

CONTACT
INFORMATION

Applied Electromagnetics Group
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University of New Mexico
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PROFESSIONAL
EXPERIENCE

Department of Electrical and Computer Engineering, University of New Mexico, Albuquerque, NM, USA

Assistant Professor

August, 2013 - now

ElectroScience Laboratory, The Ohio State University, Columbus, Ohio, USA

Senior Research Associate

July, 2010 - July, 2013

Postdoctoral Researcher

May, 2009 - July, 2010

Visiting Scholar

October, 2008 - April, 2009

EDUCATION

Ph.D., Electrical Engineering

Chinese Academy of Sciences, Beijing, China, 2008

Field of Study: Computational Electromagnetics, Scientific Computing

- Dissertation Topic: "Hybrid Finite Element-Boundary Integral Methods for Solving Maxwell Equations in their Entirety"
- Advisor: Prof. Xin-qing Sheng

B.S., Electrical Engineering and Information Science

University of Science and Technology of China, Hefei, China, 2003

Field of Study: Electromagnetic and Microwave Engineering

RESEARCH
INTERESTS

Computational science with special focus on the computational electromagnetics (EM) and multi-physics analysis:

- Domain decomposition (DD) methods, specifically non-overlapping and non-conformal DD for both finite element method (FEM) and surface integral equation (IE) method;
- Finite element and integral equation discontinuous Galerkin (DG) methods;
- Heterogeneous multiscale methods;
- Hybrid finite element-boundary integral-multilevel fast multipole (FE-BI-MLFMA) method, and the higher order FE-BI method;
- *H_p*-adaptation techniques in the finite element method and the geometrical multi-grid method (GMG);
- Fast and parallel integral equation solvers.

Civilian/commercial simulation-based engineering applications:

- Power integrity (PI) and signal integrity (SI) analyses of high-power integrated circuits (ICs), packages and printed circuit boards (PCBs); thermal-aware IR-drop analysis;
- Energy efficient LCD & LED backlight optics design;
- Reconfigurable antennas for wireless communication systems, modeling and analysis of conformal array antennas and terahertz antennas;

- Electromagnetic compatibility/interference (EMC/EMI) analysis of multiple antenna systems on large platforms;
- Electromagnetic scattering, RF signature prediction of targets with realistically complex shapes and materials;
- Electromagnetic applications of multi-scale metamaterial.

HONORS AND AWARDS

2013, Young Scientist Award of 2013 Asia-Pacific Radio Science Conference (AP-RASC 13), Taipei, Taiwan

2013, Young Scientist Award of the 2013 International Symposium on Electromagnetic Theory (EMT-S 2013), Japan

2012, Candidate for P. W. King award, IEEE Transactions on Antennas and Propagation

2011, ElectroScience Laboratory Annual Best Paper Award, Columbus, Ohio, USA

2010, Young Scientist Award in International Symposium on Electromagnetic Theory (EMT-S 2010), Berlin, Germany

2010, The First Prize of Beijing Science and Technology Progress, Beijing, China

2006, Outstanding Student in academic, moral and health, Beijing, China

2006, Outstanding Student Leader from Chinese Academy of Sciences, Beijing, China

SOCIETY EXPERIENCES

Society Memberships

Institute of Electrical and Electronic Engineers (IEEE)
 IEEE Antennas and Propagation Society (AP-S) Member
 Society for Industrial and Applied Mathematics (SIAM)

Short Course and Workshop Chair

The 28th International Review of Progress in Applied Computational Electromagnetics (ACES 2012)

Conference Section Chair

2013 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting (2013 IEEE AP-S/USNC-URSI)
 Progress in Electromagnetics Research Symposium 2013 (PIERS 2013)
 2013 International Symposium on Electromagnetic Theory (EMTS 2013)
 21th International Conference on Domain Decomposition methods, 2012
 The 28th International Review of Progress in Applied Computational Electromagnetics (ACES 2012)
 The 11th International Workshop on Finite Elements for Microwave Engineering (FEM 2012)
 IEEE Electrical Design of Advanced Package & Systems Symposium (EDAPS 2010), Singapore, Dec. 7-9, 2010
 Progress in Electromagnetics Research Symposium (PIERS 2010) , XiAn, China, March 22-26, 2010

Reviewer

Proceedings of the IEEE
 IEEE Transactions on Antennas and Propagation
 IEEE Transactions on Magnetics Conferences
 IEEE Transactions on Microwave Theory and Techniques
 ACES Journal
 International Journal of Antennas and Propagation

- INVITED TALKS
- 2013 Frontiers in Applied and Computational Mathematics (FACM 2013), Newark, NJ, *Recent Advances in Surface Integral Equation Methods for Time-Harmonic Maxwell Equations*
- 2013 Department of Electrical and Computer Engineering, University of New Mexico, UM, *Emerging Technologies in Computational Electromagnetics for Multi-scale Real-world Applications*
- 2013 Mathematisches Forschungsinstitut Oberwolfach Workshop: Computational Electromagnetism and Acoustics, *A Discontinuous Galerkin Surface Integral Equation Method for Time-harmonic Maxwells Equations*
- 2012 Seminar of Applied Mathematics, ETH Zürich, *Domain Decomposition Methods for Solving Maxwell Equations*
- 2012 Soellerhaus Workshop on Fast Boundary Element Methods in Industrial Applications, *Surface Integral Equation Domain Decomposition Methods for Solving Time-harmonic Maxwell Equations*
- 2011 Asia-Pacific EMC Symposium (APEMC 2011) on *Multi-physics Analysis in High Power ICs*
- SHORT COURSES
- The 28th International Review of Progress in Applied Computational Electromagnetics (ACES 2012)
 - *Non-overlapping and Non-conformal Domain Decomposition Method for Full Wave Solution of Time Harmonic Maxwell's Equations*
 - 2012 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting (APS-URSI 2012)
 - The 27th International Review of Progress in Applied Computational Electromagnetics (ACES 2011)
 - *CEM Algorithms for EMC/EMI Modeling: Electrically Large (Antennas on Platform) and Small (Signal Integrity in Integrated Circuits and Packaging) Problems*
- BOOK
FORTHCOMING
- DOMAIN DECOMPOSITION METHODS FOR SOLVING TIME HARMONIC MAXWELL EQUATIONS
- JOURNAL PAPERS
- [1] Zhen Peng and Jin-Fa Lee, "A scalable non-overlapping and non-conformal domain decomposition method for solving time-harmonic Maxwell Equations in R³," *SIAM Journal on Scientific Computing.*, vol. 34, no. 3, pp. A1266-A1295, 2012.
 - [2] Zhen Peng, Kheng-Hwee Lim and Jin-Fa Lee, "Non-conformal domain decomposition methods for solving large multi-scale electromagnetic scattering problems," *Proceedings of the IEEE*, 10.1109/JPROC.2012.2217931, 2012.
 - [3] Yang Shao, Zhen Peng and Jin-Fa lee, "Thermal analysis of high-power integrated circuits and packages using non-conformal domain decomposition method," *IEEE Transactions on Components, Packaging and Manufacturing Technology*, In Press, 2012.
 - [4] Jian-Gong Wei, Zhen Peng, Jin-Fa lee, "A fast direct matrix solver for surface integral equation methods for electromagnetic wave scattering from non-penetratable targets," *Radio Science*, Accepted, 2012.
 - [5] Zhen Peng, Kheng-Hwee Lim and Jin-Fa Lee, "Computations of electromagnetic wave scattering from penetratable composite targets using a surface integral equation method with multiple traces," *IEEE Transactions on Antennas and Propagation*, 10.1109/TAP.2012.2220098, 2012.

- [6] Yang Shao, Zhen Peng, Kheng-Hwee Lim and Jin-Fa Lee, "Non-conformal domain decomposition methods for time-harmonic Maxwell Equations," *Proceedings of the Royal Society A*, vol. 468, no. 2145, pp. 2433-2460, 2012.
- [7] Xiao-Min Pan, Wei-Chao Pi, Ming-lin Yang, Zhen Peng and Xin-qing Shen, "Solving problems with over one billion unknowns by the MLFMA," *IEEE Transactions on Antennas and Propagation*, vol. 60, no. 5, pp. 2571-2574, 2012.
- [8] Yang Shao, Zhen Peng and Jin-Fa Lee, "Thermal-aware DC IR-Drop co-analysis using non-conformal domain decomposition methods," *Proceedings of the Royal Society A*, vol. 468 no. 2142, pp. 1652-1675, June, 2012.
- [9] Jue Wang, Zhen Peng and Jin-Fa Lee, "A universal array approach for finite elements with continuously inhomogeneous material properties and curved boundaries," *IEEE Transactions on Antennas and Propagation*, vol. 60, no. 10, 10.1109/TAP.2012.2207310, 2012.
- [10] Yang Shao, Zhen Peng and Jin-Fa Lee, "Signal integrity analysis of high-speed interconnects by using non-conformal domain decomposition method," *IEEE Transactions on Components, Packaging, and Manufacturing Technology*, vol. 2, no. 1, pp. 122-130, Jan. 2012.
- [11] Zhen Peng and Jin-Fa Lee, "Non-conformal domain decomposition method with mixed true second order transmission condition for solving large finite antenna arrays," *IEEE Transactions on Antennas and Propagation*, vol. 59, no.5, pp. 1638-1651, 2011.
- [12] Zhen Peng, Xiaochuan Wang and Jin-Fa Lee, "Integral equation based domain decomposition method for solving electromagnetic wave scattering from non-penetrable objects," *IEEE Transactions on Antennas and Propagation*, vol. 59, no. 9, pp. 230-241, 2011.
- [13] Yang Shao, Zhen Peng and Jin-Fa Lee, "Full wave 3-D full package signal integrity analysis using non-conformal domain decomposition method," *IEEE Transactions on Microwave Theory and Techniques*, vol. 59, no. 2, pp. 230-241, 2011.
- [14] Xiaochuan Wang, Zhen Peng and Jin-Fa Lee, "Multi-solver domain decomposition method for modeling EMC effects of multiple antennas on a large air platform," *IEEE Transactions on Electromagnetic Compatibility*, 10.1109/TEM.2011.2161871, 2011.
- [15] Zhen Peng, Matthew B. Stephanson, and Jin-Fa Lee, "Fast computation of angular responses of large-scale three-dimensional electromagnetic wave scattering," *IEEE Transactions on Antennas and Propagation*, vol. 58, no.9, pp. 3004-3012, Sep. 2010.
- [16] Zhen Peng and Jin-Fa Lee, "Non-conformal domain decomposition method with second order transmission conditions for time-harmonic electromagnetics," *Journal of Computational Physics*, vol. 229, pp. 5615-5629, 2010.
- [17] Zhen Peng, Vineet Rawat, and Jin-Fa Lee, "One way domain decomposition method with second order transmission conditions for solving electromagnetic wave problems," *Journal of Computational Physics*, vol. 229, pp. 1181-1197, 2010.
- [18] Xin-Qing Sheng, Zhen Peng, "Analysis of scattering by large objects with off-diagonally anisotropic material using finite element-boundary integral-multilevel fast multipole algorithm," *IET Microwave Antennas and Propagation*, vol. 4, Iss. 4, pp. 492-500, 2010.
- [19] Zhen Peng, Xin-Qing Sheng and F. Yin, "An efficient twofold iterative algorithm of FE-BI-MLFMA using multilevel inverse-based ILU preconditioning," *Progress In Electromagnetics Research*, PIER 93, 369-384, 2009.
- [20] Zhen Peng and Xin-Qing Sheng, "A flexible and efficient Higher-Order FE-BI-MLFMA for Scattering by a Large Body with Deep Cavities," *IEEE Transactions on Antennas and Propagation*, pp. 2031-2042, vol. 56, no. 7, 2008.
- [21] Zhen Peng and Xin-Qing Sheng, "A bandwidth estimation approach for the asymptotic waveform evaluation technique," *IEEE Transactions on Antennas and Propagation*, pp. 913-917, vol. 56, no. 3, 2008.

- [22] Zhen Peng and Xin-Qing Sheng, "Application of rational function approximation technique to hybrid FE-BI-MLFMA," *Acta Electronica Sinica.*, pp. 446-452, vol. 36, no. 3, Mar, 2008.
- [23] Zhen Peng and Xin-Qing Sheng, "Application of multilevel ILU preconditioning technique to hybrid FE/BI/MLFMA method," *Acta Electronica Sinica.*, pp. 230-234, vol. 36, no. 2, Feb., 2008.
- [24] Zhen Peng and Xin-Qing Sheng, "Application of rational function approximation technique to hybrid FE-BI-MLFMA," *International Journal of RF and Microwave Computer-Aided Engineering*, pp. 521-532, vol. 17, no. 6. Nov. 2007.
- [25] Zhen Peng and Xin-Qing Sheng, "Application of asymptotic waveform approximation technique to hybrid FE-BI Method for 3D Scattering," *Science in China, Series F: Information Sciences*, pp. 124-134, vol. 50, no. 1, Feb. 2007.
- [26] Xin-Qing Sheng and Zhen Peng, "Further cognition of hybrid FE/BI/MLFMA — investigation of the hybrid computing technique for scattering by large complex targets," *Acta Electronica Sinica.*, pp. 93-98, vol. 34, no. 1, Jan. 2006.
- [27] Zhen Peng and Xin-Qing Sheng, "Application of rational function approximation technique to hybrid FE/BI/MLFMA for 3D Scattering," *PIERS Online*, pp. 521-532, vol. 3, no. 6. 2007.
- [28] Zhen Peng and Xin-Qing Sheng, "Fast algorithm of edge-element for the high-order modes in dielectric-loaded waveguides with arbitrarily transverse cross-sections," *Acta Electronica Sinica.*, pp. 2149-2152, vol. 33, no. 12, Dec. 2005.

CONFERENCE
PAPERS

- [1] Jin-Fa Lee, Yang Shao and Zhen Peng, "Co-Simulations of Electromagnetic and Thermal Effects in Electronic Circuits using Non-Conformal Numerical methods," *2012 International Conference on Computer-Aided Design*, November 18-21, 2012, San Jose, USA.
- [2] Zhen Peng, Kheng-Hwee Lim and Jin-Fa Lee, "Electromagnetic scattering analysis of a large and deep inlet embedded in an arbitrarily shaped host body," *2012 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting*, July 8-14, Chicago, USA.
- [3] Zhen Peng, Kheng-Hwee Lim and Jin-Fa Lee, "A non-conformal integral equation domain decomposition method for electromagnetic scattering analysis of large multi-scale objects," *2012 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting*, July 8-14, Chicago, USA.
- [4] Jin-Fa Lee and Zhen Peng, "Comparisons of heterogeneous multiscale finite element method and localized homogenization process for modeling aperiodic metamaterials," invited paper for special session Challenging Canonical Scattering Problems and New EM Problems involving Special Materials, *2012 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting*, July 8-14, Chicago, USA.
- [5] Jue Wang, Zhen Peng, and Jin-Fa Lee, "Conformal PML modeling in DGTD using continuous material properties.," *2012 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting*, July 8-14, Chicago, USA.
- [6] Jian-Gong Wei, Zhen Peng, and Jin-Fa Lee, "A hierarchical multi-level fast multipole method for wideband multiscale electromagnetic wave scattering from non-penetrable targets in R3," Student paper contest finalist, *2012 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting*, July 8-14, Chicago, USA.
- [7] Xiao-chuan Wang, Zhen Peng, and Jin-Fa Lee, "A new integral equation based domain decomposition method for electromagnetic analysis of large multi-scale problems," Student paper contest honorable mention, *2012 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting*, July 8-14, Chicago, USA.

- [8] Zhen Peng, Jin-Fa Lee, V. Dolean, M. J Gander and S. Lanteri, "Speed up Non-conformal DDM Convergence using an Asymmetric Optimal Transmission Condition," *20th International Conference on Domain Decomposition Methods*, June 25 to 29, 2012, Rennes, France.
- [9] Zhen Peng and Jin-Fa Lee, "Speed up non-conformal DDM convergence using an asymmetric optimal transmission condition," *20th International Conference on Domain Decomposition Methods*, June 25 to 29, 2012, Rennes, France.
- [10] Zhen Peng, Kheng-Hwee Lim and Jin-Fa Lee, "Non-conformal domain decomposition methods for modeling large finite antenna arrays," *11th International Workshop on Finite Elements for Microwave Engineering*, June 4-6, Colorado, USA.
- [11] Zhen Peng and Jin-Fa Lee, "A non-overlapping and non-conformal domain decomposition method with optimized second order transmission conditions for time-harmonic Maxwell Equations in R3," *11th International Workshop on Finite Elements for Microwave Engineering*, June 4-6, Colorado, USA.
- [12] Yang Shao, Zhen Peng and Jin-Fa lee, "Transient thermal analysis using a non-conformal domain decomposition approach," *11th International Workshop on Finite Elements for Microwave Engineering*, June 4-6, Colorado, USA.
- [13] Jue Wang, Zhen Peng and Jin-Fa lee, "Conformal PML modeling in DGTD using continuous material properties," *11th International Workshop on Finite Elements for Microwave Engineering*, June 4-6, Colorado, USA.
- [14] Yang Shao, Zhen Peng and Jin-Fa lee, "Thermal-Aware DC IR-Drop Co-Analysis using a Non-conformal Domain Decomposition Approach," *11th International Workshop on Finite Elements for Microwave Engineering*, June 4-6, Colorado, USA.
- [15] Yang Shao, Zhen Peng and Jin-Fa Lee, "Numerical IR-Drop analysis of 3-D IC packaging using non-conformal domain decomposition method," *2012 Asia-Pacific International Symposium Exhibition on Electromagnetic Compatibility*, May 21-May 24, Singapore.
- [16] Xiao-chuan Wang, Zhen Peng and Jin-Fa lee, " A full-wave solution strategy for computing antenna couplings on a mockup fighter aircraft at Ku band," *2012 ESA Workshop on Aerospace EMC*, May 21-May 23, Venice, Italy.
- [17] Yang Shao, Zhen Peng, and Jin-Fa Lee, "Multi-physics analysis of high-power ICs using non-conformal domain decomposition method, *International Conference on Electromagnetics in Advanced Applications (ICEAA)*, Torino, Italy, Sep. 2011.
- [18] Yang Shao, Zhen Peng, and Jin-Fa Lee, "Electromagnetics-thermal co-analysis of real-life 3-D ICs using non-conformal domain decomposition method," *International Symposium on Electromagnetics in Compatibility (EMC)*, Long Beach CA, Aug. 2011.
- [19] Zhen Peng, Fei-Ran Lei, Jue Wang and Jin-Fa Lee, "New computational strategies for electromagnetic modeling of multi-scale heterogeneous composites," *IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting*, Spokane, Washington, United States., July 2011.
- [20] Zhen Peng, Kheng-Hwee Lim and Jin-Fa Lee, "A non-overlapping boundary integral equation domain decomposition method for electromagnetic scattering at partly coated metallic objects," *IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting*, Spokane, Washington, United States., July 2011.
- [21] Jiangong Wei, Zhen Peng, and Jin-Fa Lee, "A hierarchical direct solver of surface integral equation methods for electromagnetic wave problems in R3," *IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting*, Spokane, Washington, United States., July 2011.
- [22] Zhen Peng, and Jin-Fa Lee, "A surface integral equation domain decomposition method for the scattering of the 3-D homogeneous objects," *IEEE International Symposium on Antennas and*

Propagation and USNC/URSI National Radio Science Meeting, Spokane, Washington, United States., July 2011.

- [23] Yuanhong Zhao, Matthew Stephanson, Zhen Peng and Jin-Fa Lee, "Helicopter rotor modulation effects on antenna radiation and scattering problem," *IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting*, Spokane, Washington, United States., July 2011.
- [24] Jue wang, Stylianos Dosopoulos, Zhen Peng and Jin-Fa Lee, "High order parallel discontinuous Galerkin time domain method with curvilinear element and continuously varying material properties for Maxwells equations," *IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting*, Spokane, Washington, United States., July 2011.
- [25] Zhen Peng, Jue Wang, Fei-Ran Lei and Jin-Fa Lee, "New computational strategies for electromagnetic modeling of multi-scale heterogeneous composites," *the 5th European Conference on Antennas and Propagation*, Rome, Italy, Apr. 2011.
- [26] Zhen Peng and Jin-Fa Lee, "Domain decomposition method for combined field integral equations in computational electromagnetics," *20th International Conference on Domain Decomposition Methods*, San Diego, California, Feb. 2011.
- [27] Zhen Peng, Yang Shao and Jin-Fa Lee, "Advanced model order reduction Technique in real-life IC/package design," *IEEE Electrical Design of Advanced Packaging & Systems Symposium*, Singapore, Dec. 2010.
- [28] Yang Shao, Zhen Peng and Jin-Fa Lee, "3-D full-package signal integrity analysis using domain decomposition method," *19th Conference on Electrical Performance of Electronic Packaging and Systems*, Austin, Texas, United States, Oct. 2010.
- [29] Zhen Peng, Xiaochuan Wang and Jin-Fa Lee, "Integral equation domain decomposition method for solving electromagnetic wave scattering from non-penetrable objects," *2010 International Conference on Electromagnetics in Advanced Applications (ICEAA)*, pp. 821-824, Sydney, Australia, Sept. 2010.
- [30] Yang Shao, Zhen Peng and Jin-Fa Lee, "High speed interconnects of multi-layer PCB analysis by using non-conformal domain decomposition method," *IEEE EMC Symposium*, Ft. Lauderdale, Florida, United States, July 2010.
- [31] Yang Shao, Zhen Peng and Jin-Fa Lee, "Signal integrity analysis of multi-layer multi-scale IC-package problem using non-conformal DDM," *The 10th International Workshop on Finite Elements for Microwave Engineering*, Meredith, New Hampshire, United States, 2010.
- [32] Xiaochuan Wang, Zhen Peng and Jin-Fa Lee, "Simulation of EMC effects of multiple antennas on a large air platform," *The 10th International Workshop on Finite Elements for Microwave Engineering*, Meredith, New Hampshire, United States., Oct. 2010.
- [33] Zhen Peng, Feiran Lei and Jin-Fa Lee, "Recently studies on domain decomposition method for solving multi-scale electromagnetic wave problem," *The 10th International Workshop on Finite Elements for Microwave Engineering*, Meredith, New Hampshire, United States., Oct. 2010.
- [34] Jue Wang, Zhen Peng and Jin-Fa Lee, "Simulation of magnetic photonic crystals for antenna applications using domain decomposition method," *The 10th International Workshop on Finite Elements for Microwave Engineering*, Meredith, New Hampshire, United States., Oct. 2010.
- [35] Zhen Peng and Jin-Fa Lee, "A non-overlapping and non-conformal domain decomposition method with second order transmission condition for modeling large finite antenna arrays," *URSI 20th International Symposium on Electromagnetic Theory*, Berlin, Germany, Aug., 2010.
- [36] Zhen Peng, Xiaochuan Wang, Feiran Lei and Jin-Fa Lee, "Integral equation based domain decomposition method for electromagnetic wave scattering problem," *URSI 20th International Symposium on Electromagnetic Theory*, Berlin, Germany, Aug., 2010.

- [37] Zhen Peng, Xiao-Chuan Wang and Jin-Fa Lee, "Integral equation based domain decomposition method for multi-scale electromagnetic wave problems," *IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting*, Toronto, Ontario, Canada, July 2010.
- [38] Zhen Peng and Jin-Fa Lee, "Global plane waves deflation technique and a mixed 2nd order transmission condition for non-conformal domain decomposition method for solving multi-scale electromagnetic wave problems," *IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting*, Toronto, Ontario, Canada, July 2010.
- [39] Zhen Peng and Jin-Fa Lee, "True 2nd order transmission condition in conjunction with corner edge penalty term for non-conformal domain decomposition methods in solving time-harmonic Maxwell equations," *IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting*, Toronto, Ontario, Canada, July 2010.
- [40] Xiaochuan Wang, Zhen Peng, M. Stephanson, and Jin-Fa Lee, "Modeling EMC/EMI effects of antenna systems on large platforms using multi-solver domain decomposition methods," *The 4th European Conference on Antennas and Propagation*, Barcelona, Spain, April 2010.
- [41] M. Stephanson, Zhen Peng, Jiangong Wei, Jin-Fa Lee, "Calderon preconditioned CFIE with MLFMM for acceleration," *The 4th European Conference on Antennas and Propagation*, Barcelona, Spain, April 2010.
- [42] Zhen Peng, Yang Shao and Jin-Fa Lee, "Analyses of high speed interconnects using a non-conformal domain decomposition method," *Asia Pacific Symposium on Electromagnetic Compatibility*, Beijing, China, Apr. 2010.
- [43] Zhen Peng and Jin-Fa Lee, "An efficient domain decomposition method for solving extremely large cavity scattering problems," *Progress in Electromagnetics Research Symposium (PIERS)*, Xian, China, Mar. 2010.
- [44] Zhen Peng, Vineet Rawat and Jin-Fa Lee, "Domain decomposition methods with second order transmission conditions for solving multi-scale electromagnetic wave problems," *COMPUMAG*, Brazil, Nov. 2009.
- [45] Zhen Peng and Jin-Fa Lee, "Fast analysis of LCD reflector using full wave method," *IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting*, Charleston, SC USA, 2009.
- [46] Zhen Peng and Jin-Fa Lee, "Study of model order reduction techniques for modeling large antenna array," *IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting*, Charleston, SC USA, 2009.
- [47] Zhen Peng and Xin-Qing Sheng, "A twofold iterative algorithm of hybrid FE/BI/MLFMA based on multilevel ILU preconditioning and node-edge element," *Progress in Electromagnetics Research Symposium (PIERS)*, Beijing, China, 2007.
- [48] Zhen Peng and Xin-Qing Sheng, "Application of rational function approximation technique to hybrid FE/BI/MLFMA for 3Dscattering," *Progress in Electromagnetics Research Symposium (PIERS)*, Beijing, China, 2007.
- [49] Xin-Qing Sheng and Zhen Peng, "A high performance electromagnetic finite element —node edge element," *Antenna Symposium of China*, May. 2007.
- [50] Zhen Peng and Xin-Qing Sheng, "A bandwidth estimation approach for the asymptotic waveform evaluation technique," *Cross Strait Tri-Regional Wireless Science and Technology Conference*, 2007.
- [51] Zhen Peng and Xin-Qing Sheng, "A special higher-Order FE-BI-MLFMA for scattering by large and eep cavities," *Cross Strait Tri-Regional Wireless Science and Technology Conference*, 2007.
- [52] Zhen Peng and Xin-Qing Sheng, "A FEM-Based fast algorithm for high-order modes in dielectric-loaded waveguides," *Asia-Pacific Microwave Conference (APMC) 2005 Proceedings*. IEEE Press, pp. 745-749, 2005.