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Refereed Papers

1. Y. S. Liao, S. W. Chyuan and J. T. Chen, 2004, Numerical studies of variations in gap & finger with width ratio and traveled distance for the MEMS device, J. Mechanical Engineering Science, Proceedings of the *Institution of Mechanical Engineers Part C*, 218(10):1243-1253. (SCI and EI)
2. Y. S. Liao, S. W. Chyuan and J. T. Chen, 2004, Efficaciously modeling the exterior electrostatic problems with singularity for electron devices, *IEEE Circuits & Devices*, 20(5):25-34. (SCI and EI)
3. K. H. Chen, J. T. Chen, S. Y. Lin and Y. T. Lee, 2004, Dual boundary element analysis of normal incident wave passing a thin submerged breakwater with rigid, absorbing and permeable boundaries, *Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE*,130(4):179-190. (SCI and EI)
4. Y. S. Liao, S. W. Chyuan and J. T. Chen, 2004, An alternatively efficient method for simulating the electrostatic field and levitating force of MEMS combdrive, *J. Micromechanics and Microengineering*, 14(8):1258-1269. (SCI and EI)
5. J. T. Chen, Y. T. Lee, I. L. Chen and K. H. Chen, 2004, Mathematical analysis and treatment for the true and spurious eigenequations of circular plates in the meshless method using radial basis function, *J. Chinese Institute of Engineers*, 27(4):547-561. (SCI and EI)
6. J. T. Chen, T. W. Lin, K. H. Chen and S. W. Chyuan, 2004, True and spurious eigensolutions for the problems with the mixed-type boundary conditions using BEMs, *Finite Elements in Analysis and Design*, 40(11):1521-1549. (SCI and EI)
7. J. T. Chen, I. L. Chen. K. H. Chen, Y. T. Yeh and Y. T. Lee, 2004, A meshless method for free vibration of arbitrarily shaped plates with clamped boundaries using radial basis function, *Engineering Analysis with Boundary Elements*, 28(5):535-545. (SCI and EI)
8. J. T. Chen, L. W. Liu and S. W. Chyuan, 2004, Acoustic eigenanalysis of multiply-connected problems, *Comm. Num. Meth. Engng.*, 20:419-440. (SCI and EI)
9. J. T. Chen, and K. H. Chen, 2004, Applications of the dual integral formulation in conjunction with fast multipole method in large-scale problems for 2-D exterior acoustics, *Engineering Analysis with Boundary Elements*, 28(6):685-709. (SCI and EI)
10. J. T. Chen, S. Y. Lin, K. H. Chen and I. L. Chen, 2004, Mathematical analysis and

numerical study of true and spurious eigenequations for free vibration of plates using real-part BEM, *Computational Mechanics*, 34(3):165-180. (SCI and EI)

11. S. W. Chyuan, Y. S. Liao and J. T. Chen, 2004, Computational study of variations in gap size for the electrostatic levitating force of MEMS combdrive, *Microelectronics Journal*, 35:739-748. (SCI and EI)
12. S. W. Chyuan, Y. S. Liao and J. T. Chen, 2004, An efficient technique for solving the arbitrarily multilayered electrostatic problems with singularity arising from degenerate boundary, *Semiconductor Science Technology*, 19:R47-58. (SCI and EI)
13. S. S. Lin, J. C. Liao, J. T. Chen and L. Chen, 2005, Lateral performance of piles evaluated via inclinometer data, *Computers and Geotechnics*, 32:411-421. (SCI and EI)
14. Y. S. Liao, S. W. Chyuan and J. T. Chen, 2005, Computational study of the effect of finger width and aspect ratios for the electrostatic levitating force of MEMS combdrive, *IEEE Journal of Microelectromechanical System*, 14(2):305-312. (SCI and EI)
15. J. T. Chen, C. S. Wu and K. H. Chen, 2005, A study of free terms for plate problems in the dual boundary integral equations, *Engineering Analysis with Boundary Elements*, 29:435-446. (SCI and EI)
16. J. T. Chen, S. R. Lin and K. H. Chen, 2005, Degenerate scale problem when solving Laplace equation by BEM and its treatment, *Int. J. Numer. Meth. Engng.*, 62(2):233-261. (SCI and EI)
17. J. T. Chen, T. W. Lin, I. L. Chen and Y. J. Lee, 2005, Fictitious frequency for the exterior Helmholtz equation subject to the mixed-type boundary condition using BEM, *Mechanics Research Communications*, 32(1):75-92. (SCI and EI)
18. J. T. Chen, I. L. Chen and Y. T. Lee, 2005, Eigensolutions of multiply-connected membranes using method of fundamental solution, *Engineering Analysis with Boundary Elements*, 29(2):166-174. (SCI and EI)
19. K. H. Chen. J. T. Chen and J. H. Kao, 2006, Regularized meshless method for solving acoustic eigenproblem with multiply connected domain, *Computer Modelling in Engineering Science*, 16(1):27-39. (SCI and EI)
20. K. H. Chen and J. T. Chen, 2006, Adaptive dual boundary element method for solving oblique incident wave passing a submerged breakwater, *Computer Methods in Applied Mechanics and Engineering*, 196(1-3):551-565. (SCI and EI)
21. J. T. Chen and A C Wu, 2006, Null-field integral equation approach for piezoelectricity problems with arbitrary circular inclusions, *Engineering Analysis with Boundary Elements*, 30(11):971-993. (SCI and EI)
22. K. H. Chen, J. H. Kao, J. T. Chen, D. L. Young and M. C. Lu, 2006, Regularized meshless method for multiply-connected—domain Laplace problems, *Engineering Analysis with Boundary Elements*, 30(10):882-896. (SCI and EI)
23. S. Y. Leu and J. T. Chen, 2006, Sequential limit analysis of rotating hollow cylinder of nonlinear isotropic hardening, *Computer Modelling in Engineering Science*, 14(2):129-140. (SCI and EI)
24. J. T. Chen, I. L. Chen and K. H. Chen, 2006, A unified formulation for the spurious and fictitious frequencies in acoustics using the singular value decomposition and Fredholm alternative theorem, *J. Comp. Acoustics*, 14(2):157-183. (SCI and EI)
25. J. T. Chen, C. C. Hsiao and S. Y. Leu., 2006, Null-field integral equation approach for plate problems with circular holes, ASME, *J. Appl. Mech.*, 73(4):679-693. (SCI and EI)
26. J. T. Chen, W. C. Shen and P. Y. Chen, 2006, Analysis of circular torsion bar with circular

holes using null-field approach, *Computer Modelling in Engineering Science*, 12(2):109-119. (SCI and EI)

27. J. T. Chen, C. S. Wu, K. H. Chen and Y. T. Lee, 2006, Degenerate scale for analysis of circular plate using the boundary integral equations and boundary element method, *Computational Mechanics*, 38:33-49. (SCI and EI)
28. J. T. Chen, S. Y. Lin, I. L. Chen and Y. T. Lee, 2006, Mathematical analysis and numerical study of true and spurious eigenequations for free vibration of plates using imaginary-part BEM, *Journal of Sound and Vibration*, 293:380-408. (SCI and EI)
29. J. T. Chen, W. C. Shen and A. C. Wu, 2006, Null-field integral equations for stress field around circular holes under anti-plane shear, *Engineering Analysis with Boundary Elements*, 30(3):205-217. (SCI and EI)
30. J. T. Chen, S. Y. Lin, I. L. Chen and Y. T. Lee, 2006, Mathematical analysis and numerical study for free vibration of annular plates using BIEM and BEM, *Int. J. Numer. Meth. Engng.*, 65:236-263. (SCI and EI)
31. J. T. Chen and C. S. Wu, 2006, Alternative derivations for the Poisson integral formula, *Int. J. Math. Edu. Sci. Tech*, 37(2):165-185.
32. J. T. Chen, J. N. Ke and H. Z. Liao, 2007, Construction of Green's function using null field integral approach for Laplace problems with circular boundaries, *Computers, materials and Continua*, Accepted.
33. K. H. Chen, J. T. Chen and J. H. Kao, 2007, Regularized meshless method for antiplane shear problems, *Int. J. Numer. Meth. Engng*, Accepted.
34. J. T. Chen, C. T. Chen and I. L. Chen, 2007, Null-field integral equation approach for eigenproblems with circular boundaries, *J. Comp. Acoustics*, Accepted.
35. J. T. Chen and W. C. Shen, 2007, Null-field approach for Laplace problems with circular boundaries using degenerate kernels, *Numerical Methods for Partial Differential Equations*, Revised.
36. J. T. Chen, P. Y. Chen and C. T. Chen, 2007, Surface motion of multiple alluvial valleys for incident plane SH-waves by using a semi-analytical approach, *Soil Dynamics and Earthquake Engineering*, Accepted.
37. Z. C. Li, H. T. Huang and J. T. Chen, 2007, Effective condition number for collocation Trefftz methods, *SIAM J. Scientifuc Computation*, Revised.
38. W. M. Lee, J. T. Chen and Y. T. Lee, 2007, Free vibration analysis of circular plates with multiple circular holes using indirect BIEMs, *Journal of Sound and Vibration*, Accepted.
39. J. T. Chen, C. T. Chen, P. Y. Chen and I. L. Chen, 2007, A semi-analytical approach for radiation and scattering problems with circular boundaries, *Computer Methods in Applied Mechanics and Engineering*, 196: 2751-2764.
40. 陳正宗，2007，圓周積分的三種看法，數學傳播，Accepted。
41. 陳正宗，2007，工程數學教學拾趣，數學傳播，Accepted。
42. J. T. Chen and W. C. Shen, 2007, Degenerate scale for multiply connected Laplace problems, *Mechanics Research Communications*, 34:69-77. (SCI and EI)
43. J. T. Chen, C. S. Wu, Y. T. Lee and K. H. Chen, 2007, On the equivalence of the Trefftz method and method of fundamental solutions for Laplace and biharmonic equations, *Computers and Mathematics with Applications*, Accepted. (SCI and EI)
44. J. T. Chen, C. C. Hsiao and K. H. Chen, 2007, Study of free surface seepage problems using hypersingular equations, *Communications in Numerical Methods in Engineering*,

Accepted. (SCI and EI)

45. J. T. Chen and P. Y. Chen, 2007, Bending of a perforated circular cylindrical cantilever using null-field integral formulation, *Journal of Mechanics*, Accepted. (SCI and EI)
46. J. T. Chen and A C Wu, 2007, Null-field integral equation approach for multi-inclusion problem under anti-plane shear, ASME, *J. Appl. Mech.*, Accepted. (SCI and EI)
47. D.L. Young, K.H. Chen, J.T. Chen and J.H. Kao, 2007, A modified method of fundamental solutions with source on the boundary for solving Laplace equation with circular and arbitrary domains, CMES, Accepted.

Other Publications

1. Y. T. Lee, J. T. Chen and I. L. Chen, 2004, Free vibration analysis of multiply-connected plates using the method of fundamental solutions, ICCM 2004 Conference, pp.1943-1949, Part 2, Computational Methods, edited by G. R. Liu et al., Singapore.
2. J. T. Chen, 2004, Pitfalls of BEM and their treatment, International Conference on Computational & Experimental Engineering and Science, Keynote lecture, Madeira, Portugal.
3. W. C. Shen, J. T. Chen and C. F. Lee, 2004, A study on Laplace problems of infinite plane with multiple circular holes, pp.67-72, Part 1, Computational Methods, edited by G. R. Liu et al., ICCM2004 Conference, Singapore.
4. C. C. Hsiao, J. T. Chen and K. H. Chen, 2004, Applications of hypersingular equations to free-surface seepage problems, pp.73-77, Part 1, Computational Methods, edited by G R Liu et al., ICCM2004 Conference, Singapore.
5. C. T. Chen, I. L. Chen and J. T. Chen, 2004, A new method for eigenproblems with circular boundaries，中華民國力學學會第二十八屆全國力學會議論文，台北。
6. C. C. Hsiao, Y. T. Lee and J. T. Chen, 2004, A new method for plate problems with circular boundaries，中華民國力學學會第二十八屆全國力學會議論文，台北。
7. W. C. Shen, K. H. Chen and J. T. Chen, 2004, A new method for Laplace equation in two-dimensional regions with circular holes，中華民國力學學會第二十八屆全國力學會議論文，台北。
8. W. C. Shen, C. F. Lee and J. T. Chen, 2004, A study of half-plane laplace problems with a circular hole，第七屆結構工程研討會，鴻禧。
9. J. T. Chen, I. L. Chen and K. H. Chen, 2004, A unified formulation for degenerate problems in BEM，第七屆結構工程研討會，鴻禧。
10. C. S. Wu, K. H. Chen and J. T. Chen, 2004, A study of free terms for plate problems in the dual BEM，第七屆結構工程研討會，鴻禧。
11. 陳正宗，2004，工程數學教學經驗談，工程力學與數學創意教學研討會，台北。
12. C. C. Hsiao, K. H. Chen and J. T. Chen, 2004, Applications of hypersingular equations to free-surface seepage problems，第十四屆水利工程研討會，交大，新竹。
13. Y. T. Lee, I. L. Chen and J. T. Chen, 2004, Mathematical analysis of the true and spurious eigensolutions for annular plates using the method of fundamental solutions，第十二屆振動噪音研討會，台北。
14. 陳正宗、沈文成、林建華與全湘偉，2004，對偶邊界元素法在疲勞破壞之工程應用，第八屆中華民國破壞科學研討會，墾丁。

15. 陳正宗、陳義麟、陳桂鴻，2004，邊界元素法中退化問題之統一推導(2/3)，國科會專題研究成果報告，NSC-92-2211-E-019-013，國立台灣海洋大學河海工程研究所。
16. 陳正宗、陳義麟、陳桂鴻，2005，邊界元素法中退化問題之統一推導(3/3)，國科會專題研究成果報告，NSC 93-2211-E-019-002，國立台灣海洋大學河海工程研究所。
17. 陳正宗、陳義麟、陳桂鴻，2005，邊界元素法求解板問題中退化尺度之研究，國科會專題研究成果報告，NSC 93-2211-E-019-010，國立台灣海洋大學河海工程研究所。
18. J. T. Chen, 2005, Null-field integral equation approach for boundary value problems with circular boundaries, ICCES, India.
19. J. T. Chen, 2005, Null field integral equation approach for boundary value p[roblems with circular boundaries, Workshop on Inverse Problems，新竹交大。
20. J. T. Chen and Y. T. Lee, 2005, True and spurious eigensolutions for membrane and plate problems by using the method of fundamental solutions, ECCOMAS Thematic Conference on Meshless Methods, Lisbon, Portugal.
21. J. H. Kao, K. H. Chen and J. T. Chen, 2005, Regularized meshless method for solving Laplace problems with holes，中華民國力學學會第二十九屆全國力學會議論文集，G020-pp.1-8，新竹清華。
22. A. C. Wu,, W. C. Shen and J. T. Chen, 2005, Null-field integral equation for stress field around circular inclusions under anti-plane shear，中華民國力學學會第二十九屆全國力學會議論文集，E043-pp.1-08，新竹清華。
23. P. Y. Chen, C. T. Chen and J. T. Chen, 2005, A semi-analytical approach for dynamic stress concentration factor of Helmholtz problems with circular holes，中華民國力學學會第二十九屆全國力學會議論文集，E046-pp.1-08，新竹清華。
24. C. T. Chen, I. L. Chen and J. T. Chen, 2005, Null-field equation approach for Helmholtz (interior and exterior acoustics) problems with circular boundaries，九十四年電子計算機於土木水利工程應用研討會論文集(III)，pp.544-551，台南。
25. W.C. Shen, P. Y. Chen and J. T. Chen, 2005, Analysis of circular torsion bar with circular holes using null-field approach，九十四年電子計算機於土木水利工程應用研討會論文集(III)，pp.538-543，台南。
26. C. C. Hsiao, S. Y. Leu and J. T. Chen, 2005, Solution of biharmonic problems with circular boundaries using null-field integral equations，九十四年電子計算機於土木水利工程應用研討會論文集(III)，pp.532-537，台南。
27. 陳正宗，2006，多體輻射與散射，國科會專題研究成果報告，NSC 94-2115-M-019-003，國立台灣海洋大學河海工程研究所。
28. 陳正宗，2006，以退化核求解拉普拉斯、赫姆茲與雙諧和方程式之系統性解法，國科會專題研究成果報告，94-2211-E-019-009，國立台灣海洋大學河海工程研究所。
29. J. T. Chen, 2006, Some recent results of the null-field integral equation approach for engineering problems with circular boundaries, Computational Methods in Engineering, 2nd Asia-Pacific Int. Conf. on Comp. Meth. In Engrg (ICOME 2006), Nov. 14-16, Heifei, China
30. Y. T. Lee, J. T. Chen and A. C. Wu, 2006, Torsional rigidity of a circular bar with multiple circular inclusions using a null-field integral approach, Computational Methods in Engineering, 2nd Asia-Pacific Int. Conf. on Comp. Meth. In Engrg (ICOME 2006), Nov. 14-16, Heifei, China

31. J. T. Chen, 2006, A semi-analytical approach for engineering problems with circular boundaries, The 15th Workshop on Differential Equations, Tainan.
32. J. T. Chen, 2006, Dual BEM since 2006, 2006 Forum on Advanced Engineering Computation, Taipei.
33. J. T. Chen, 2006, Recent development of the null-field integral equation approach for engineering problems with circular boundaries, Proceedings of Symposium on Advances of Mechanics in honor of President Robert R. Hwang, Keelung.
34. Y. T. Lee, J. T. Chen and A. C. Wu, 2006, Torsional rigidity of a circular bar with multiple circular inclusions using a null-field integral approach, Computational Methods in Engineering, 2nd Asia-Pacific Int. Conf. on Comp. Meth. In Engrg (ICOME 2006), Nov. 14-16, Heifei, China.
35. J. H. Kao, K. H. Chen and J. T. Chen, 2006, Applications of regularized meshless method in engineering problem，中華民國力學學會第三十屆全國力學會議論文集，彰化大葉。
36. A. C. Wu and J. T. Chen, 2006, Null-field approach for boundary value problems with circular inclusions，中華民國力學學會第三十屆全國力學會議論文集，彰化大葉。
37. P. Y. Chen and J. T. Chen, 2006, A semi-analytical approach for solving surface motion of multiple alluvial valleys for incident plane SH-waves，中華民國力學學會第三十屆全國力學會議論文集，彰化大葉。
38. J. H. Kao, K. H. Chen and J. T. Chen, 2006, Regularized meshless approach for antiplane piezoelectricity problems with multiple inclusions，第二十三屆機械工程研討會，C2-014，崑山科大，台南。
39. A. C. Wu and J. T. Chen, 2006, A new approach for piezoelectricity problems with circular inclusions，第八屆結構工程研討會，日月潭，Sep.1-3。
40. P. Y. Chen and J. T. Chen, 2006, A semi-analytical approach for stress concentration of cantilever beams with multiple holes under bending，第八屆結構工程研討會，日月潭，Sep.1-3。
41. J. H. Kao, K. H. Chen and J. T. Chen, 2006, Regularized meshless method for solving anti-plane problems with inclusions，第八屆結構工程研討會，日月潭，Sep.1-3。
42. G. C. Hsiao, J. T. Chen and S. Y. Leu, 2006, A semi-analytical approach for solving Stokes' flow problems with circular boundaries, Th 13th National Computational Fluid Mechanics, CFD13-2504, Wanli.
43. W. M. Lee, Y. T. Lee and J. T. Chen, 2006, Free vibration analysis of circular plates with multiple circular holes using indirect BIEMs，第十四屆振動噪音研討會，C.78-C.87，宜蘭。
44. 高聖凱與陳正宗，2006，利用鑽石法則與 Mathematica 軟体討論繩波，全國中工會學生論文競賽(優等)，基隆。
45. J. T. Chen and C. C. Hsieh, 2006, Derivation of stiffness and flexibility for rods and beams by using dual integral equations，海大中工會學生論文競賽(佳作)，基隆。
46. K. H. Chen, J. T. Chen, J. H. Kao and K. L. Wu, 2006, Regularized meshless method for solving Laplace equation with multiple holes，海大中工會學生論文競賽(佳作)，基隆。
47. J. T. Chen, J. N. Ke and H. Z. Liao, 2007, Null field equation approach for computing Green's function for Laplace operator with circular holes and/or inclusions, ICCM 2007, Hiroshima.