application to the optimization of brain conformal mapping*. accepted by IEEE Computer Society Conf. on Computer Vision and Pattern Recognition (CVPR), New York, June, 2006, 1784-1792, RESEARCH ARTICLE.
247. Y. Wang, L Jo, S. Wong, S.T. Yau, T.F. Chan, *Segmentation and tracking of 3D neuron microscopy images using a PDE based method and connected component labeling algorithm*. IEEE/NLM Life Science Systems & Applications Workshop, Bethesda, MD, July 13-14, 2006, 72-73, RESEARCH ARTICLE.
248. T.F. Chan, K. Chen, *On a nonlinear multigrid algorithm with primal relaxation for the image total variation minimisation*. Numerical Algorithms, **41**, 2006, 387-411, RESEARCH ARTICLE.
249. B. Gutman, Y. Wang, L.M. Lui, T.F. Chan, P.M. Thompson, *Hippocampal surface analysis using spherical harmonic function applied to surface conformal mapping*. 8th Int'l Conference on Pattern Recognition IICPR), Hong Kong, China, Vol. 3, 964-967, 2006, RESEARCH ARTICLE.
250. L.M. Lui, Y. Wang, T.F. Chan, P.M. Thompson, *Automatic landmark-based brain conformal parameterization with automatic landmark tracking technique*. Int'l Conf. on Medical Image Computing and Computer Assisted Intervention (MICCAI), LNCS 4191. 2006, 308-316, RESEARCH ARTICLE.

251. Y. Wang, X. Gu, T.F. Chan, P.M. Thompson, S.-T. Yau, *Brain surface conformal parameterization with algebraic functions*. Medical Image Computing and computer-Assisted Intervention (MICCAI) 2006: 9th Int'l. Conf. Copenhagen, Denmark. LNCS 4191. 2006, RESEARCH ARTICLE.
252. T.F. Chan, B. Sandberg, M. Moelich, *Nonlinear multilevel schemes for solving the total variation image minimization problem developments in variational image segmentation*. in *Image Processing based on Partial differential equations*. X. Tai, KA. Lie, T. Chan, S. Osher (eds) Heidelberg: Springer Verlag. Proceedings of the CMA Conf. On Image Processing, Oslo, Norway 2005, 2006, 175-210, RESEARCH ARTICLE.
253. D. Strong, J.F. Aujol, T.F. Chan, *Scale recognition, regularization parameter selection, and Meyer's G norm in total variation regularization*. SIAM Journal on Multiscale Modeling and Simulation, **5**, 2006, 273-303, RESEARCH ARTICLE.
254. J.F. Aujol, T.F. Chan, *Combining geometrical and textured information to perform image classification*. J. of Visual Comm. And Image Representation, **17**, 2006. 1004-1023, RESEARCH ARTICLE.
255. J.F. Aujol, G. Gilboa, T.F. Chan, S. Osher, *Structure-texture image decomposition - modeling, algorithms, and parameter selection*. Int'l. J. of Computer Vision, **67**, issue 1, 2006, 111-136, RESEARCH ARTICLE.
256. T.F. Chan, K. Chen, *An optimisation-based multilevel algorithm for total variation image denoising*. SIAM J. Multi. Mod. Simulation, **5**, 2006, 615-645, RESEARCH ARTICLE.
257. T.F. Chan, S.H. Kang, *Error analysis for image inpainting*. J. of Math. Imaging and Vision, **26**, 2006, 85-103, RESEARCH ARTICLE.
258. T.F. Chan, J. Shen, H.M. Zhou, *Total variation wavelet inpainting*. J. of Math. Imaging and Vision, **25**, 2006, 107-125, RESEARCH ARTICLE.
259. X.-C. Tai, K.A. Lie, T.F. Chan, S. Osher (eds). *Error analysis for H1 based wavelet interpolations*. in *Image Processing based on PDE, "Mathematics and Visualization"*, Springer, Heidelberg. Proceeding of the Int'l. Conf. on PDE-Based Image Processing and Related Inverse Problems, Oslo, Norway (Aug 8-12, 2005), 2007, RESEARCH ARTICLE.
260. T.F. Chan, J. Shen, H.M. Zhou, *A total variation wavelet inpainting model with multilevel fitting parameters*. in the Proceedings to the SPIE symposium on Adv. Signal Proc.: Algorithms, Architectures and Implementations VIII, PP. 63130C-63130C.8, **6313**, 2006, RESEARCH ARTICLE.
261. A. Yip, C. Ding, T.F. Chan, *Dynamic cluster formation using level set methods*. IEEE Transactions on Pattern Analysis and Machine Intelligence, **28**, 2006, 877-889. RESEARCH ARTICLE.
262. T.F. Chan, J. Cong, J. Shinnerl, K Sze, M. Xie, *mPL6: enhanced multilevel mixed-size placement with congestion control*. Proceedings of the Int'l. symposium on Physical Design, 2006, 212-214, RESEARCH ARTICLE.
263. T.F. Chan, K. Chen, X-C Tai, *Nonlinear multilevel schemes for solving the total variation image minimization problem*. in "Image Proc. Based on PDE", Springer, Heidelberg, 2007, RESEARCH ARTICLE.
264. T.F. Chan, S. Esedoglu, M. Nilolova, *Algorithms for finding global minimizers of image segmentation and denoising models*. SIAM J. Appl. Math, 2006, 1632-1648, RESEARCH ARTICLE.
265. Zhu, W., Chan, T., Esedoglu, S., *Segmentation with depth: A level set approach*, SIAM Journal on Scientific Computing, Vol. 28, Issue 5, 1957-1973, 2006, RESEARCH ARTICLE.
266. Ng, M., Chan, T., Kang, M.G., Milanfar, P., *Super-resolution imaging: Analysis, algorithms, and applications*, Eurasip Journal on Applied Signal Processing, 2006, Editorial.
267. Chan, T.F., Chen, K., *An optimization-based multilevel algorithm for total variation image denoising*, Multiscale Modeling and Simulation, Vol. 5 Issue 2, 615-645, 2006, RESEARCH ARTICLE.
268. Chan, T.; Esedoglu, S.; Park, F.; Yip, A., *Total variation image restoration: overview and recent developments*. Handbook of mathematical models in computer vision, 17-31, Springer, New York, 2006, RESEARCH ARTICLE.

269. Lui, L.M., Wang, Y., Chan, T.F., Thompson, P.M., *A landmark-based brain conformal parametrization with automatic landmark tracking technique*, Medical Image Computing and Computer-Assisted Intervention – MICCAI 2006, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), Volume 4191/2006, 308-315, 2006, RESEARCH ARTICLE.

270. Chan, Tony F.; Cong, Jason; Shinnerl, Joseph R.; Sze, Kenton; Xie, Min; Zhang, Yan, *Multiscale optimization in VLSI physical design automation*. “*Multiscale optimization methods and applications*”, 1–67, Nonconvex Optim. Appl., 82, Springer, New York, 2006, BOOK CHAPTER.

2007

271. W. Zhu, T.F. Chan, *A variational model for capturing illusory contours using curvature*. J. of Mathematical Imaging and Vision, Springer Netherlands, Vo. 27, Issue 1, 29-40, 2007, RESEARCH ARTICLE.

272. T.F. Chan, N. Ng, A. Yau, A. Yip, *Superresolution image reconstruction -using fast inpainting algorithms*. Applied and Computational Harmonic Analysis, **23**, 2007, RESEARCH ARTICLE.

273. L.M. Lui, Y. Wang, T.F. Chan, P.M. Thompson, *Brain anatomical feature detection by solving partial differential equations on general manifolds*. Discrete and Continuous Dynamical Systems-Series B (DCDS-B), **7**, 2007, 605-618, RESEARCH ARTICLE.

274. L-M Lui, Y. Wang, T.F. Chan, P. Thompson, *Landmark constrained genus zero surface conformal mapping and it's application to brain mapping research*. Appl. Num. Math., **57**, 2007, 847-858. RESEARCH ARTICLE.

275. A.M. Yip, M.K. Ng, E.H. Wu, T.F. Chan, *Strategies for identifying statistically significant dense regions in microarray data*. IEEE/ACM Trans. On Computing Biology and Bioinformatics, **4**, 2007, 415-429, RESEARCH ARTICLE.

276. T.F. Chan, S. Esedoglu, F. Park, *Image decomposition combining staircase reduction and texture extraction*. J. of Visual Comm. And Image Representation, 2007, RESEARCH ARTICLE.

277. Y. Wang, L.M. Lui, X. Gu, K.M. Hayashi, T.P. Chan, A.W. Toga, P.M. Thompson, S.-T. Yau, *Brain surface conformal parameterization using riemann surface structure*. IEEE Transaction on Medical Imaging, **26**, 2007, 853-865, RESEARCH ARTICLE.

278. Y. Wang, X. Gu, T.F. Chan, P.M. Thompson, S.-T. Yau, *Brain surface conformal parameterization with the Ricci flow*. IEEE Int'l. Symposium on Biomedical Imaging - From Nano to Macro (ISBIL), Washington D.C., 2007, 1312-1315, RESEARCH ARTICLE.

279. B. Gutman, Y. Wang, L.M. Lui, T.F. Chan, P.M. Thompson, *Hippocampal surface discrimination via invariant descriptors of spherical conformal maps*. IEEE Int'l. Symposium on biomedical Imaging – From Nano to Macro (ISBI), Washington D.C., 2007, 1316-1319, RESEARCH ARTICLE.

280. T.F. Chan, K. Chen, J. Carter, *Iterative methods for solving the dual formulation arising from image restoration*. Electronic Transactions on Numerical Analysis, **26**, 2007, 299-311, RESEARCH ARTICLE.

281. O. Christiansen, T. Lee, J. Lie, U. Sinha, T.F. Chan, *Total variation regularization of matrix-valued images*. Int'l. J. of biomedical Imaging. Artical ID 27432 (11 pages), 2007, 2007, RESEARCH ARTICLE.

282. X. Bresson, T.F. Chan, *Active contours based on Chambolle's mean curvature motion*. IEEE Int'l. Conf. On Image Procesing (ICIP), San Antonio, 2007, 33-36, RESEARCH ARTICLE.

283. T.F. Chan, S. Esedoglu, K. Ni, *Histogram based segmentation using Wasserstein distances*. Proceedings of the 1st Int'l Conf. On Scale Space and Variational Methods in Computer vision (SSVM), Ischia, Italy (May 2007), 2007, 697-708, RESEARCH ARTICLE.

284. K. Ni, S. Thiruvankadam, T.F. Chan, *Matting through variational inpainting*. Proceedings of the 10th LASTED Int'l Conf. On Signal and Image Processing (SIP), Honolulu, HI, 2007, 173-179, RESEARCH ARTICLE.

285. K. Ni, D. Roble, T.F. Chan, *A texture synthesis approach to elastica inpainting*. ACM SIGGRAPH 2007 Sketches, 2007, Article No 86, RESEARCH ARTICLE.
286. T.F. Chan, H.M. Zhou, *Total variation wavelet thresholding*. J. of Scientific Computing, 32, 2007, 315-341, RESEARCH ARTICLE.
287. T.P. Chan, J. Shen, *Theory and computation of variational image deblurring*. IMS Lecture Notes Series on Imaging Science & Info. Processing, Chapter 3, World Scientific Pub. Co., 2007, RESEARCH ARTICLE.
288. Tony Chan, Jason Cong, Joseph Shinnerl, Kenton Sze, and Min Xie., "*mPL6: Enhanced Multilevel Mixed-Size Placement with Congestion Control*" in "Modern Circuit Placement: Best Practices and Results", G.-J. Nam and J. Cong, eds; Springer, 2007, p.257-295, BOOK CHAPTER.
289. T.F. Chan, H. Li; M. Lysaker, X.-C. Tai, *Level set method for positron emission tomography*. Int'l J. of Biomedical Imaging, 2007, 1-15, RESEARCH ARTICLE.
290. T.F. Chan, S. Thiruvenkadam, B. Woo, *Segmentation under occlusions using selective prior shape*. Scale Space and Variational Methods in Computer vision (SSVM 2007), 2007, 191-202, RESEARCH ARTICLE.
291. T.F. Chan, J. Brecht, S. Thiruvenkadam, *Occlusion tracking using logic models*, Signal and Image Processing (SIP), 2007, 219-224, RESEARCH ARTICLE.
292. A. Cunha, J. Darbon, T.F. Chan, *Fast and accurate feature detection and triangulation using total variation filtering of biological images*. In the Proceedings of the IEE Int'l Symposium on biomedical Imaging: From Nano to Macro, 2007, 680-683, RESEARCH ARTICLE.
293. T. Bishop, S. Babacan, B. Amizic, A. Katsaggelos, T.F. Chan, R. Molina, *Blind Image Deconvolution: Problem formulation and existing approaches*, CRC Press, 2007, 1-23, RESEARCH ARTICLE.
294. Chan, Raymond; Chan, Tony; Shen, Zuowei, *Preface: Special issue on mathematical imaging*. Appl. Comput. Harmon. Anal. 23 (2007), no. 1, 1-2, RESEARCH ARTICLE.
295. Wang, Y., Lui, L.M., Gu, X., Hayashi, K.M., Chan, T.F., Toga, A.W., Thompson, P.M., Yau, S.-T., *Brain surface conformal parameterization using riemann surface structure*, IEEE Transactions on Medical Imaging, Vol. 26 Issue 6, 53-865, 2007, RESEARCH ARTICLE.
296. Chan, T., Jameson, L., *Cyber-enabled scientific discovery*, Journal of Physics: Conference Series, Vol. 78, Issue 1, 1-14, 2007, RESEARCH ARTICLE.
297. J. Darbon, S. Lefebvre, T.F. Chan and S. Esedoglu, *TV optimization and graph-cuts*, in the proceedings of ICIAM 07, Proceedings in Applied Mathematics and Mechanics ,7(1), pages 1042303-1042304, December 2007. RESEARCH ARTICLE.
298. Y. Wang, L.M. Lui, X. Gu, K.M. Hayashi, T.F. Chan, A.W. Toga, P.M. Thompson and S.-T. Yau, *Brain Surface Conformal Parameterization Using Riemann Surface Structure*, IEEE Transactions on Medical Imaging, Vol. 26, 853-865, 2007. RESEARCH ARTICLE.

2008

299. Tony F. Chan, and Byung-Woo Hong, Sheshadri R. Thiruvenkadam, *Segmentation under Occlusions Using Selective Shape Prior*, SIAM J. Img. Sci. Vol. 1, No. 1, 115 -142, 2008, RESEARCH ARTICLE.
300. Bresson, Xavier; Chan, Tony F., *Fast dual minimization of the vectorial total variation norm and applications to color image processing*. Inverse Probl. Imaging 2 (2008), no. 4, 455-484, RESEARCH ARTICLE.
301. Lui, Lok Ming; Gu, Xianfeng; Chan, Tony F.; Yau, Shing-Tung, *Variational method on Riemann surfaces using conformal parameterization and its applications to image processing*. Methods Appl. Anal. 15 (2008), no. 4, 513-538, RESEARCH ARTICLE.

302. Chan, Raymond; Chan, Tony; Shen, Zuowei, *Special issue on mathematical imaging. II. Appl. Comput. Harmon. Anal.* 24 (2008), no. 2, 129–130, RESEARCH ARTICLE.
303. Darbon, J., Cunha, A., Chan, T.F., Osher, S., Jensen, G.J., *Fast nonlocal filtering applied to electron cryomicroscopy*, 5th IEEE International Symposium on Biomedical Imaging: From Nano to Macro, Proceedings, pp. 1331-1334, 2008, RESEARCH ARTICLE.
304. Wang, Y., Gu, X., Chan, T.F., Thompson, P.M., Yau, S.-T., *Brain surface conformal parameterization with the slit mapping*, 5th IEEE International Symposium on Biomedical Imaging: From Nano to Macro, Proceedings, 448-451, 2008, RESEARCH ARTICLE.
305. Wang, Y., Gu, X., Chan, T.F., Thompson, P.M., Yau, S.-T., *Conformal slit mapping and its applications to brain surface parameterization*, Medical Image Computing and Computer-Assisted Intervention – MICCAI 2008, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 2008, Volume 5241/2008, 585-593, 2008, RESEARCH ARTICLE.
306. Lui, L.M., Thiruvankadam, S., Wang, Y., Chan, T., Thompson, P., *Optimized conformal parameterization of cortical surfaces using shape based matching of landmark curves*, Medical Image Computing and Computer-Assisted Intervention – MICCAI 2008, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 5241 LNCS, PART 1, 494-501, 2008, RESEARCH ARTICLE.
307. Hong, B.-W., Soatto, S., Ni, K., Chan, T., *The scale of a texture and its application to segmentation*, Proceeding of 26th IEEE Conference on Computer Vision and Pattern Recognition, CVPR, 1-8, 2008, RESEARCH ARTICLE.
308. J. Darbon, A. Cunha, T.F. Chan, S. Osher, G. Jensen, *An Efficient Neighborhood Filtering Algorithm and its application to Biological Images*, In the Proceedings of the IEEE International Symposium on Biomedical Imaging (ISBI 2008), pages 1331-1334, Paris, France, May 2008, RESEARCH ARTICLE.
- 2009**
309. Darbon, J., Ciril, I., Marquina, A., Chan, T.F., Osher, S., *A note on the Bregmanized total variation and dual forms*, Proceedings - International Conference on Image Processing, ICIP, 2965-2968, 2009, RESEARCH ARTICLE.
310. Wang, Y., Chan, T.F., Toga, A.W., Thompson, P.M., *Shape analysis with multivariate tensor-based morphometry and holomorphic differentials*, Proceedings of the IEEE International Conference on Computer Vision, 2349-2356, 2009, RESEARCH ARTICLE.
311. Wang, Y., Dai, W., Chou, Y.-Y., Gu, X., Chan, T.F., Toga, A.W., Thompson, P.M., *Studying brain morphometry using conformal equivalence class*, Proceedings of the IEEE International Conference on Computer Vision, 2365-2372, 2009, RESEARCH ARTICLE.
312. Chan, T.F., Cong, J., Radke, E., *A rigorous framework for convergent net weighting schemes in timing-driven placement*, IEEE/ACM International Conference on Computer-Aided Design, Digest of Technical Papers, ICCAD, 288-294, 2009, RESEARCH ARTICLE.
313. Wang, Y., Gu, X., Chan, T.F., Thompson, P.M., *Shape analysis with conformal invariants for multiply connected domains and its application to analyzing brain morphology*, IEEE Computer Society Conference on Computer Vision and Pattern Recognition Workshops, CVPR Workshops 2009, 202-209, 2009, RESEARCH ARTICLE.
314. Lai, R., Shi, Y., Dinov, I., Chan, T.F., Toga, A.W., *Laplace-Beltrami nodal counts: A new signature for 3D shape analysis*, Proceedings - 2009 IEEE International Symposium on Biomedical Imaging: From Nano to Macro, 694-697, 2009, RESEARCH ARTICLE.
315. Wang, Y., Toga, A.W., Thompson, P.M., Chan, T.F., Zhang, J., *Multivariate tensor-based morphometry on surfaces: Application to mapping ventricular changes in HIV/AIDS*, Proceedings - 2009 IEEE International Symposium on Biomedical Imaging: From Nano to Macro, 129-132, 2009, RESEARCH ARTICLE.

316. Ni, K., Bresson, X., Chan, T., Esedoglu, S., *Local histogram based segmentation using the wasserstein distance*, International Journal of Computer Vision, Vol. 84, Issue 1, pp. 97-111, 2009, RESEARCH ARTICLE.
317. Lu, Y., Zhang, X., Douraghy, A., Stout, D., Tian, J., Chan, T.F., Chatzioannou, A.F., *Source reconstruction for spectrally-resolved bioluminescence tomography with sparse A priori information*, Optics Express, Vol. 17, Issue 10, 8062-8080, 2009, RESEARCH ARTICLE.
318. Ni, K., Hong, B.-W., Soatto, S., Chan, T., *Unsupervised multiphase segmentation: A recursive approach*, Computer Vision and Image Understanding, Vol. 113, Issue 4, 502-510, 2009, RESEARCH ARTICLE.
319. Wang, Y., Dai, W., Gu, X., Chan, T.F., Yau, S.-T., Toga, A.W., Thompson, P.M., *Teichmüller Shape Space Theory and its Application to Brain Morphometry*, Medical Image Computing and Computer-Assisted Intervention - MICCAI , Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 5762 LNCS, PART 2, 133-140, 2009, RESEARCH ARTICLE.
320. Wang, Y., Chan, T.F., Toga, A.W., Thompson, P.M., *Multivariate tensor-based brain anatomical surface morphometry via holomorphic one-forms*, MICCAI '09 Proceedings of the 12th International Conference on Medical Image Computing and Computer-Assisted Intervention, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 5761 LNCS, PART 1, 337-344, 2009, RESEARCH ARTICLE.
321. Jung, M., Bresson, X., Chan, T.F., Vese, L.A., *Color image restoration using nonlocal Mumford-Shah regularizers*, Energy Minimization Methods in Computer Vision and Pattern Recognition, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 5681 LNCS, 373-387, 2009, RESEARCH ARTICLE.
322. Houhou, N., Bresson, X., Szlam, A., Chan, T.F., Thiran, J.-P., *Semi-supervised segmentation based on non-local continuous min-cut*, Proceedings of the 2nd International Conference on Scale Space and Variational Methods in Computer Vision, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) , vol. 5567/2009, 112-123, 2009, RESEARCH ARTICLE.
323. H.M. Zhou, T. Chan, J. Shell, *A quick tour of wavelets and PDE techniques in image processing*. Encyclopedia of Complexity and Systems Science, Springer, 2009, p. 10031-10047. BOOK CHAPTER.
- 2010**
324. Ernie Esser, Xiaoqun Zhang, and Tony F. Chan , *A General Framework for a Class of First Order Primal-Dual Algorithms for Convex Optimization in Imaging Science*, SIAM J. Imaging Sci. Vol. 3, No. 4, 1015-1046, 2010, RESEARCH ARTICLE.
325. Lok Ming Lui, Sheshadri Thiruvankadam, Yalin Wang, Paul M. Thompson, and Tony F. Chan, *Optimized Conformal Surface Registration with Shape-based Landmark Matching*, SIAM J. Imaging Sci. Vol. 3, No. 1, 52-78, 2010, RESEARCH ARTICLE.
326. Zhu, Mingqiang, Wright, Stephen J.; Chan, Tony F., *Duality-based algorithms for total-variation-regularized image restoration*. Comput. Optim. Appl. 47 (2010), no. 3, 377–400, RESEARCH ARTICLE.
327. Sandberg, Berta; Kang, Sung Ha; Chan, Tony F., *Unsupervised multiphase segmentation: a phase balancing model*. IEEE Trans. Image Process. 19 (2010), no. 1, 119–130, RESEARCH ARTICLE.
328. Chan, Tony; Chen, Yunmei; Paragios, Nikos , *Preface [Special issue on inverse problem and imaging in medical image analysis]*. Inverse Probl. Imaging 4 (2010), no. 2, i–iii\., RESEARCH ARTICLE.
329. Lui, Lok Ming; Wong, Tsz Wai; Zeng, Wei; Gu, Xianfeng; Thompson, Paul M.; Chan, Tony F.; Yau, Shing Tung , *Detection of shape deformities using Yamabe flow and Beltrami coefficients*. Inverse Probl. Imaging 4 (2010), no. 2, 311–333, RESEARCH ARTICLE.
330. Zhang, Xiaoqun; Chan, Tony F., *Wavelet inpainting by nonlocal total variation*. Inverse Probl. Imaging 4 (2010), no. 1, 191–210, RESEARCH ARTICLE.

331. Lai, R., Shi, Y., Scheibel, K., Fears, S., Woods, R., Toga, A.W., Chan, T.F., *Metric-induced optimal embedding for intrinsic 3D shape analysis*, Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition, 2871-2878, 2010, RESEARCH ARTICLE.
332. Lui, L.M., Wong, T.W., Thompson, P., Chan, T., Gu, X., Yau, S.-T., *Compression of surface registrations using Beltrami coefficients*, Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition, 2839-2846, 2010, RESEARCH ARTICLE.
333. Wang, Y., Zhang, J., Gutman, B., Chan, T.F., Becker, J.T., Aizenstein, H.J., Lopez, O.L., Tamburo, R.J., Toga, A.W., Thompson, P.M., *Multivariate tensor-based morphometry on surfaces: Application to mapping ventricular abnormalities in HIV/AIDS*, NeuroImage, Vo. 49, Issue 3, 2141-2157, 2010, RESEARCH ARTICLE.
334. Chan, T.F., Esedoglu, S., Park, F., *A fourth order dual method for staircase reduction in texture extraction and image restoration problems*, Proceedings - International Conference on Image Processing, ICIP, 4137-4140, 2010, RESEARCH ARTICLE.
335. Borghi, A., Darbon, J., Peyronnet, S., Chan, T.F., Osher, S., *A compressive sensing algorithm for many-core architectures*, Advances in Visual Computing 6th International Symposium, ISVC 2010, Las Vegas, NV, USA, November 29 – December 1, 2010, Proceedings, Part II., Lecture Notes in Computer Science, 2010, Volume 6454/2010, 678-686, 2010, RESEARCH ARTICLE.
336. Lui, L.M., Wong, T.W., Thompson, P., Chan, T., Gu, X., Yau, S.-T., *Shape-based diffeomorphic registration on hippocampal surfaces using Beltrami holomorphic flow*, Medical Image Computing and Computer-Assisted Intervention – MICCAI 2010, Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), Volume 6362/2010, 323-330, 2010, RESEARCH ARTICLE.
- 2011**
337. Lai, R., Chan, T.F., *A framework for intrinsic image processing on surfaces*, Computer Vision and Image Understanding, Vol. 115, Issue 12, 1647-1661, 2011, RESEARCH ARTICLE.
338. Yang, W., Lui, R.L.M., Gao, J.-H., Chan, T.F., Yau, S.-T., Sperling, R.A., Huang, X., *Independent component analysis-based classification of Alzheimer's disease MRI data*, Journal of Alzheimer's Disease, Vol. 24, Issue 4., 775-783, 2011, RESEARCH ARTICLE.
339. Yang, W., Lui, R.L.M., Gao, J.-H., Chan, T.F., Yau, S.-T., Sperling, R.A., Huang, X., *Erratum: Independent component analysis-based classification of Alzheimer's disease MRI data* (Journal of Alzheimer's Disease, Journal of Alzheimer's Disease, Vol. 27, Issue 1, 239-, 2011, RESEARCH ARTICLE.
340. Yeung, S.-K., Wu, T.-P., Tang, C.-K., Chan, T.F., Osher, S., *Adequate reconstruction of transparent objects on a shoestring budget 2011*, Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition, 2513-2520, 2011, RESEARCH ARTICLE.
341. Yu, L.-F., Yeung, S.-K., Tang, C.-K., Terzopoulos, D., Chan, T.F., Osher, S.J., *Make it home: Automatic optimization of furniture arrangement*, ACM Transactions on Graphics, Vo. 30, Issue 4, 86-, 2011, RESEARCH ARTICLE.
342. Jung, M., Bresson, X., Chan, T.F., Vese, L.A., *Nonlocal Mumford-Shah regularizers for color image restoration*, IEEE Transactions on Image Processing, Vol. 20, Issue 6, 1583-1598, 2011, RESEARCH ARTICLE.
343. Tsz Wai Wong, Xianfeng Gu, Tony F. Chan, Lok Ming Lui, *Parallelizable inpainting and refinement of diffeomorphisms using Beltrami holomorphic flow*. ICCV 2011: 2383-2390 , RESEARCH ARTICLE.
344. Bar L; Chan TF; Chung G; Jung, M; N Kiryati, R Mohieddine, N Sochen, *Mumford and Shah Model and its Applications to Image Segmentation and Image Restoration*, Handbook of Mathematical Methods in Imaging, 1095-1157. 2011.
345. Chan R; Chan, T; Yip, A, *Numerical methods and applications in total variation image restoration*, Handbook of Mathematical Methods in Imaging, 1059-1094. Springer New York 2011. Paper in book.

2012

346. Matthew S. Keegan, Berta Sandberg, Tony F Chan, *A Multiphase Logic Framework for Multichannel Image Segmentation*, Inverse Problems and Imaging (IPI), Vol. 6, No. 1, 95-110, 2012, RESEARCH ARTICLE.
347. Wei Zhu and Tony F. Chan, *Image Denoising Using Mean Curvature of Image Surface*, SIAM J. Imaging Sci., Vol. 5, No. 1, 1-32, 2012, RESEARCH ARTICLE.
348. Ethan S. Brown, Tony F. Chan, Xavier Bresson, *Completely Convex Formulation of the Chan-Vese Image Segmentation Model*. International Journal of Computer Vision 98(1): 103-121 (2012), RESEARCH ARTICLE.
349. Yalin Wang, Jie Shi, Xiaotian Yin, Xianfeng Gu, Tony F. Chan, Shing-Tung Yau, Arthur W. Toga, Paul M. Thompson, *Brain Surface Conformal Parameterization With the Ricci Flow*. IEEE Trans. Med. Imaging 31(2): 251-264 (2012), RESEARCH ARTICLE
350. Xiaoqun Zhang, Yujie Lu, Tony F. Chan, *A Novel Sparsity Reconstruction Method from Poisson Data for 3D Bioluminescence Tomography*. J. Sci. Comput. 50(3): 519-535 (2012), RESEARCH ARTICLE.
351. Xiaoqun Zhang, Yujie Lu, Tony F. Chan, *Erratum to: A Novel Sparsity Reconstruction Method from Poisson Data for 3D Bioluminescence Tomography*. J. Sci. Comput. 51(1): 259 (2012), RESEARCH ARTICLE.
352. Lok Ming Lui, Tsz Wai Wong, Wei Zeng, Xianfeng Gu, Paul M. Thompson, Tony F. Chan, Shing-Tung Yau, *Optimization of Surface Registrations Using Beltrami Holomorphic Flow*. J. Sci. Comput. 50(3): 557-585 (2012), RESEARCH ARTICLE.
353. Lok Ming Lui, Tsz Wai Wong, Wei Zeng, Xianfeng Gu, Paul M. Thompson, Tony F. Chan, Shing-Tung Yau, *Erratum to: Optimization of Surface Registrations Using Beltrami Holomorphic Flow*. J. Sci. Comput. 51(1): 258 (2012), RESEARCH ARTICLE.
354. Wong, Tsz Wai; Lui, Lok Ming; Thompson, Paul M.; Chan, Tony F., *Intrinsic Feature Extraction on Hippocampal Surfaces and Its Applications*, 2012 SIAM journal on imaging sciences, . v. 5, (2), 2012, p. 746-768. RESEARCH ARTICLE.
355. Zeng, Wei; Lui, Lok Ming; Luo, Feng; Chan, Tony Fan-Cheong; Yau, Shing-Tung; Gu, David Xianfeng, *Computing Quasiconformal Maps using an Auxiliary Metric and Discrete Curvature Flow*, 2012 Numerische Mathematik, . v. 121, (4), August 2012, p. 671-703. RESEARCH ARTICLE.
356. Yu, Lap-Fai; Yeung, Sai-Kit; Terzopoulos, Demetri; Chan, Tony F., *DressUp! Outfit Synthesis Through Automatic Optimization*, 2012 ACM transactions on graphics, v. 31, (6), November 2012. RESEARCH ARTICLE.
357. Lui, LM; Wong TW; Zeng W; Gu, X; Thompson, PM; Chan TF; Yau, ST, *A Survey on Recent Development in Computational Quasi-conformal Geometry and its Applications*, Fifth International Congress of Chinese Mathematicians 51, 697. 2012. RESEARCH ARTICLE.

2013

358. Lai, Rongjie; Tai, Xue-Cheng; Chan, Tony F., *A Ridge and Corner Preserving Model For Surface Restoration*, 2013 SIAM journal on scientific computing, v. 35, (2), 2013, p. A675-A695. RESEARCH ARTICLE.
359. Borghi, Alexandre; Darbon, Jerome; Peyronnet, Sylvain; Chan, Tony F.; Osher, Stanley, *A Simple Compressive Sensing Algorithm for Parallel Many-Core Architectures*, 2013 Journal of signal processing systems for signal, image, and video technology, v. 71, (1), April 2013, p. 1-20. RESEARCH ARTICLE.
360. Yu, L.-F.; Yeung, S.-K.; Tai, Y.-W.; Terzopoulos, D.; Chan, T.F., *Outdoor Photometric Stereo*, 2013 IEEE International Conference on Computational Photography, ICCP 2013, . 2013. CONFERENCE PAPER.
361. Zhu, Wei; Tai, Xue-Cheng; Chan, Tony, *Augmented Lagrangian Method for a Mean Curvature Based Curvature Based Image Denoising Model*, Inverse Problems and Imaging Volume: 7 Issue: 4 Pages: 1409-1432 Published: NOV 2013, RESEARCH ARTICLE.

362. Zhang, Ruiliang; Bresson, Xavier; Chan, Tony F.; et al., *Four Color Theorem and Convex Relaxation for Image Segmentation with any Number of Regions*, Inverse Problems and Imaging Volume: 7 Issue: 3 Pages: 1099-1113 Published: AUG 2013. RESEARCH ARTICLE.

363. Zhu, Wei; Tai, Xue-Cheng; Chan, Tony, *Image Segmentation Using Euler's Elastica as the Regularization*, Journal of Scientific Computing Volume: 57 Issue: 2 Pages: 414-438 Published: NOV 2013. RESEARCH ARTICLE.

2014

364. Bresson, Xavier; Tai, Xue-Cheng; Chan, Tony F.; et al., *Multi-class Transductive Learning Based on ℓ_1 Relaxations of Cheeger Cut and Mumford-Shah-Potts Model*, Journal of Mathematical Imaging and Vision Volume: 49 Issue: 1 Pages: 191-201 Published: MAY 2014. RESEARCH ARTICLE.

365. Wei Zhu, Xue-Cheng Tai, Tony Chan, *A Fast Algorithm for a Mean Curvature Based Image Denoising Model Using Augmented Lagrangian Method*, Efficient Algorithms for Global Optimization Methods in Computer Vision Lecture Notes in Computer Science 2014, pp 104-118. RESEARCH ARTICLE.

2015

366. Yeung, Sai Kit ; Wu, Tai Pang ; Tang, Chi Keung ; Chan, Tony F ; Osher, Stanley J., *Normal Estimation of a Transparent Object Using a Video*, IEEE Transactions on Pattern Analysis and Machine Intelligence, v. 37, Issue 4, 1 April 2015, p. 890-897. Conference paper, 2015.

367. Tai, Xuecheng ; Bae, Egil ; Chan, Tony F ; Lysaker, Marius, *Energy Minimization Methods in Computer Vision and Pattern Recognition: 10th International Conference, EMMCVPR2015 Hong Kong, China, January 13-16, 2015 Proceedings*, Lecture Notes in Computer Science, v. 8932, 2015. Conference paper, 2015

368. Leah Bar, Tony F Chan, Ginmo Chung, Miyoun Jung, Luminita A Vese, Nahum Kiryati, Nir Sochen, *Mumford and Shah Model and Its Applications to Image Segmentation and Image Restoration*, Handbook of Mathematical Methods in Imaging, Springer New York, 2015, p. 1539-1597, Paper in book.

2016

369. T. F. Chan, Michael Fung, Natalie Chang, *Matching Visibility and Performance: A Standing Challenge for World-Class Universities*, The 6th International Conference on World-Class Universities (WCU-6), 2-3 Nov 2015, Sense Publishers 2016, Chapter 14, p.225-242. Paper in book.

370. Wei, Ke; Cai, Jian-Feng; Chan, Tony F.; Leung, Shingyu; *Guarantees of Riemannian Optimization for Low Rank Matrix Completion*, arXiv, Mar 2016, Article number 1603.06610, Cornell University arXiv, 2016.

371. Wei, Ke ; Cai, Jian-Feng; Chan, Tony F.; Leung, Shingyu; *Guarantees of Riemannian Optimization for Low Rank Matrix Recovery*, SIAM Journal on Matrix Analysis and Applications, Volume: 37 Issue: 3, 2016, p.1198-1222.

372. Wei, Ke ; Tai, Xuecheng ; Chan, Tony F.; Leung, Shingyu; *Primal-dual method for continuous max-flow approaches*, Computational Vision and Medical Image Processing V – Proceedings of 5th Eccomas Thematic Conference on Computational Vision and Medical Image Processing. VipIMAGE 2015, 2016, p.17-24.

2017

373. Wei, Ke; Yin, Ke; Tai, Xue-Cheng Tai; Chan. Tony F; *New Region Force for Variational Models in Image Segmentation and High Dimensional Data Clustering*, Annals of Mathematical Sciences and Applications, Volume 0, Number 0, 1, 2017.

374. Liu, Hao; Yao, Zhigang; Leung, Shingyu; Chan, Tony F; *A Level Set Based Variational Principal Flow Method for Nonparametric Dimension Reduction on Riemannian Manifolds*, SIAM J. Sci. Computing, Vol. 39, Issue 4, A1616-A1646.