ECE ILLINOIS

DIRECTORY

Faculty

Affiliate faculty

Adjunct faculty

Emeritus faculty

Researchers

Staff

Grad students

ECE service areas and offices

Chairs, professorships, and faculty scholars

JIANMING JIN

Professor

Electrical and Computer Engineering

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306 North Wright Street
Urbana Illinois 61801

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j-jin1@illinois.edu

PRIMARY RESEARCH AREA

Electromagnetics and Optics

FOR MORE INFORMATION

Prof. Jin's Home Page

Jianming Jin
Y.T. Lo Chair in Electrical and Computer Engineering
Sony Faculty Scholar (2005-2009)
Henry Magnuski Outstanding Young Scholar (1998-2000)

PROFILE

EDUCATION

- Ph.D. Electrical Engineering, University of Michigan 1989

BIOGRAPHY

Jian-Ming Jin received the B.S. and M.S. degrees in applied physics from Nanjing University, Nanjing,

China, in 1982 and 1984, respectively, and the Ph.D. degree in electrical engineering from the University of Michigan, Ann Arbor, in 1989.

He joined the University of Illinois at Urbana-Champaign in 1993 and is currently the Y. T. Lo Chair Professor of Electrical and Computer Engineering and Director of the Electromagnetics Laboratory and Center for Computational Electromagnetics. He has authored and co-authored over 254 papers in refereed journals and 20 book chapters, in addition to over 359 conference papers and 130 invited talks. He has also authored The Finite Element Method in Electromagnetics (Wiley, 1st edition 1993, 2nd edition 2002, 3rd edition 2014), Electromagnetic Analysis and Design in Magnetic Resonance Imaging (CRC, 1998), Theory and Computation of Electromagnetic Fields (Wiley, 1st edition 2010, 2nd edition 2015), and co-authored Computation of Special Functions (Wiley, 1996), Fast and Efficient Algorithms in Computational Electromagnetics (Artech, 2001), and Finite Element Analysis of Antennas and Arrays (Wiley, 2008). His current research interests include computational electromagnetics, scattering and antenna analysis, electromagnetic compatibility, high-frequency circuit modeling and analysis, bioelectromagnetics, and magnetic resonance imaging. He was elected by ISI as one of the world's most cited authors in 2002.

Dr. Jin was elected a Fellow of the Institute of Electrical and Electronics Engineers (IEEE) in 2000 "for contributions to computational electromagnetics and its applications to antennas, radar scattering, microwave circuits, and biomedical technology." He is also a member of Commision B of USNC/URSI and Tau Beta Pi, and a Fellow of Electromagnetics Academy and Applied Computational Electromagnetics Society. He was a recipient of the 1994 National Science Foundation Young Investigator Award, the 1995 Office of Naval Research Young Investigator Award, and the 1999 Applied Computational Electromagnetics Society Valued Service Award. He also received the 1997 Xerox Junior Research Award and the 2000 Xerox Senior Research Award presented by the College of Engineering, University of Illinois at Urbana-Champaign, and was appointed as the first Henry Magnuski Outstanding Young Scholar in the Department of Electrical and Computer Engineering in 1998 and later as a Sony Scholar in 2005. He was appointed as a Distinguished Visiting Professor in the Air Force Research Laboratory in 1999 and was awarded Adjunct, Visiting, Guest, or Chair Professorship by City University of Hong Kong, University of Hong Kong, Anhui University, Beijing Institute of Technology, Peking University, Southeast University, Nanjing University, Zhejiang University, and Shanghai Jiao Tong University. His name appeared 22 times in the University of Illinois at Urbana-Champaign's List of Excellent Instructors. His students have won the best paper awards in IEEE 16th Topical Meeting on Electrical Performance of Electronic Packaging and 25th, 27th, 31st, and 32nd Annual Review of Progress in Applied Computational Electromagnetics. He served as an Associate Editor and Guest Editor for the IEEE Transactions on Antennas and Propagation, Radio Science, Electromagnetics, Microwave and Optical Technology Letters, and Medical Physics. He was the Symposium Co-chairman and Technical Program Chairman of the Annual Review of Progress in Applied Computational Electromagnetics in 1997 and 1998, respectively, and received the 2014 ACES Technical Achievement

Award "for numerous contributions to the development of finite elements in electromagnetics" and the 2016 ACES Computational Electromagnetics Award "for pioneering work in the development of finite elements in electromagnetics." In 2015, he received the 2015 IEEE Antennas and Propagation Society Chen-To Tai Distinguished Educator Award and IEEE Antennas and Propagation Edward E. Altschuler AP-S Magazine Prize Paper Award, and was appointed as the IEEE Antennas and Propagation Society Distinguished Lecturer.

RESEARCH INTERESTS

- Computational electromagnetics, multi-physics modeling, finite element methods, bioelectromagnetics (magnetic resonance imaging and electromagnetic hyperthermia), wave scattering and propagation, electromagnetic interference and compatibility, microwave and millimeter-wave circuits, optoelectronics and photonics, wireless communications, antennas and electromagnetic theory

RESEARCH AREAS

- Antennas for communication and wireless sensing
- Bioelectromagnetics
- Biomedical Imaging, Bioengineering, and Acoustics
- Electromagnetic compatibility
- Electromagnetic theory
- Electromagnetics and Optics
- Electronic packaging
- High-frequency circuits
- Microwave devices and circuits
- Microwave integrated circuits
- Millimeter wave integrated circuits
- Modeling and simulation of laser systems
- Photonic crystals
- Radar scattering
- Radio and optical wave propagation
- Semiconductor lasers and photonic devices

HONORS

- ACES Computational Electromagnetics Award (2016)
- IEEE Antennas and Propagation Edward E. Altschuler AP-S Magazine Prize Paper Award (2015)
- IEEE Antennas and Propagation Society Chen-To Tai Distinguished Educator Award (2015)
- Fellow, Applied Computational Electromagnetics Society (2015)
- ACES Technical Achievement Award (2014)
- Y. T. Lo Chair in Electrical and Computer Engineering (2009)

- Elected to the category of the Highly Cited Authors (top 0.5%) by ISI (www.isihighlycited.com) (2002)
- Fellow, Institute of Electrical and Electronic Engineers (IEEE) (2001)
- Office of Naval Research (ONR) Young Investigator Award (1995)
- National Science Foundation (NSF) Young Investigator Award (1994)

TEACHING HONORS

- UIUC List of Excellent Teachers, Fall 2015
- UIUC List of Excellent Teachers, Spring 2015
- UIUC List of Excellent Teachers, Fall 2014
- UIUC List of Excellent Teachers, Spring 2014
- UIUC List of Excellent Teachers, Fall 2013
- UIUC List of Excellent Teachers, Spring 2013
- UIUC List of Excellent Teachers, Spring 2012
- UIUC List of Excellent Teachers, Fall 2011
- UIUC List of Excellent Teachers, Spring 2011
- UIUC Incomplete List of Excellent Teachers, Spring 2010
- UIUC Incomplete List of Excellent Teachers, Fall 2009
- UIUC Incomplete List of Excellent Teachers, Spring 2007
- UIUC Incomplete List of Excellent Teachers, Spring 2006
- UIUC Incomplete List of Excellent Teachers, Fall 2005
- UIUC Incomplete List of Excellent Teachers, Fall 2004
- UIUC Incomplete List of Excellent Teachers, Spring 2004
- UIUC Incomplete List of Excellent Teachers, Spring 2003
- UIUC Incomplete List of Excellent Teachers, Fall 2002
- UIUC Incomplete List of Excellent Teachers, Spring 2002
- UIUC Incomplete List of Excellent Teachers, 2001
- UIUC Incomplete List of Excellent Teachers, 1999
- UIUC Incomplete List of Excellent Teachers, 1998
- UIUC Incomplete List of Excellent Teachers, 1996

RESEARCH HONORS

- Best Student Paper Award (for Su Yan), IEEE ICWITS and ACES 2016
- IEEE Antennas and Propagation Society Distinguished Lecturer, 2015
- Best Student Paper Award (for Tianjian Lu), ACES 2015
- International Advisor, Chinese Society of Computational Physics, 2014
- Visiting Professor, Xidian University, 2014

- Best Student Paper Award (for Su Yan), ACES 2011
- Visiting Professor, A-STAR, Singapore, 2010
- Best Student Paper Award (with Rui Wang), ACES, 2009
- Visiting Professor, Beijing Institute of Technology, 2008
- Visiting Professor, University of Hong Kong, 2008
- Visiting Professor, City University of Hong Kong, 2008
- Adjunct Professor, Shanghai Jiao Tong University, Shanghai, China, 2007
- Best Student Paper Award (with Shih-Hao Lee), EPEP, 2007
- Sony Faculty Scholar Award, 2005-2009
- Adjunct Professor, Nanjing University, Nanjing, China, 2004
- Guest Professor, Southeast University, Nanjing, China, 2004
- Adjunct Professor, Peking University, Beijing, China, 2003
- Adjunct Professor, Anhui University, Hefei, China, 2001
- Visiting Professor, City University of Hong Kong, 2000-2001
- UIUC College of Engineering Senior Xerox Award for Faculty Research, 2000
- Distinguished Visiting Professor, Air Force Research Laboratory, 1999
- Henry Magnuski Outstanding Young Scholar, 1998-2000
- UIUC College of Engineering Junior Xerox Award for Faculty Research, 1997
- Senior Member, Institute of Electrical and Electronics Engineers, 1994

PUBLIC SERVICE HONORS

- Guest Editor of Special Issue, IEEE Transactions on Antennas and Propagation, 2008
- Valued Service Award, Applied Computational Electromagnetics Society, 1999
- Associate Editor, Radio Science, 1999 - 2002
- Editorial Board, Microwave and Optical Technology Letters, 1998 -
- Editorial Board, Journal of Electromagnetics, 1997 -
- Guest Editor of Special Issue, Journal of Electromagnetics, 1996
- Associate Editor, IEEE Transactions on Antennas and Propagation, 1996-1998
- Editorial Board, IEEE TransTransactions Microwave Theory and Techniques, 1994 -

COURSES TAUGHT

- CSE 530 - Computational Electromagnetics
- ECE 520 - EM Waves & Radiating Systems
- ECE 540 - Computational Electromagnetics
- ECE 590 - Grad Sem in Special Topics

Prof. Jin's Research Group

People

Faculty Advisor

Jian-Ming Jin received his Ph.D. degree in electrical engineering from the University of Michigan, Ann Arbor, in 1989. He joined the University of Illinois at Urbana-Champaign in 1993 and is currently the Y. T. Lo Endowed Chair Professor of Electrical and Computer Engineering and Director of the Electromagnetics Laboratory and Center for Computational Electromagnetics. He has authored and co-authored over 240 papers in refereed journals and 22 book chapters. He has also authored The Finite Element Method in Electromagnetics (Wiley, 1st edition 1993, 2nd edition 2002, 3rd edition 2014), Electromagnetic Analysis and Design in Magnetic Resonance Imaging (CRC, 1998), Theory and Computation of Electromagnetic Fields (Wiley, 1st edition 2010, 2nd edition 2015), and co-authored Computation of Special Functions (Wiley, 1996), Fast and Efficient Algorithms in Computational Electromagnetics (Artech, 2001), and Finite Element Analysis of Antennas and Arrays (Wiley, 2008). His current research interests include

computational electromagnetics, scattering and antenna analysis, electromagnetic compatibility, high-frequency circuit modeling and analysis, bioelectromagnetics, and magnetic resonance imaging. He was elected by ISI as one of the world's most cited authors in 2002.

Dr. Jin is a Fellow of the IEEE (elected 2001), the Electromagnetics Academy, and Applied Computational Electromagnetics Society (ACES), and a member of URSI Commission B. He was a recipient of the 1994 National Science Foundation Young Investigator Award, the 1995 Office of Naval Research Young Investigator Award, the 1999 ACES Valued Service Award, and the 2014 ACES Technical Achievement Award. He also received the 1997 Xerox Junior Research Award and the 2000 Xerox Senior Research Award presented by the College of Engineering, University of Illinois at Urbana-Champaign, and was appointed as the first Henry Magnuski Outstanding Young Scholar in the Department of Electrical and Computer Engineering in 1998 and later as a Sony Scholar in 2005. He was appointed as a Distinguished Visiting Professor in the Air Force Research Laboratory in 1999 and was awarded Adjunct, Visiting, Guest, or Chair Professorship by 10 institutions around the world. His name appeared 22 times in the University of Illinois at Urbana-Champaign's List of Excellent Instructors. His students have won the best paper awards in IEEE 16th Topical Meeting on Electrical Performance of Electronic Packaging and 25th, 27th, and 31st Annual Review of Progress in Applied Computational Electromagnetics. He served as an Associate Editor and Guest Editor for the IEEE Transactions on Antennas and Propagation, Radio Science, Electromagnetics, Microwave and Optical Technology Letters, and Medical Physics.

Postdoctoral Research Fellows

Dr. Su Yan

Current Students
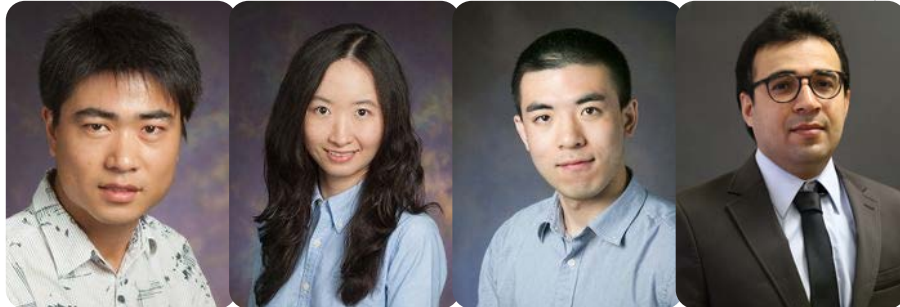
Kedi Zhang   **Yunjia Zeng**   **Yanan Liu**   **Pouyan Karimi**

Current Visitors

- Geng Chen, from Jiangsu Normal University
- Prof. Lei Zhao, from Jiang Su Normal University

Past Students

- Sean Ni, PhD 1995

- Ninglong Lu, MS 1995
- Shawn T. Carolan, MS 1997
- Zhaomei Feng, MS 1997
- Ji Chen, PhD 1998
- Andrew Greenwood, PhD 1998
- Walter C. Gibson, MS 1998
- Feng Ling, PhD 2000
- Eric Branch, PhD 2000
- Dan Jiao, PhD 2001
- Jian Liu, PhD 2002
- Marc E. Kowalski, MS 1999, PhD 2002
- Kalyan Donepudi, MS 1997, PhD 2002
- Ani R. Siripuram, MS 2004
- Yu Zhong, MS 2004
- Ran Hu, MS 2004
- Ali E. Yilmaz, MS 2000, PhD 2005
- Eric Dunn, MS 2000, PhD 2005
- Zheng Lou, MS 2003, PhD 2006
- Davi Correia, PhD 2006
- Kaiyu Mao, PhD 2007
- H. David Pinto, MS 2009
- Yujia Li, MS 2005, PhD 2009
- Shih-Hao Lee, PhD 2009
- Rui Wang, MS 2006, PhD 2009
- Peng Chen, MS 2012
- Xiaolei Li, MS 2007, PhD 2012
- Wang Yao, MS 2010, PhD 2013
- Mingfeng Xue, PhD 2014
- Huan-Ting Meng, MS 2011, PhD 2015
- Tianjian Lu, PhD 2016
- Jian Guan, PhD 2017

Past Visitors

- Guoxin Fan
- Jinping Zhang
- Mohammed Zunoubi
- Xingqing Sheng
- Xianyang Zhu
- Chaofu Wang
- Gang Kang
- Pierre Baldenspereger
- Thomas Rylander
- Matthys M Botha
- Jin Kyu Byun
- Zhiyong Zeng
- L. E. Rickard Petersson
- Dezhi Chen
- Zhenghui Xue
- Binxian Lu
- Yan Shi

- Xingchang Wei
- Jian Li

Prof. Jin's Research Group

Publications

Books

1. J. M. Jin, **Theory and Computation of Electromagnetic Fields, Second Edition.** Hoboken, NJ: John Wiley & Sons, 2015 (744 p.).

2. J. M. Jin, **The Finite Element Method in Electromagnetics, Third Edition.** Hoboken, NJ: John Wiley & Sons, 2014 (846 p.).

3. J. M. Jin, **Theory and Computation of Electromagnetic Fields.** Hoboken, NJ: John Wiley & Sons, 2010 (572 p., accompanying Instructor's Guide, Part I and II, 466 p. + 340 p.).

4. J. M. Jin and D. J. Riley, **Finite Element Analysis of Antennas and Arrays.** Hoboken, NJ: John Wiley & Sons, 2008 (440 p.).

5. J. M. Jin, **The Finite Element Method in Electromagnetics, Second Edition.** New York: John Wiley & Sons, 2002 (755 p.).

6. W. C. Chew, J. M. Jin, E. Michielssen, and J. M. Song, Eds., **Fast and Efficient Algorithms in Computational Electromagnetics.** Norwood, MA: Artech House, 2001 (931 p.).

7. J. M. Jin, **Analysis and Design in Magnetic Resonance Imaging.** Boca Raton, FL: CRC Press, 1998 (282 p.).

8. S. Zhang and J. M. Jin, **Computation of Special**

Functions. New York: John Wiley & Sons, 1996 (717 p.; Chinese translation published in 2011 by Nanjing University Press).

9. J. M. Jin, **The Finite Element Method in Electromagnetics.** New York: John Wiley & Sons, 1993 (442 p.; Chinese translation published in 1998 by Xidian University Press).

Book Reviews

1. J. M. Jin, **Review of Generalized Vector and Dyadic Analysis (2nd edition)**, by Chen-To Tai, Piscataway, NJ: IEEE Press for IEEE Antennas Propagat. Mag., vol. 39, pp. 103-104, Oct. 1997.

Articles in Edited Books

1. M.-F. Xue and J. M. Jin, "**Domain decomposition methods for finite element analysis of large-scale electromagnetic problems**," in Advanced Computational Electromagnetic Methods and Applications, Norwood, MA: Artech House, 2015.

2. J. M. Jin, "**Practical electromagnetic modeling methods**," in Handbook on RF Coils and Encyclopedia of Magnetic Resonance, Chichester, UK: Wiley, 2009.

3. J. M. Jin, "**Finite element method," in Advanced Electromagnetic Theory**, Beijing: Higher Education Press, 2008.

4. H. Bagci, A. E. Yilmaz, J. M. Jin, and E. Michielssen, "**Time domain adaptive integral method for surface integral equations**," in Modeling and Computations in Electromagnetics, Berlin: Springer-Verlag, 2007.

5. J. M. Jin, Z. Lou, N. Riley, and D. Riley, "**Finite element analysis and modeling of antennas**," in Modern Antenna Handbook, Ch. 31, pp. 1531-1593, New York: Wiley, 2008.

6. J. M. Jin and M. Botha, "**Finite element analysis**," in Encyclopedia of RF and Microwave Engineering, vol. 2, pp. 1589-1601, New York: Wiley, 2005.

7. Z. Lou and J. M. Jin, "**Finite element modeling of**

periodic structures," in Computational Methods in Large Scale Simulation, Singapore: World Scientific, 2005.

8. F. Ling and J. M. Jin, "**Full-wave analysis of multiplayer microstrip problems**," in Fast and Efficient Algorithms in Computational Electromagnetics, Norwood, MA: Artech House, 2001.

9. D. Jiao and J. M. Jin, "**Asymptotic waveform evaluation for broadband calculations**," in Fast and Efficient Algorithms in Computational Electromagnetics, Norwood, MA: Artech House, 2001.

10. J. M. Jin, K. C. Donepudi, J. Liu, G. Kang, J. Song, and W. C. Chew, "**High-order methods in computational electromagnetics**," in Fast and Efficient Algorithms in Computational Electromagnetics, Norwood, MA: Artech House, 2001.

11. J. M. Jin and J. Liu, "**Hybridization in computational electromagnetics**," in Fast and Efficient Algorithms in Computational Electromagnetics, Norwood, MA: Artech House, 2001.

12. A. D. Greenwood and J. M. Jin, "**Finite element analysis of complex axisymmetric problems**," in Fast and Efficient Algorithms in Computational Electromagnetics, Norwood, MA: Artech House, 2001.

13. J. M. Jin and W. C. Chew, "**Computational electromagnetics: The method of moments**," in Electrical Engineering Handbook, pp. 619-628, New York: Academic Press, 2004.

14. J. M. Jin and W. C. Chew, "**Green's function methods**," in Encyclopedia of Electrical and Electronics Engineering, J. Webster, Ed. Vol. 8, pp. 462-476, New York: Wiley, 1998.

15. F. Ling and J. M. Jin, "**Hybridization of SBR and MoM for scattering by large bodies with inhomogeneous protrusions**," Progress in Electromagnetics Research, PIER 17, pp. 25-43, 1997.

16. A. Chatterjee, J. M. Jin, and J. L. Volakis, "**Edge-based finite elements and vector ABCs applied to 3D scattering**," IEEE Trans. Antennas Propagat., vol. AP-41, no. 2, pp. 221-226, Feb. 1993. (in Finite Elements for Wave Electromagnetics. Editors: P. P. Silvester and

G. Pelosi, New York: IEEE Press, 1994.)

17. J. D. Collins, J. M. Jin, and J. L. Volakis, "**Eliminating of internal resonances in the finite element - boundary integral method for scattering problems**," IEEE Trans. Antennas Propagat., vol. AP-40, no. 12, pp. 1583-1585, Dec. 1992. (in Finite Elements for Wave Electromagnetics. Editors: P. P. Silvester and G. Pelosi, New York: IEEE Press, 1994.)

18. J. M. Jin and J. L. Volakis, "**A hybrid finite element method for scattering and radiation by microstrip patch antennas and arrays residing in a cavity**," IEEE Trans. Antennas Propagat., vol. AP-39, pp. 1598-1604, Nov. 1991. (in Finite Elements for Wave Electromagnetics. Editors: P. P. Silvester and G. Pelosi, New York: IEEE Press, 1994.)

19. J. D. Collins, J. L. Volakis, and J. M. Jin, "**A combined finite element - boundary integral formulation for solution of two-dimensional scattering problems via CGFFT**," IEEE Trans. Antennas Propagat., vol. AP-38, no. 11, pp. 1852-1858, Nov. 1990. (in Finite Elements for Wave Electromagnetics. Editors: P. P. Silvester and G. Pelosi, New York: IEEE Press, 1994.)

20. J. M. Jin and V. V. Liepa, "**A note on the hybrid finite element method for solving scattering problems**," IEEE Trans. Antennas Propagat., vol. AP-36, no. 10, pp. 1486-1490, Oct. 1988. (in Finite Elements for Wave Electromagnetics. Editors: P. P. Silvester and G. Pelosi, New York: IEEE Press, 1994.)

21. J. M. Jin and V. V. Liepa, "**A note on the hybrid finite element method for solving scattering problems**," IEEE Trans. Antennas Propagat., vol. AP-36, no. 10, pp. 1486-1490, Oct. 1988. (in Finite Elements for Wave Electromagnetics. Editors: P. P. Silvester and G. Pelosi, New York: IEEE Press, 1994.)

22. J. M. Jin and V. V. Liepa, "**A note on the hybrid finite element method for solving scattering problems**," IEEE Trans. Antennas Propagat., vol. AP-36, no. 10, pp. 1486-1490, Oct. 1988. (in Computational Electromagnetics. Editors: E. K. Miller, L. Medgyesi-Mitschang and E. H. Newman, New York: IEEE Press, 1992.)

Journal Papers

1. S. Yan, J. Kotulski, C.-F. Wang, and J. M. Jin, Numerical study of a time-domain finite element method for nonlinear magnetic problems in three dimensions, submitted for publication, August 2015.

2. S. Yan and J. M. Jin, Theoretical formulation of a time-domain finite element method for nonlinear magnetic problems in three dimensions, submitted for publication, August 2015.

3. K. D. Zhang, J. M. Jin, and P. H. Geubelle, "A 3D interface-enriched generalized FEM for electromagnetic problems with non-conformal discretizations," IEEE Trans. Antennas Propagat., submitted for publication, March 2015.

4. T. J. Lu and J. M. Jin, "Electrical-thermal co-simulation for analysis of high-power RF/microwave circuits," IEEE Trans. Microwave Theory Tech., submitted for publication, March 2015.

5. K. D. Zhang and J. M. Jin, "Parallelized multilevel fast multipole algorithm for scattering by objects with anisotropic impedance surfaces," Int. J. Num. Model: Electronic Networks, Devices and Fields, vol. 28, no. 1, pp. 107-119, Jan. 2015.

6. W. Yao, J. M. Jin, and P. Krein, "A 3-D finite element analysis of large-scale nonlinear dynamic electromagnetic problems by harmonic balancing and domain decomposition," Int. J. Num. Model: Electronic Networks, Devices and Fields, accepted for publication, Nov. 2014.

7. J. Guan, S. Yan, and J. M. Jin, "An accurate and efficient finite element-boundary integral method with GPU acceleration for 3-D electromagnetic analysis," IEEE Trans. Antennas Propagat., vol. 62, no. 12, pp. 6325-6336, Dec. 2014.

8. T. J. Lu and J. M. Jin, "Transient electrical-thermal analysis of 3-D power distribution network with FETI-enabled parallel computing," IEEE Trans. Comp.

Packag. Manuf. Tech., vol. 4, no. 10, pp. 1684-1695, Oct. 2014.

9. K. D. Zhang, A. R. Najafi, J. M. Jin, and P. H. Geubelle, "An interface-enriched generalized finite-element analysis for electromagnetic problems with non-conformal discretizations," Int. J. Num. Model: Electronic Networks, Devices and Fields, accepted for publication, April 2014.

10. M.-F. Xue and J. M. Jin, "Finite-element domain decomposition methods for analysis of large-scale electromagnetic problems," Appl. Comput. Electromagn. Soc. J., vol. 29, no. 12, pp. 990-1002, Dec. 2014.

11. H.-T. Meng and J. M. Jin, "Acceleration of the dual-field domain decomposition algorithm using MPI-CUDA on large-scale computing systems," IEEE Trans. Antennas Propagat., vol. 62, no. 9, pp. 4706-4715, Sept. 2014.

12. M.-F. Xue and J. M. Jin, "A preconditioned dual-primal finite element tearing and interconnecting method for solving three-dimensional time-harmonic Maxwell's equations," J. Comput. Physics, vol. 274, pp. 920-935, Oct. 2014.

13. T. J. Lu and J. M. Jin, "Thermal-aware high-frequency characterization of large-scale through-silicon-via structures," IEEE Trans. Comp. Packag. Manuf. Tech., vol. 4, no. 6, pp. 1015-1025, June 2014.

14. M.-F. Xue, Y. M. Kang, A. Arbabi, S. J. McKeown, L. L. Goddard, and J. M. Jin, "Fast and accurate finite element analysis of large-scale three-dimensional photonic devices with a robust domain decomposition method," Optics Exp., vol. 22, no. 4, pp. 4437-4452, Feb. 2014.

15. M.-F. Xue and J. M. Jin, "Plane wave discontinuous Galerkin method with Lagrange multiplier for solving time-harmonic Maxwell's equations in 3D," Electromagnetics, vol. 34, no. 3-4, pp. 328-344, April 2014.

16. Y. M. Kang, M.-F. Xue, A. Arbabi, J.-M. Jin, and L. L. Goddard, "Modal expansion approach for accurately computing resonant modes in a high-Q optical resonator," Microwave Opt. Tech. Lett., vol. 56, no. 2, pp. 278-284, Feb. 2014.

17. M.-F. Xue and J. M. Jin, "Application of an oblique absorbing boundary condition in the finite element simulation of phased-array antennas," Microwave Opt. Tech. Lett., vol. 56, no. 1, pp. 178-184, Jan. 2014.

18. B. M. Hochwald, D. J. Love, S. Yan, P. Fay, and J. M. Jin, "Incorporating specific absorption rate (SAR) constraints into wireless signal design," IEEE Communications Magazine, vol. 52, no. 9, pp. 126-133, Sept. 2014.

19. T. J. Lu and J. M. Jin, "Electrical-thermal co-simulation for DC IR-drop analysis of large-scale power delivery," IEEE Trans. Comp. Packag. Manuf. Tech., vol. 5, no. 1, pp. 323-331, Jan. 2014. **(This paper is featured on the cover of the journal)**

20. M.-F. Xue and J. M. Jin, "A hybrid conformal/nonconformal domain decomposition method for multi-region electromagnetic modeling," IEEE Trans. Antennas Propagat., vol. 62, no. 4, pp. 2009-2021, April 2014.

21. S. Yan and J. M. Jin, "Self-dual surface integral equations for electromagnetic scattering from IBC objects," IEEE Trans. Antennas Propagat., vol. 61, no. 11, pp. 5533-5546, Nov. 2013.

22. H.-T. Meng, B.-L. Nie, S. Wong, C. Macon, and J. M. Jin, "GPU accelerated finite element computation for electromagnetic analysis," IEEE Antennas Propagat. Mag., vol. 56, no. 2, pp. 39-62, April 2014.

23. W. Yao, J. M. Jin, P. Krein, and M. P. Magill, "A finite-element based domain decomposition method for efficient simulation of nonlinear electromechanical problems," IEEE Trans. Energy Convers., vol. 29, no. 2, pp. 309-319, June 2014.

24. J. Guan, S. Yan, and J. M. Jin, "An OpenMP-CUDA implementation of multilevel fast multipole algorithm for electromagnetic simulation on multi-GPU computing systems," IEEE Trans. Antennas Propagat., vol. 61, no. 7, pp. 3607-3616, July 2013.

25. W. Yao, J. M. Jin, and P. Krein, "Application of the LU recombination method to the FETI-DP method for solving low-frequency multiscale electromagnetic problems," IEEE Trans. Magn., vol. 49, no. 10, pp.

5346-5355, Oct. 2013.

26. J. Ma, J. M. Jin, and Z. P. Nie, "A nonconformal FEM-DDM with tree-cotree splitting and improved transmission condition for modeling subsurface detection problems," IEEE Trans. Geosci. Sens., vol. 52, no. 1, pp. 355-364, Jan. 2014.

27. W. Yao, J. M. Jin, and P. Krein, "A highly efficient domain decomposition method applied to 3-D finite element analysis of electromechanical and electric machine problems," IEEE Trans. Energy Convers., vol. 27, no. 4, pp. 1078-1086, Dec. 2012.

28. S. Yan, J. M. Jin, and Z. P. Nie, "Accuracy improvement of the second-kind integral equations for generally shaped objects," IEEE Trans. Antennas Propagat., vol. 61, no. 2, pp. 788-797, Feb. 2013.

29. Y. Shi and J. M. Jin, "OpenMP parallelized MOD solution of the time-domain EFIE accelerated by the ACA algorithm," Microwave Opt. Tech. Lett., vol. 54, pp. 1206-1212, 2012.

30. M. F. Xue and J. M. Jin, "Nonconformal FETI-DP and cement FETI-DP methods for large-scale electromagnetic simulation," IEEE Trans. Antennas Propagat., vol. 60, no. 9, pp. 4291-4305, Sept. 2012.

31. W. Yao, J. M. Jin, and P. Krein, "A dual-primal finite element tearing and interconnecting method combined with tree-cotree splitting for modeling electro-mechanical devices," Int. J. Num. Model: Electronic Networks, Devices and Fields, vol. 26, no. 2, pp. 151-163, March/April 2013 (first published online: 18 June 2012).

32. Y. Shi and J. M. Jin, "A higher-order Nyström scheme for a marching-on-in-degree solution of the magnetic field integral equation," IEEE Antennas Wireless Propagat. Lett., vol. 10, pp. 1059-1062, 2011.

33. X. L. Li and J. M. Jin, "Modeling of doubly lossy and dispersive media with the time-domain finite-element dual-field domain-decomposition algorithm," Int. J. Num. Model: Electronic Networks, Devices and Fields, vol. 26, no. 1, pp. 28-40, Jan. 2013 (first published online: 15 Feb. 2012).

34. X. L. Li and J. M. Jin, "A comparative study of three

finite element–based explicit numerical schemes for solving Maxwell's equations," IEEE Trans. Antennas Propagat., vol. 60, no. 3, pp. 1450-1457, March 2012.

35. S. Yan, J. M. Jin, and Z. P. Nie, "Improving the accuracy of the second-kind Fredholm integral equations by using the rotated Buffa-Christiansen functions," IEEE Trans. Antennas Propagat., vol. 59, no. 4, pp. 1299-1310, April 2011.

36. Y. Shi and J. M. Jin, "A marching-on-in-degree solution of volume integral equations for transient electromagnetic scattering by bi-isotropic objects," Electromagnetics, vol. 31, no. 3, pp. 159-172, April 2011.

37. Y. Shi and J. M. Jin, "A time-domain volume integral equation and its marching-on-in-degree solution for analysis of dispersive dielectric objects," IEEE Trans. Antennas Propagat., vol. 59, no. 3, pp. 969-978, March 2011.

38. L. E. Sun, W. C. Chew and J. M. Jin, "Augmented equivalence principle algorithm at low frequencies," Microwave Opt. Tech. Lett., vol. 52, no. 10, pp. 2274-2279, Oct. 2010.

39. Y. Shi and J. M. Jin, "Marching-on-in-degree solution of volume integral equation for analysis of transient electromagnetic scattering by inhomogeneous lossy dielectric bodies," Microwave Opt. Tech. Lett., vol. 53, pp. 1104-1109, 2010.

40. S. Yan, J. M. Jin, and Z. P. Nie, "Analysis of electrically large problems using the augmented EFIE with a Calderon preconditioner," IEEE Trans. Antennas Propagat., vol. 59, no. 6, pp. 2303-2314, June 2011.

41. R. Wang and J. M. Jin, "A flexible time-stepping scheme for hybrid field-circuit simulation based on the extended time-domain finite element method," IEEE Trans. Adv. Packaging (TADVP), vol. 33, no.4, pp. 769-776, Nov. 2010.

42. S. Yan, J. M. Jin, and Z. P. Nie, "A comparative study of Calderon preconditioners for PMCHWT equations," IEEE Trans. Antennas Propagat., vol. 58, no. 7, pp. 2375-2383, July 2010.

43. R. Wang, D. Riley, and J. M. Jin, "Application of tree-

cotree splitting to the time-domain finite-element analysis of electromagnetic problems," IEEE Trans. Antennas Propagat., vol. 58, no. 5, pp. 1590-1600, May 2010.

44. S. Yan, J. M. Jin, and Z. P. Nie, "EFIE analysis of low-frequency problems with loop-star decomposition and Calderon multiplicative preconditioner," IEEE Trans. Antennas Propagat., vol. 58, no. 3, pp. 857-867, March 2010.

45. A. V. Giannopoulos, Y.-J. Li, C. M. Long, J. M. Jin, and K. D. Choquette, "Optical properties of photonic crystal heterostructure cavity lasers," Optical Express, vol. 17, pp. 5379-5390, March 2009.

46. Y. J. Li and J. M. Jin, "Full-wave analysis of antenna-array mutual coupling using the FETI-DPEM algorithm," Microwave Opt. Tech. Lett., vol. 51, no. 9, pp. 2088-2093, Sept. 2009.

47. R. Wang and J. M. Jin, "Incorporation of multiport lumped networks into the symmetric hybrid time-domain finite-element analysis of microwave devices," IEEE Trans. Microwave Theory Tech., vol. 57, no. 8, pp. 2030-2037, Aug. 2009.

48. S.-H. Lee and J. M. Jin, "Fast reduced-order finite-element modeling of lossy thin wires using lumped impedance elements," IEEE Trans. Adv. Packaging (TADVP), vol. 33, no. 1, pp. 212-218, Feb. 2010.

49. Y. J. Li and J. M. Jin, "Parallel implementation of the FETI-DPEM method for 3D EM simulations," J. Comput. Physics, vol. 228, no. 9, pp. 3255-3267, May 2009.

50. R. Wang and J. M. Jin, "A symmetric electromagnetic-circuit simulator based on the extended time-domain finite element method," IEEE Trans. Microwave Theory Tech., vol. 56, no. 12, pp. 2875-2884, Dec. 2008.

51. Y. J. Li and J. M. Jin, "Implementation of the 2nd-order ABC in the FETI-DPEM method for 3D EM problems," IEEE Trans. Antennas Propagat., vol. 56, no. 8, pp. 2765-2769, Aug. 2008.

52. Y. J. Li and J. M. Jin, "Simulation of photonic crystal nanocavity using the FETI-DPEM method," Microwave Opt. Tech. Lett., vol. 50, no. 8, pp. 2083-2086, Aug. 2008.

53. X. Li and J. M. Jin, "Time-domain finite-element modeling of electrically and magnetically dispersive medium via recursive FFT," Microwave Opt. Tech. Lett., vol. 50, no. 7, pp. 1837-1841, July 2008.

54. R. Wang, H. Wu, A. C. Cangellaris, and J. M. Jin, "Incorporation of feed-network into the time-domain finite element modeling of antenna arrays," IEEE Trans. Antennas Propagat., vol. 56, no. 8, pp. 2599-2612, Aug. 2008.

55. S.-H. Lee and J. M. Jin, "Application of the tree-cotree splitting for improving matrix conditioning in the full-wave finite-element analysis of high-speed circuits," Microwave Opt. Tech. Lett., vol. 50, no. 6, pp. 1476-1481, June 2008.

56. D. Riley and J. M. Jin, "Finite-element time-domain analysis of electrically and magnetically dispersive periodic structures," IEEE Trans. Antennas Propagat., vol. 56, no. 11, pp. 3501-3509, Nov. 2008.

57. M. Nawaz, J.-P. Leburton, and J. M. Jin, "Hole scattering by confined optical phonons in silicon nanowires," Appl. Phys. Lett., vol. 90, 183505 (2007).

58. J. M. Jin, Z. Lou, Y. J. Li, N. Riley, and D. Riley, "Finite element analysis of complex antennas and arrays," IEEE Trans. Antennas Propagat., vol. 56, no. 8, pp. 2222-2240, Aug. 2008.

59. S.-H. Lee, K. Mao, and J. M. Jin, "A complete finite element analysis of multilayer anisotropic transmission lines from DC to terahertz frequencies," IEEE Trans. Adv. Packaging (TADVP), vol. 31, no. 2, pp. 326-338, May 2008.

60. Y. J. Li and J. M. Jin, "A fast full-wave analysis of large-scale three-dimensional photonic crystal devices," J. Opt. Soc. Am. B, vol. 24, no. 9, pp. 2406-2415, Sept. 2007.

61. S.-H. Lee and J. M. Jin, "Efficient full-wave analysis of multilayer interconnection structures using a novel domain decomposition-model order reduction method," IEEE Trans. Microwave Theory Tech., vol. 56, no. 1, pp. 121-130, Jan. 2008.

62. Y. Li and J. M. Jin, "A new dual-primal domain decomposition approach for finite element simulation of

3D large-scale electromagnetic problems," IEEE Trans. Antennas Propagat., vol. 55, no. 10, pp. 2803-2810, Oct. 2007.

63. Z. Y. Zeng and J. M. Jin, "An efficient calculation of scattering variation due to uncertain geometrical deviation," Electromagn., vol. 27, no. 7, pp. 387-398, Sept. 2007.

64. S.-H. Lee and J. M. Jin, "Adaptive solution space projection for fast and robust wideband finite-element simulation of microwave components," IEEE Microwave Wireless Comp. Lett., vol. 17, no. 7, pp. 474-476, July 2007.

65. A. E. Yilmaz, J. M. Jin, and E. Michielssen, "A leapfrogging-in-time integral equation solver," IEEE Antennas Wireless Propagat. Lett., vol. 6, pp. 203-206, 2007.

66. Z. Lou, D. Correia, and J. M. Jin, "Second-order perfectly matched layers for the time-domain finite element method," IEEE Trans. Antennas Propagat., vol. 55, no. 3, pp. 1000-1004, March 2007.

67. P. Wang, M. Y. Xia, J. M. Jin, and L. Z. Zhou, "Time-domain integral equation solvers using quadratic B-spline temporal basis functions," Microwave Opt. Tech. Lett., vol. 49, no. 5, pp. 1154-1159, May 2007.

68. A. E. Yilmaz, Z. Lou, E. Michielssen, and J. M. Jin, "A single-boundary, implicit, and FFT-accelerated time-domain finite element-boundary integral solver," IEEE Trans. Antennas Propagat., vol. 55, no. 5, pp. 1382-1397, May 2007.

69. H. Bagci, A. E. Yilmaz, J. M. Jin, and E. Michielssen, "Fast and rigorous analysis of EMC/EMI phenomena of electrically large and complex cable-loaded structures," IEEE Trans. Electromag. Compatibility, vol. 49, no. 2, pp. 361-381, May 2007.

70. R. Wang and J. M. Jin, "A finite element-boundary integral formulation for numerical simulation of scattering by discrete body-of-revolution geometries," Electromagn., vol. 27, no. 2-3, pp. 65-86, Feb.-April 2007.

71. A. E. Yilmaz, J. M. Jin, and E. Michielssen, "Analysis of low-frequency electromagnetic transients by an

extended time-domain adaptive integral method," IEEE Trans. Adv. Packaging (TADVP), vol. 30, no. 2, pp. 301-312, May 2007.

72. Z. Lou and J. M. Jin, "A dual-field domain-decomposition method for time-domain finite-element analysis of large finite arrays," J. Comput. Physics, vol. 222, no. 1, pp. 408-427, March 2007.

73. D. Correia and J. M. Jin, "Performance of regular PML, CFS PML and second-order PML for waveguide problems," Microwave Opt. Tech. Lett., vol. 48, no. 10, pp. 2121-2126, Oct. 2006.

74. Y. J. Li and J. M. Jin, "A vector dual-primal finite element tearing and interconnecting method for solving 3-D large-scale electromagnetic problems," IEEE Trans. Antennas Propagat., vol. 54, no. 10, pp. 3000-3009, Oct. 2006.

75. Z. Lou and J. M. Jin, "A new explicit time-domain finite-element method based on element-level decomposition," IEEE Trans. Antennas Propagat., vol. 54, no. 10, pp. 2990-2999, Oct. 2006.

76. Z. Lou and J. M. Jin, "A novel dual-field time-domain finite-element domain-decomposition method for computational electromagnetics," IEEE Trans. Antennas Propagat., vol. 54, no. 6, pp. 1850-1862, June 2006.

77. A. E. Yilmaz, J. M. Jin, and E. Michielssen, "A TDIE-based asynchronous electromagnetic-circuit simulators," IEEE Microwave Wireless Comp. Lett., vol. 16, no. 3, pp. 122-124, March 2006.

78. K. Mao, J. K. Byun, and J. M. Jin, "Enhancing the modeling capability of the FE-BI method for simulation of cavity-backed antennas and arrays," Electromagn., vol. 26, no. 7, pp. 503-515, Oct. 2006.

79. E. Dunn, J. K. Byun, E. Branch, and J. M. Jin, "Numerical simulation of BOR scattering and radiation using a higher-order FEM," IEEE Trans. Antennas Propagat., vol. 54, no. 3, pp. 945-952, March 2006.

80. L. E. R. Petersson and J. M. Jin, "Analysis of periodic structures via a time-domain finite element formulation with a Floquet ABC," IEEE Trans. Antennas Propagat., vol. 54, no. 3, pp. 933-944, March 2006.

81. D. Correia and J. M. Jin, "On the development of a

higher-order PML," IEEE Trans. Antennas Propagat., vol. 53, no. 12, pp. 4157-4163, Dec. 2005.

82. Z. Lou and J. M. Jin, "Modeling and simulation of broadband antennas using the time-domain finite element method," IEEE Trans. Antennas Propagat., vol. 53, no. 12, pp. 4099-4110, Dec. 2005.

83. L. E. R. Petersson and J. M. Jin, "A three-dimensional time-domain finite element formulation for periodic structures," IEEE Trans. Antennas Propagat., vol. 54, no. 1, pp. 12-19, Jan. 2006.

84. C. S. Liang, D. A. Streater, J. M. Jin, E. Dunn, and T. Rozendal, "Ground-plane backed hemispheric Luneberg lens reflector," IEEE Antennas Propagat. Mag., vol. 48, no. 1, pp. 37-49, Feb. 2006.

85. D. Riley and J. M. Jin, "Modeling of magnetic loss in the finite-element time-domain method," Microwave Opt. Tech. Lett, vol. 46, no. 2, pp. 165-168, July 2005.

86. Z. Lou and J. M. Jin, "An accurate waveguide port boundary condition for the time-domain finite element method," IEEE Trans. Microwave Theory Tech., vol. 53, no. 9, pp. 3014-3023, Sept. 2005.

87. J. M. Jin, "A highly robust and versatile finite element-boundary integral hybrid code for scattering by BOR objects," IEEE Trans. Antennas Propagat., vol. 53, no. 7, pp. 2274-2281, July 2005.

88. D. Correia and J. M. Jin, "A simple and efficient implementation of CFS-PML in the FDTD analysis of periodic structures," IEEE Microwave Wireless Comp. Lett., vol. 15, no. 7, pp. 487-489, July 2005.

89. J. M. Jin, "Comments on 'A FEM analysis of open boundary structures using edge elements and a cylindrical harmonic expansion'," Electromagn., vol. 24, no. 6, p. 491, Aug.-Sept. 2004.

90. Z. Lou, L. E. R. Petersson, J. M. Jin, and D. Riley, "Total- and scattered-field decomposition technique for the finite-element time-domain modeling of buried scatterers," IEEE Antennas Wireless Propagat. Lett., vol. 4, pp. 133-137, 2005.

91. A. E. Yilmaz, J. M. Jin, and E. Michielssen, "A parallel FFT-accelerated transient field-circuit simulator," IEEE Trans. Microwave Theory Tech., vol. 53, no. 9, pp.

2851-2865, Sept. 2005.

92. T. Rylander and J. M. Jin, "Perfectly matched layers in three dimensions for the time-domain finite element method applied to radiation problems," IEEE Trans. Antennas Propagat., vol. 53, no. 4, pp. 1489-1499, April 2005.

93. X. Wang, M. M. Botha, and J. M. Jin, "An error estimator for the moment method in electromagnetic scattering," Microwave Opt. Tech. Lett., vol. 44, no. 4, pp. 320-326, Feb. 2005.

94. L. E. R. Petersson and J. M. Jin, "A two-dimensional time-domain finite element formulation for periodic structures," IEEE Trans. Antennas Propagat., vol. 53, no. 4, pp. 1480-1488, April 2005.

95. J. K. Byun and J. M. Jin, "Finite-element analysis of scattering from a complex BOR using spherical infinite elements," Electromagn., vol. 25, no. 4, pp. 267-304, May-June 2005.

96. C. S. Liang, D. A. Streater, J. M. Jin, E. Dunn, and T. Rozendal, "A quantitative study of Luneberg lens reflectors," IEEE Antennas Propagat. Mag., vol. 47, no. 2, pp. 30-42, April 2005.

97. M. M. Botha and J. M. Jin, "Adaptive finite element-boundary integral analysis for electromagnetic fields in 3D," IEEE Trans. Antennas Propagat., vol. 53, no. 5, pp. 1710-1720, May 2005.

98. L. E. R. Petersson and J. M. Jin, "An efficient procedure for the projection of a given field onto hierarchical vector basis functions of arbitrary order," Electromagn., vol. 25, no. 2, pp. 81-91, Feb.-March 2005.

99. D. Riley, J. M. Jin, Z. Lou, and R. Petersson, "Total- and scattered-field decomposition technique for the finite-element time-domain method," IEEE Trans. Antennas Propagat., vol. 54, no. 1, pp. 35-41, Jan. 2006.

100. Z. Lou and J. M. Jin, "Higher-order finite element analysis of finite-by-infinite arrays," Electromagn., vol. 24, no. 7, pp. 497-514, Oct. 2004.

101. T. Rylander and J. M. Jin, "Stable coaxial waveguide port algorithm for the time domain finite element method," Microwave Opt. Tech. Lett., vol. 42, no. 2, pp. 115-119, July 2004.

102. M. M. Botha and J. M. Jin, "On the variational formulation of hybrid finite element-boundary integral techniques for electromagnetic analysis," IEEE Trans. Antennas Propagat., vol. 52, no. 11, pp. 3037-3047, Nov. 2004.

103. M. E. Kowalski and J. M. Jin, "Model-based optimization of phased-arrays for electromagnetic hyperthermia," IEEE Trans. Microwave Theory Tech., vol. 52, no. 8, pp. 1964-1977, Aug. 2004.

104. J. K. Byun and J. M. Jin, "A comparative study of infinite elements for two-dimensional electromagnetic scattering analysis," Electromagn., vol. 24, no. 4, pp. 219-236, May-June 2004.

105. J. M. Jin, "A note on 'Backward scattering theorem applying to a perfectly conducting sphere,'" J. Electromagn. Waves Appl., vol. 17, no. 7, p. 1089, 2003.

106. Z. Lou and J. M. Jin, "Finite element analysis of phased array antennas," Microwave Opt. Tech. Lett., vol. 40, no. 6, pp. 490-496, March 2004.

107. T. Rylander and J. M. Jin, "Perfectly matched layers for the time domain finite element method applied to Maxwell's equations," J. Comput. Physics, vol. 200, no. 1, pp. 238-250, Oct. 2004.

108. D. Correia and J. M. Jin, "3D-FDTD-PML analysis of left-handed metamaterials," Microwave Opt. Tech. Lett., vol. 40, no. 3, pp. 201-205, Feb. 2004.

109. A. E. Yilmaz, J. M. Jin, and E. Michielssen, "Time-domain adaptive integral method for surface integral equations," IEEE Trans. Antennas Propagat., vol. 52, no. 10, pp. 2692-2708, Oct. 2004.

110. Z. Lou and J. M. Jin, "Analysis of 3-D frequency selective structures using a high-order finite element method," Microwave Opt. Tech. Lett., vol. 38, no. 4, pp. 259-263, Aug. 2003.

111. Z. Lou and J. M. Jin, "High-order finite element analysis of periodic absorbers," Microwave Opt. Tech. Lett., vol. 37, no. 3, pp. 203-207, May 2003.

112. K. C. Donepudi, J. M. Jin, and W. C. Chew, "A grid-robust higher-order multilevel fast multipole algorithm for analysis of 3-D scatterers," Electromagnetics, vol. 23,

no. 4, pp. 315-330, May-June 2003.

113. J. M. Jin, J. Liu, Z. Lou, and C. S. Liang, "A fully high-order finite element simulation of scattering by deep cavities," IEEE Trans. Antennas Propagat., vol. 51, no. 9, pp. 2420-2429, Sept. 2003.

114. M. E. Kowalski and J. M. Jin, "A temperature-based feedback control system for electromagnetic phased-array hyperthermia: Theory and simulation," Phys. Med. Biol., vol. 48, pp. 633-651, March 2003.

115. M. E. Kowalski and J. M. Jin, "Model-order reduction for nonlinear models of electromagnetic phased-array hyperthermia," IEEE Trans. Biomed. Eng., vol. 50, no. 11, pp. 1243-1254, Nov. 2003.

116. J. Liu and J. M. Jin, "Analysis of conformal antennas on a complex platform," Microwave Opt. Tech. Lett., vol. 36, no. 2, pp. 139-142, Jan. 2003.

117. R. S. Chen, D. X. Wang, E. K. N. Yung, and J. M. Jin, "Application of the multifrontal method to the vector FEM for analysis of microwave filters," Microwave Opt. Tech. Lett., vol. 31, no. 6, pp. 465-470, Dec. 2001.

118. H. T. Hui, E. K. N. Yung, and J. M. Jin, "Study of the effect of host loss on the chirality of composite chiral materials," Radio Science, vol. 37, no. 1, pp. 16-1–16-2, Jan.-Feb. 2002.

119. J. Liu and J. M. Jin, "Scattering analysis of a large body with deep cavities," IEEE Trans. Antennas Propagat., vol. 51, no. 6, pp. 1157-1167, June 2003.

120. K. Donepudi, J. M. Jin, and W. C. Chew, "A higher-order multilevel fast multipole algorithm for scattering from mixed conducting/dielectric bodies," IEEE Trans. Antennas Propagat., vol. 51, no. 10, pp. 2814-2821, Oct. 2003.

121. J. Liu, E. Dunn, P. Baldensperger, and J. M. Jin, "Computation of radar cross section of jet engine inlets," Microwave Opt. Tech. Lett., vol. 33, no. 5, pp. 322-325, June 2002.

122. A. E. Yilmaz, D. S. Weile, B. Shanker, J. M. Jin, and E. Michielssen, "Fast analysis of transient scattering in lossy media," IEEE Antennas Propagat. Lett., vol. 1, no. 1, pp. 14-17, 2002.

123. J. Liu, J. M. Jin, E. K. N. Yung, and R. S. Chen, "A fast

higher-order three-dimensional finite element analysis of microwave waveguide devices," Microwave Opt. Tech. Lett., vol. 32, no. 5, pp. 344-352, March 2002.

124. M. E. Kowalski, B. Babak, J. M. Jin, and A. G. Webb, "Optimization of electromagnetic phased-arrays for hyperthermia using magnetic resonance temperature estimation," IEEE Trans. Biomed. Eng., vol. 49, no. 11, pp. 1229-1241, Nov. 2002.

125. D. Jiao and J. M. Jin, "Time-domain finite element simulation of cavity-backed microstrip patch antennas," Microwave Opt. Tech. Lett., vol. 32, no. 4, pp. 251-254, Feb. 2002.

126. D. Jiao, J. M. Jin, E. Michielssen, and D. Riley, "Time-domain finite-element simulation of three-dimensional scattering and radiation problems using perfectly matched layers," IEEE Trans. Antennas Propagat., vol. 51, no. 2, pp. 296-305, Feb. 2003.

127. J. Liu and J. M. Jin, "A highly effective preconditioner for solving the finite element--boundary integral matrix equation of 3-D scattering," IEEE Trans. Antennas Propagat., vol. 50, no. 9, pp. 1212-1221, Sept. 2002.

128. D. Jiao and J. M. Jin, "An effective algorithm for implementing perfectly matched layers in time-domain finite-element simulation of open-region EM problems," IEEE Trans. Antennas Propagat., vol. 50, no. 11, pp. 1615-1623, Nov. 2002.

129. D. Jiao and J. M. Jin, "A general approach for the stability analysis of time-domain finite element method," IEEE Trans. Antennas Propagat., vol. 50, no. 11, pp. 1624-1632, Nov. 2002.

130. D. Jiao and J. M. Jin, "Three-dimensional orthogonal vector basis functions for time-domain finite element solution of vector wave equations," IEEE Trans. Antennas Propagat., vol. 51, no. 1, pp. 59-66, Jan. 2003.

131. A. E. Yilmaz, D. S. Weile, J. M. Jin, and E. Michielssen, "A hierarchical FFT algorithm (HIL-FFT) for the fast analysis of transient electromagnetic scattering," IEEE Trans. Antennas Propagat., vol. 50, no. 7, pp. 971-982, July 2002.

132. D. Jiao, A. Ergin, B. Shanker, E. Michielssen, and J. M.

Jin, "A fast time-domain higher-order finite-element—boundary-integral method for 3-D electromagnetic scatter-ing analysis," IEEE Trans. Antennas Propagat., vol. 50, no. 9, pp. 1192-1202, Sept. 2002.

133. M. E. Kowalski, B. Singh, L. C. Kempel, K. D. Trott, and J.-M. Jin, "Application of the integral equation-asymptotic phase (IE-AP) method to three-dimensional scattering," J. Electromagn. Waves Appl., vol. 15, no. 7, pp. 885-900, 2001.

134. M. E. Kowalski and J. M. Jin, "Lanczos-based model order reduction for optimization and control of electromagnetically induced hyperthermia," Appl. Comput. Electromagn. Soc. J., vol. 16, no. 12, pp. 126-137, July 2001.

135. X. Q. Sheng, E. K. N. Yung, C. H. Chan, J. M. Jin, and W. C. Chew, "Scattering from large bodies with cracks and cavities by a fast and accurate finite-element boundary-integral method," IEEE Trans. Antennas Propagat., vol. 48, no. 8, pp. 1153-1160, Aug. 2000.

136. C. F. Wang, J. M. Jin, L. W. Li, P. S. Kooi, and M. S. Leong, "A multilevel BCG-FFT method for the analysis of a microstrip antenna and array," Microwave Opt. Tech. Lett., vol. 27, no. 1, pp. 20-23, Oct. 2000.

137. X. Q. Sheng, E. K. N. Yung, J. M. Jin, and W. C. Chew, "Incorporate approximate boundary conditions into the fast and accurate finite-element boundary-integral formulation for scattering by complex targets," J. Electromagn. Waves Appl., vol. 13, pp. 1395-1405, Oct. 1999.

138. D. Jiao and J. M. Jin, "Time-domain finite-element modeling of dispersive media," IEEE Microwave Wireless Components Lett., vol. 11, no. 5, pp. 220-222, May 2001.

139. J. Liu and J. M. Jin, "A novel hybridization of higher order finite element and boundary integral methods for electromagnetic scattering and radiation problems," IEEE Trans. Antennas Propagat., vol. 49, no. 12, pp. 1794-1806, Dec. 2001.

140. A. E. Yilmaz, D. S. Weile, J. M. Jin, and E. Michielssen, "A fast Fourier transform accelerated marching-on-in-time algorithm (MOT-FFT) for electromagnetic

analysis,'' Electromagnetics, vol. 21, no. 3, pp. 181-197, April 2001.

141. F. Ling, J. Liu, and J. M. Jin, "Efficient electromagnetic modeling of three-dimensional multilayer microstrip antennas and circuits,'' IEEE Trans. Microwave Theory Tech., vol. 50, no. 6, pp. 1628-1635, June 2002.

142. K. C. Donepudi, J. M. Song, J. M. Jin, G. Kang, and W. C. Chew, "A novel implementation of multilevel fast multipole algorithm for higher-order Galerkin's method," IEEE Trans. Antennas Propagat., vol. 48, no. 8, pp. 1192-1197, Aug. 2000.

143. D. Jiao, M. Lu, E. Michielssen, and J. M. Jin, "A fast time-domain finite-element— boundary-integral method for electromagnetic analysis," IEEE Trans. Antennas Propagat., vol. 49, no. 10, pp. 1453-1461, Oct. 2001.

144. F. Ling and J. M. Jin, "Discrete complex image method for Green's functions of general multilayer media," IEEE Microwave Guided Wave Lett., vol. 10, no. 10, pp. 400-402, Oct. 2000.

145. G. Kang, J. M. Song, W. C. Chew, K. Donepudi, and J. M. Jin, "A novel grid-robust higher-order vector basis function for the method of moments," IEEE Trans. Antennas Propagat., vol. 48, no. 6, pp. 908-915, June 2001.

146. M. E. Kowalski and J. M. Jin, "Determination of electromagnetic phased array driving signals for hyperthermia based on a steady-state temperature criterion," IEEE Trans. Microwave Theory Tech., vol. 48, no. 11, pp. 1864-1873, Nov. 2000.

147. F. Ling, K. C. Donepudi, and J. M. Jin, "Higher-order full-wave analysis of multilayer microstrip structures," Microwave Opt. Tech. Lett., vol. 25, no. 2, pp. 141-145, April 2000.

148. K. C. Donepudi, J. M. Jin, S. Velamoarambil, J. M. Song, and W. C. Chew, "A higher-order parallelized multilevel fast multipole algorithm for 3D scattering," IEEE Trans. Antennas Propagat., vol. 49, no. 7, pp. 1069-1078, July 2001.

149. F. L. Teixeira, K. P. Hwang, W. C. Chew, and J. M. Jin, "Conformal PML-FDTD schemes for electromagnetic field simulations: A dynamic stability study," IEEE Trans.

Antennas Propagat., vol. 49, no. 6, pp. 902-907, June 2001.

150. D. Jiao, J. M. Jin, and J. S. Shang, "Characteristic-based finite-volume time-domain method for scattering by coated objects," Electromagnetics, vol. 20, no. 3, pp. 257-268, May-June 2000.

151. D. Jiao, J. M. Jin, and J. S. Shang, "Characteristic-based time-domain method for antenna analysis," Radio Science, vol. 36, no. 1, pp. 1-8, Jan./Feb. 2001.

152. J. Liu and J. M. Jin, "A special higher-order finite element method for scattering by deep cavities," IEEE Trans. Antennas Propagat., vol. 48, no. 5, pp. 494-703, May 2000.

153. M. Kowalski, J. M. Jin, and J. Chen, "Computation of the signal-to-noise ratio of high-frequency magnetic resonance imagers," IEEE Trans. Biomed. Eng., vol. 47, no. 11, pp. 1525-1533, Nov. 2000.

154. D. Jiao and J. M. Jin, "Asymptotic waveform evaluation for scattering by a dispersive dielectric object," Microwave Opt. Tech. Lett., vol. 24, no. 4, pp. 232-234, Feb. 2000.

155. D. Jiao and J. M. Jin, "Fast frequency-sweep analysis of microstrip antennas on a dispersive substrate," Electron. Lett., vol. 35, no. 14, pp. 1122-1123, July 1999.

156. A. D. Greenwood and J. M. Jin, "A hybrid MoM/FEM technique for scattering from a complex BOR with appendages," Appl. Comput. Electromagn. Soc. J., vol. 15, no. 1, pp. 13-19, March 2000.

157. F. Ling, J. M. Song, and J. M. Jin, "Multilevel fast multipole algorithm for analysis of large-scale microstrip structures," IEEE Microwave Guided Wave Lett., vol. 9, no. 12, pp. 508-510, Dec. 1999.

158. D. Jiao and J. M. Jin, "Fast frequency-sweep analysis of cavity-backed microstrip patch antennas," Microwave Opt. Tech. Lett., vol. 22, no. 6, pp. 389-393, Sept. 1999.

159. D. Jiao and J. M. Jin, "Fast frequency-sweep analysis of RF coils for MRI," IEEE Trans. Biomed. Eng., vol. 46, pp. 1387-1390, Nov. 1999.

160. D. Jiao, X. Y. Zhu, and J. M. Jin, "Fast and accurate frequency-sweep calculations using asymptotic waveform evaluation and combined-field integral

equation," Radio Science, vol. 34, no. 5, pp. 1055-1063, Sept.-Oct. 1999.

161. F. Ling, D. Jiao, and J. M. Jin, "Efficient electromagnetic modeling of microstrip structures in multilayer media," IEEE Trans. Microwave Theory Tech., vol. 47, no. 9, pp. 1810-1818, Sept. 1999.

162. F. Ling, C. F. Wang, and J. M. Jin, "A fast electromagnetic solver using adaptive integral method," Chinese J. Electron., vol. 8, no. 4, pp. 340-347, Sept. 1999.

163. K. P. Hwang and J. M. Jin, "Application of a hyperbolic grid generation technique to a conformal PML implementation," IEEE Microwave Guided Wave Lett., vol. 9, no. 4, pp. 137-139, April 1999.

164. A. D. Greenwood and J. M. Jin, "A field picture of wave propagation in inhomogeneous dielectric lenses," IEEE Antennas Propagat. Mag., vol. 41, no. 5, pp. 9-18, Oct. 1999.

165. A. D. Greenwood and J. M. Jin, "Finite element analysis of complex axisymmetric radiating structures," IEEE Trans. Antennas Propagat., vol. 47, no. 8, pp. 1260-1266, Aug. 1999.

166. X. Y. Zhu and J. M. Jin, "Approximate calculation of scattered field from three-dimensional narrow cracks," J. Electromagn. Waves Appl., vol. 13, no. 1, pp. 3-24, 1999.

167. C. F. Wang, F. Ling, J. M. Song, and J. M. Jin, "Adaptive integral solution of combined field integral equation," Microwave Opt. Tech. Lett., vol. 19, no. 5, pp. 321-328, 1998.

168. A. D. Greenwood and J. M. Jin, "Computation of the RCS of a complex BOR using FEM with coupled azimuth potentials and PML," Electromagnetics, vol. 19, no. 2, pp. 147-170, 1999.

169. F. Ling, C. F. Wang, and J. M. Jin, "An efficient algorithm for analyzing large-scale microstrip structures using adaptive integral method combined with discrete complex image method," IEEE Trans. Microwave Theory Tech., vol. 48, no. 5, pp. 832-839, May 2000.

170. M. Zunoubi, J. M. Jin, and W. C. Chew, "Spectral Lanczos decomposition method for time-domain and

frequency-domain finite-element solution of Maxwell's equations," Electron. Lett., vol. 34, no. 4, pp. 346-347, Feb. 1998.

171. F. Ling, C. F. Wang, and J. M. Jin, "Application of adaptive integral method to scattering and radiation analysis of planar structures," J. Electromagn. Waves Appl., vol. 12, no. 8, pp. 1021-1038, 1998.

172. J. M. Jin, "Electromagnetics in magnetic resonance imaging (invited paper)," IEEE Antennas Propagat. Mag., vol. 40, no. 6, pp. 7-22, Dec. 1998 (This paper is featured on the cover of the journal).

173. A. D. Greenwood and J. M. Jin, "A novel efficient algorithm for scattering from a complex BOR using vector FEM and cylindrical PML," IEEE Trans. Antennas Propagat., vol. 47, no. 4, pp. 620-629, April 1999.

174. J. M. Jin, "Electromagnetic scattering from large, deep, and arbitrarily-shaped open cavities," Electromagnetics, vol. 18, no. 1, pp. 3-34, Jan.-Feb. 1998.

175. J. M. Jin, M. Zunoubi, K. Donepudi, and W. C. Chew, "Frequency-domain and time-domain finite-element solution of Maxwell's equations using spectral Lanczos decomposition method," Comput. Methods Appl. Mech. Engrg., vol. 169, pp. 279-296, 1999.

176. K. P. Hwang and J. M. Jin, "A total variation diminishing finite difference scheme for the transient response of a lossless transmission line," IEEE Trans. Microwave Theory Tech., vol. 46, no. 8, pp. 1193-1196, Aug. 1998.

177. J. Chen, W. Hong, and J. M. Jin, "An iterative measured equation technique for electromagnetic problems," IEEE Trans. Microwave Theory Tech., vol. MTT-46, no. 1, pp. 25-30, Jan. 1998.

178. J. Zhang and J. M. Jin, "Preliminary study of AWE for FEM analysis of scattering problems," Microwave Opt. Tech. Lett., vol. 17, no. 1, pp. 7-12, Jan. 1998.

179. J. M. Jin, F. Ling, S. Carolan, J. M. Song, W. C. Gibson, W. C. Chew, C. C. Lu, and R. Kipp, "A hybrid SBR/MoM for analysis of scattering by small protrusion on a large conducting body," IEEE Trans. Antennas Propagat., vol. 46, no. 9, pp. 1349-1357, Sept. 1998.

180. C. F. Wang, F. Ling, and J. M. Jin, "A fast full-wave analysis of scattering and radiation from large finite

arrays of microstrip antennas," IEEE Trans. Antennas Propagat., vol. 46, no. 10, pp. 1467-1474, Oct. 1998.

181. G. Fan and J. M. Jin, "Scattering from a large planar slotted waveguide array antenna," Electromagnetics, vol. 19, no. 1, pp. 109-130, Jan.-Feb. 1999.

182. X. Q. Sheng, J. M. Jin, J. M. Song, W. C. Chew, and C. C. Lu, "Solution of combined-field integral equation using multi-level fast multipole method for scattering by homogeneous bodies," IEEE Trans. Antennas Propagat., vol. 46, no. 11, pp. 1718-1726, Nov. 1998.

183. M. Zunoubi, K. Donepudi, J. M. Jin, and W. C. Chew, "Efficient frequency-domain and time-domain finite-element solution of Maxwell's equations using spectral Lanczos decomposition method," IEEE Trans. Microwave Theory Tech., vol. 46, no. 8, pp. 1141-1149, Aug. 1998.

184. A. D. Greenwood and J. M. Jin, "Hybrid MoM/SBR method to compute scattering from a slot array in a complex geometry," Appl. Comput. Electromagn. Soc. J., vol. 13, no. 1, pp. 43-51, Mar. 1998.

185. F. Ling and J. M. Jin, "Scattering and radiation analysis of microstrip antennas using discrete complex image method and reciprocity theorem," Microwave Opt. Tech. Lett., vol. 16, no. 4, pp. 212-216, Nov. 1997.

186. X. Q. Sheng, J. M. Jin, J. M. Song, C. C. Lu, and W. C. Chew, "On the formulation of hybrid finite-element and boundary-integral method for 3D scattering," IEEE Trans. Antennas Propagat., vol. 46, no. 3, pp. 303-311, March 1998.

187. M. Zunoubi, J. M. Jin, K. Donepudi, and W. C. Chew, "A spectral Lanczos decomposition method for solving 3D low-frequency electromagnetic diffusion by the finite-element method," IEEE Trans. Antennas Propagat., vol. 47, no. 2, pp. 242-248, Feb. 1999.

188. J. Chen, Z. Feng, and J. M. Jin, "Numerical simulation of SAR and B1-field inhomogeneity of shielded RF coils loaded with the human head," IEEE Trans. Biomed. Eng., vol. 45, no. 5, pp. 650-659, May 1998.

189. M. Zunoubi, J. M. Jin, W. C. Chew, and D. Kennedy, "A spectral Lanczos decomposition method for solving axisymmetric low-frequency electromagnetic diffusion

by the finite-element method," J. Electromagn. Waves Appl., vol. 11, pp. 1389-1406, 1997.

190. W. C. Chew, J. M. Jin, and E. Michielssen, "Complex coordinate stretching as a generalized absorbing boundary condition," Microwave Opt. Tech. Lett., vol. 15, no. 6, pp. 363-369, Aug. 1997.

191. C. F. Wang and J. M. Jin, "Simple and efficient computation of electromagnetic fields in arbitrarily-shaped, inhomogeneous dielectric bodies using transpose-free QMR and FFT," IEEE Trans. Microwave Theory Tech., vol. 46, no. 5, pp. 553-558, May 1998.

192. X. Sheng and J. M. Jin, "Hybrid FEM/SBR method to compute scattering by large bodies with small protruding scatterers," Microwave Opt. Tech. Lett., vol. 15, no. 2, pp. 78-84, June 1997.

193. F. Ling and J. M. Jin, "Hybridization of SBR and MoM for scattering by large bodies with inhomogeneous protrusions," Progress in Electromagnetics Research, PIER 17, pp. 25-43, 1997.

194. F. Ling and J. M. Jin, "Hybridization of SBR and MoM for scattering by large bodies with inhomogeneous protrusions—Summary," J. Electromagn. Waves Appl., vol. 11, pp. 1249-1255, 1997.

195. J. M. Jin and N. Lu, "Finite element analysis of scattering using coupled basis functions for elliptic boundaries," IEE Proc.-Microw. Antennas Propag., vol. 144, no. 6, pp. 501-508, Dec. 1997.

196. J. M. Jin and J. Chen, "On the SAR and field inhomogeneity of birdcage coils loaded with the human head," Magn. Reson. Med., vol. 38, no. 6, pp. 953-963, 1997.

197. J. M. Jin, X. Q. Sheng, and W. C. Chew, "Complementary perfectly matched layers to reduce reflection errors," Microwave Opt. Tech. Lett., vol. 14, no. 5, pp. 284-287, Apr. 1997.

198. A. D. Greenwood, S. S. Ni, J. M. Jin, and S. W. Lee, "Hybrid FEM/SBR method to compute the radiation pattern from a microstrip patch antenna in a complex geometry," Microwave Opt. Tech. Lett., vol. 13, no. 2, pp. 84-87, Oct. 1996.

199. W. C. Chew, J. M. Jin, C. C. Lu, E. Michielssen, and J.

M. Song, "Fast solution methods in electromagnetics," IEEE Trans. Antennas Propagat., vol. AP-45, no. 3, pp. 533-543, Mar. 1997.

200. J. M. Jin, J. Chen, H. Gan, W. C. Chew, R. L. Magin, and P. J. Dimbylow, "Computation of electromagnetic fields for high-frequency magnetic resonance imaging applications," Phys. Med. Biol., vol. 41, pp. 2719-2738, 1996.

201. J. M. Jin and N. Lu, "The unimoment method applied to elliptic boundaries," IEEE Trans. Antennas Propagat., vol. AP-45, no. 3, pp. 564-566, Mar. 1997.

202. G. Fan and J. M. Jin, "Scattering from a cylindrically conformal slotted-waveguide array antenna," IEEE Trans. Antennas Propagat., vol. AP-45, no. 7, pp. 1150-1159, July 1997.

203. J. M. Jin and W. C. Chew, "Combining PML and ABC for finite element analysis of scattering problems," Microwave Opt. Tech. Lett., vol. 12, no. 4, pp. 192-197, July 1996.

204. W. C. Chew and J. M. Jin, "Perfectly matched layers in the discretized space: An analysis and optimization," Electromagnetics, vo. 16, no. 4, pp. 325-340, July 1996.

205. J. M. Jin, J. A. Berrie, R. Kipp, and S. W. Lee, "Calculation of radiation patterns of microstrip antennas on cylindrical bodies of arbitrary cross section," IEEE Trans. Antennas Propagat., vol. AP-45, no. 1, pp. 126-132, Jan. 1997.

206. N. Lu and J. M. Jin, "Application of fast multipole method to finite element– boundary integral solution of scattering problems," IEEE Trans. Antennas Propagat., vol. AP-44, no. 6, pp. 781-786, June 1996.

207. J. M. Jin and N. Lu, "Application of adaptive absorbing boundary condition to finite element solution of three-dimensional scattering," Proc. Inst. Elec. Eng., part H, vol. 143, no. 1, pp. 57-61, Feb. 1996.

208. J. Chen and J. M. Jin, "Electromagnetic scattering from waveguide slot antennas with arbitrary terminations," Microwave Opt. Tech. Lett., vol. 10, no. 5, pp. 286-291, 1995.

209. J. M. Jin, R. L. Magin, G. Shen, and T. Perkins, "A simple method to incorporate the effects of an RF shield

into RF resonator analysis for MRI applications," IEEE Trans. Biomed. Eng., vol. BME-42, pp. 840-843, Aug. 1995.

210. J. M. Jin, S. Ni, and S. W. Lee, "Hybridization of SBR and FEM for scattering by large bodies with cracks and cavities," IEEE Trans. Antennas Propagat., vol. AP-43, no. 10, pp. 1130-1139, Oct. 1995.

211. J. M. Jin, S. Ni, and S. W. Lee, "A robust hybrid technique for calculating scattering by large and complex targets," Electron. Lett., vol. 30, no. 25, pp. 2169-2170, 1994.

212. J. M. Jin and S. W. Lee, "Hybrid finite element analysis of scattering and radiation by a class of waveguide-fed structures," Microwave Opt. Tech. Lett., vol. 7, no. 17, pp. 798-803, 1994.

213. J. M. Jin, G. Shen, and T. Perkins, "On the field inhomogeneity of birdcage coils," Magn. Reson. Med., vol. 32, no. 3, pp. 418-422, Sept. 1994.

214. J. M. Jin and W. C. Chew, "Variational formulation of electromagnetic boundary-value problems involving anisotropic media," Microwave Opt. Tech. Lett., vol. 7, no. 8, pp. 348-351, 1994.

215. J. M. Jin and J. L. Volakis, "Scattering and radiation analysis of three-dimensional cavity arrays via a hybrid finite element method," IEEE Trans. Antennas Propagat., vol. AP-41, no. 11, pp. 1580-1586, Nov. 1993.

216. A. Chatterjee, J. M. Jin, and J. L. Volakis, "Edge-based finite elements and vector ABCs applied to 3D scattering," IEEE Trans. Antennas Propagat., vol. AP-41, no. 2, pp. 221-226, Feb. 1993.

217. J. D. Collins, J. M. Jin, and J. L. Volakis, "Eliminating of internal resonances in the finite element - boundary integral method for scattering problems," IEEE Trans. Antennas Propagat., vol. AP-40, no. 12, pp. 1583-1585, Dec. 1992.

218. J. L. Volakis, A. Alexanian, and J. M. Jin, "Broadband RCS reduction of rectangular patch using distributed loading," Electron. Lett., vol. 28, no. 25, pp. 2322-2323, Dec. 1992.

219. A. Chatterjee, J. M. Jin, and J. L. Volakis, "Computation

of cavity resonances using edge-based finite elements," IEEE Trans. Microwave Theory Tech., vol. MTT-40, no. 11, pp. 2106-2108, Nov. 1992.

220. J. M. Jin, J. L. Volakis, and V. V. Liepa, "A fictitious absorber for truncating finite element meshes in scattering," Proc. Inst. Elec. Eng., part H, vol. 139, no. 5, pp. 472-476, Oct. 1992.

221. J. M. Jin, J. L. Volakis, C. L. Yu, and A. C. Woo, "Modeling of resistive sheets in finite element solutions," IEEE Trans. Antennas Propagat., vol. AP-40, no. 6, pp. 727-731, June 1992.

222. J. L. Volakis and J. M. Jin, "A scheme to alter the resonant frequency of the microstrip patch antenna," IEEE Microwave Guided Wave Lett., vol. 2, pp. 292-293, July 1992.

223. A. Chatterjee, J. M. Jin, and J. L. Volakis, "A robust finite element solution of three-dimensional scattering problems," Electron. Lett., vol. 28, no. 10, pp. 966-967, May 1992.

224. J. M. Jin and J. L. Volakis, "A biconjugate gradient FFT solution for scattering by planar plates," Electromagnetics, vol. 12, no. 1, pp. 105-119, Jan.-Mar. 1992.

225. J. M. Jin and J. L. Volakis, "A hybrid finite element method for scattering and radiation by microstrip patch antennas and arrays residing in a cavity," IEEE Trans. Antennas Propagat., vol. AP-39, pp. 1598-1604, Nov. 1991.

226. J. M. Jin and J. L. Volakis, "Electromagnetic scattering by and transmission through a three-dimensional slot in a thick conducting plane," IEEE Trans. Antennas Propagat., vol. AP-39, no. 4, pp. 543-550, April 1991.

227. J. M. Jin, J. L. Volakis, and J. D. Collins, "A finite element - boundary integral method for scattering and radiation by two- and three-dimensional structures," IEEE Antennas Propagat. Mag., vol. 33, no. 3, pp. 22-32, June 1991.

228. J. M. Jin and J. L. Volakis, "A finite element - boundary integral formulation for scattering by three-dimensional cavity-backed apertures," IEEE Trans. Antennas Propagat., vol. AP-39, no. 1, pp. 97-104, Jan. 1991.

229. J. D. Collins, J. M. Jin, and J. L. Volakis, "A combined finite element - boundary element formulation for solution of two-dimensional problems via CGFFT," Electromagnetics, vol. 10, no. 4, pp. 423-437, 1990.

230. J. D. Collins, J. L. Volakis, and J. M. Jin, "A combined finite element - boundary integral formulation for solution of two-dimensional scattering problems via CGFFT," IEEE Trans. Antennas Propagat., vol. AP-38, no. 11, pp. 1852-1858, Nov. 1990.

231. J. M. Jin and J. L. Volakis, "TM scattering by an inhomogeneously filled aperture in a thick conducting plane," Proc. Inst. Elec. Eng., part H, vol. 137, no. 3, pp. 153-159, June 1990.

232. J. M. Jin and J. L. Volakis, "TE scattering by an inhomogeneously filled aperture in a thick conducting plane," IEEE Trans. Antennas Propagat., vol. AP-38, no. 8, pp. 1280-1286, Aug. 1990.

233. J. M. Jin and J. L. Volakis, "Electromagnetic scattering by a perfectly conducting patch array on a dielectric slab," IEEE Trans. Antennas Propagat., vol. AP-38, no. 4, pp. 556-563, April 1990.

234. J. M. Jin and J. L. Volakis, "New technique for characterizing diffraction by inhomogeneously filled slot of arbitrary cross section in thick conducting plane," Electron. Lett., vol. 25, no. 17, pp. 1121-1123, 17th August 1989.

235. J. M. Jin, J. L. Volakis, and V. V. Liepa, "A moment method solution of the volume-surface integral equation using isoparametric elements and point-matching," IEEE Trans. Microwave Theory Tech., vol. MTT-37, no. 10, pp. 1641-1645, Oct. 1989.

236. J. M. Jin and V. V. Liepa, "Simple moment method program for computing scattering from complex cylindrical obstacles," Proc. Inst. Elec. Eng., part H, vol. 136, no. 4, pp. 321-329, Aug. 1989.

237. J. M. Jin and V. V. Liepa, "A numerical technique for computing TM scattering by coated wedges and half-planes," Electromagnetics, vol. 9, no. 2, pp. 201-214, 1989.

238. J. M. Jin, J. L. Volakis, and V. V. Liepa, "A comparative study of the OSRC approach in electromagnetic

scattering," IEEE Trans. Antennas Propagat., vol. AP-37, no. 1, pp. 118-124, Jan. 1989.

239. J. M. Jin and V. V. Liepa, "A note on the hybrid finite element method for solving scattering problems," IEEE Trans. Antennas Propagat., vol. AP-36, no. 10, pp. 1486-1490, Oct. 1988.

240. J. M. Jin, V. V. Liepa, and C. T. Tai, "A volume-surface integral equation for electromagnetic scattering by inhomogeneous cylinders," Journal of Electromagnetic Waves and Applications, vol. 2, no. 5/6, pp. 573-588, 1988.

241. J. M. Jin and V. V. Liepa, "Application of a hybrid finite element method to electromagnetic scattering from coated cylinders," IEEE Trans. Antennas Propagat., vol. AP-36, no. 1, pp. 50-54, Jan. 1988.

242. J. M. Jin and S. Zhang, "Second-order finite element analysis of a waveguide partially filled with anisotropic dielectric and an approximate analysis," Acta Electronica Sinica, vol. 14, no. 6, pp. 20-26, Nov. 1986.

243. S. Zhang and J. M. Jin, "Dyadic Green's functions for circular waveguides and coaxial lines with moving media," Acta Antennica Sinica, vol. 2, no. 1, pp. 38-45, 1986.

244. S. Zhang and J. M. Jin, "Finite element analysis of waveguides partially filled with anisotropic dielectric materials," Acta Electronica Sinica, vol. 13, no. 4, pp. 14-22, July 1985.

245. S. Zhang and J. M. Jin, "Derivation of dyadic Green's functions for cylindrical cavities by image method," Acta Electronica Sinica, vol. 12, no. 5, pp. 21-26, Sept. 1984.

Conference Papers

1. T. J. Lu and J. M. Jin, "Electrical-thermal co-simulation for large-scale analysis of integrated circuits," IEEE MTT-S International Conference on Numerical Electromagnetic and Multiphysics Modeling and Optimization for RF, Microwave, and Terahertz Applications, Ottawa, Canada, Aug. 2015.

2. S. Yan and J. M. Jin, "Nonlinear finite element formulation and analysis of high-power air/dielectric breakdown in time domain," International Conference on Electromagnetics in Advanced Applications (ICEAA), Torino, Italy, Sept. 2015.

3. K. D. Zhang and J. M. Jin, "Parallel FETI-DP for efficient analysis of general objects and antenna arrays," International Conference on Electromagnetics in Advanced Applications (ICEAA), Torino, Italy, Sept. 2015.

4. S. Yan and J. M. Jin, "A hybrid finite element-discontinuous Galerkin solver for analyzing electromagnetics-plasma interaction in four dimensions," USNC/URSI National Radio Science Meeting, Vancouver, Canada, July 2015.

5. K. D. Zhang, P. H. Geubelle, and J.-M. Jin, "A 3D interface-enriched generalized FEM for EM analysis of composite materials," IEEE International Symposium on Antennas and Propagation, Vancouver, Canada, July 2015.

6. K. D. Zhang and J.-M. Jin, "Efficient parallelization of the FETI-DP algorithm for large-scale electromagnetic simulation," USNC/URSI National Radio Science Meeting, Vancouver, Canada, July 2015.

7. S. Yan and J. M. Jin, "Time-domain finite element modeling of nonlinear conductivity using Newton's method," IEEE International Symposium on Antennas and Propagation, Vancouver, Canada, July 2015.

8. S. Yan and J. M. Jin, "Time-domain nonlinear finite element analysis of air breakdown using a simplified plasma model," IEEE International Symposium on Antennas and Propagation, Vancouver, Canada, July 2015.

9. K. D. Zhang, A. R. Najafi, P. H. Geubelle, and J.-M. Jin, "A 2D interface-enriched generalized FEM for EM analysis of composite materials," IEEE International Symposium on Antennas and Propagation, Vancouver, Canada, July 2015.

10. M. F. Xue and J. M. Jin, "Robust domain decomposition methods for modeling of large phased arrays," 31th International Review of Progress in Applied

Computational Electromagnetics, Williamsburg, VA, March 2015.

11. T. J. Lu and J. M. Jin, "Transient electrical-thermal co-simulation in the design of on-chip and 3-D interconnects," 31th International Review of Progress in Applied Computational Electromagnetics, Williamsburg, VA, March 2015.

12. T. J. Lu, J. M. Jin, and E. P. Li, "Multiphysics characterization of large-scale through-silicon-via structures," 31th International Review of Progress in Applied Computational Electromagnetics, Williamsburg, VA, March 2015.

13. K. D. Zhang, J.-M. Jin, and P. H. Geubelle, "Multiscale modeling of the radar signature of a composite aircraft," AIAA Science and Technology (SciTech) Forum 2015, Kissimmee, FL, Jan. 2015.

14. K. D. Zhang, A. R. Najafi, J.-M. Jin, and P. H. Geubelle, "An interface-enriched generalized finite-element method for efficient electromagnetic analysis of composite materials," 51st SES (Society of Engineering Science) Annual Technical Meeting, West Lafayette, Oct. 2014.

15. M. F. Xue and J. M. Jin, "A preconditioned dual-primal finite element tearing and interconnecting method for solving 3D time-harmonic Maxwell's equations," International Conference on Electromagnetics in Advanced Applications (ICEAA), Palm Beach, Aruba, Aug. 2014.

16. K. D. Zhang, S. Yan, and J. M. Jin, "Accurate and efficient simulation of scattering by large objects with anisotropic impedance surfaces," International Conference on Electromagnetics in Advanced Applications (ICEAA), Palm Beach, Aruba, Aug. 2014.

17. M. F. Xue and J. M. Jin, "A Nonconformal FETI method with a reduced global interface system," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

18. J. Guan, S. Yan, and J. M. Jin, "An FE-BI-MLFMA with GPU acceleration for electromagnetic scattering analysis," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

19. M. F. Xue and J. M. Jin, "A FETI-DP method enhanced with second-order transmission condition for antenna array analysis," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

20. H.-T. Meng and J. M. Jin, "Acceleration of the dual-field domain decomposition algorithm using GPU clusters," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

21. K. D. Zhang, J. M. Jin, and P. H. Geubelle, "Multi-scale modeling of an aircraft coated with complex composite materials," USNC/URSI National Radio Science Meeting, Memphis, TN, July 2014.

22. K. D. Zhang and J. M. Jin, "Fast and accurate analysis of scattering from anisotropic surface impedance objects," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

23. J. Guan, S. Yan, and J. M. Jin, "A GPU-accelerated integral-equation solution for large-scale electromagnetic problems," USNC/URSI National Radio Science Meeting, Memphis, TN, July 2014.

24. H.-T. Meng, B.-L. Nie, S. Wong, C. Macon, and J. M. Jin, "Acceleration of the finite element method using hybrid OpenMP-CUDA," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

25. S. Yan, C.-F. Wang, J. Kotulski, and J.-M. Jin, "Time-domain finite element analysis of ferromagnetic hysteresis in three dimensions," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

26. S. Yan, J. Kotulski, C.-F. Wang, and J.-M. Jin, "A nonuniform time-stepping scheme for nonlinear electromagnetic analysis using time-domain finite element method," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

27. Y. J. Zeng, Z. N. Chen, J. M. Jin, "Discontinuous Galerkin time-domain method for simulating the scattering from periodic metallic nanostructures," USNC/URSI National Radio Science Meeting, Memphis, TN, July 2014.

28. S. Yan and J. M. Jin, "Ferromagnetic hysteresis analysis using time-domain finite element method in three

dimensions," 12th International Workshop on Finite Elements for Microwave Engineering, Chengdu, China, May 2014.

29. S. Yan and J. M. Jin, "Nonlinear magnetic analysis using time-domain finite element method with a nonuniform time stepping," 12th International Workshop on Finite Elements for Microwave Engineering, Chengdu, China, May 2014.

30. J. Guan, S. Yan, and J. M. Jin, "A GPU-accelerated FE-BI-MLFMA for electromagnetic scattering simulation," 12th International Workshop on Finite Elements for Microwave Engineering, Chengdu, China, May 2014.

31. M. F. Xue and J. M. Jin, "Nonconformal FETI-DP method combined with second-order transmission condition for large-scale electromagnetic analysis," 12th International Workshop on Finite Elements for Microwave Engineering, Chengdu, China, May 2014.

32. K. D. Zhang and J. M. Jin, "Scattering analysis of large, complex objects with anisotropic impedance surfaces," 12th International Workshop on Finite Elements for Microwave Engineering, Chengdu, China, May 2014.

33. H. T. Meng and J. M. Jin, "Hybrid MPI-CUDA accelerated dual-field domain decomposition algorithm," 30th International Review of Progress in Applied Computational Electromagnetics, Jacksonville, FL, March 2014.

34. M. F. Xue and J. M. Jin, "Combining second-order transmission condition with Lagrange multiplier-based FETI-DP method," 30th International Review of Progress in Applied Computational Electromagnetics, Jacksonville, FL, March 2014.

35. T. J. Lu and J. M. Jin, "Electrical-thermal co-simulation for DC IR-drop analysis of large-scale integrated circuits," 22th Conference on Electrical Performance of Electronic Packaging and Systems (EPEPS), San Jose, CA, Oct. 2013.

36. B. M. Hochwald, D. J. Love, S. Yan, and J.-M. Jin, "SAR codes," Information Theory and Applications Workshop (ITA), San Diego, CA, Feb. 2013.

37. S. Yan and J. M. Jin, "Analysis of nonlinear electromagnetic problems using time-domain finite

element method," USNC/URSI National Radio Science Meeting, Orlando, FL, July 2013.

38. J. Guan, S. Yan, and J. M. Jin, "A CUDA implementation of the finite element-boundary integral method for electromagnetic scattering simulation," USNC/URSI National Radio Science Meeting, Orlando, FL, July 2013.

39. M. F. Xue and J. M. Jin, "A two-level nested FETI/FETI-DP domain decomposition method," USNC/URSI National Radio Science Meeting, Orlando, FL, July 2013.

40. M. F. Xue and J. M. Jin, "A hybrid nonconformal FETI/conformal FETI-DP method for arbitrary nonoverlapping domain decomposition modeling," IEEE Antennas and Propagation Society International Symposium, Orlando, FL, July 2013.

41. J. Ma, Z. P. Nie, and J. M. Jin, "A fast 3-D full-wave inverse method implemented within a domain decomposition framework," IEEE Antennas and Propagation Society International Symposium, Orlando, FL, July 2013.

42. J. Ma, Z. P. Nie, and J. M. Jin, "A novel second-order transmission condition for a fast convergent non-conformal FEM-DDM at any frequencies," IEEE Antennas and Propagation Society International Symposium, Orlando, FL, July 2013.

43. S. Yan, J. M. Jin, and Z. P. Nie, "Multilevel fast multipole algorithm for mixed combined-field integral equations," IEEE Antennas and Propagation Society International Symposium, Orlando, FL, July 2013.

44. S. Yan and J. M. Jin, "A self-dual integral equation for solving EM scattering from PEC, PMC, and IBC objects," IEEE Antennas and Propagation Society International Symposium, Orlando, FL, July 2013.

45. W. Yao, J. M. Jin, and P. Krein, "An efficient domain decomposition method for 3-D finite-element analysis of nonlinear electric machine problems," IEEE International Electric Machines and Drives Conference (IEMDC), Chicago, IL, May 2013.

46. X. Li and J. M. Jin, "An unconditionally stable finite-element time-domain layered domain-decomposition

algorithm for simulating 3D high-speed circuits," 21th Conference on Electrical Performance of Electronic Packaging and Systems (EPEPS), Tempe, AZ, Oct. 2012.

47. H. T. Meng, B. L. Nie, J. M. Jin, S. Wong, and C. Macon, "Application of the graphics processing unit to computational electromagnetics using the finite element method," DoD High Performance Computing Modernization Program 22nd Users Group Conference, New Orleans, LA, June 2012.

48. M. F. Xue and J. M. Jin, "Nonconformal FETI-DP methods for numerical analysis of large-scale electromagnetic problems," International Conference on Electromagnetics in Advanced Applications (ICEAA), Cape Town, South Africa, Sept. 2012.

49. J. M. Jin, "Finite element analysis of antennas and phased arrays in the time domain," International Conference on Electromagnetics in Advanced Applications (ICEAA), Cape Town, South Africa, Sept. 2012.

50. M. F. Xue and J. M. Jin, "A discontinuous Galerkin method with Lagrange multipliers to solve vector electromagnetic problems in two dimensions," IEEE Antennas and Propagation Society International Symposium, Chicago, IL, July 2012.

51. M. F. Xue and J. M. Jin, "Application of a nonconformal FETI-DP method in antenna array simulations," IEEE Antennas and Propagation Society International Symposium, Chicago, IL, July 2012.

52. J. Guan, S. Yan, and J. M. Jin, "OpenMP-CUDA implementations of the moment method and multilevel fast multipole algorithm on multi-GPU computing systems," USNC/URSI National Radio Science Meeting, Chicago, IL, July 2012.

53. S. Yan, J. M. Jin, and Z. Nie, "Improve the accuracy of the second-kind integral equations for generally shaped objects," IEEE Antennas and Propagation Society International Symposium, Chicago, IL, July 2012.

54. W. Yao and J. M. Jin, "Application of the LU recombination method to the dual-primal finite element tearing and interconnecting method for solving low-

frequency breakdown problems," USNC/URSI National Radio Science Meeting, Chicago, IL, July 2012.

55. W. Yao and J. M. Jin, "Simulation of LWD tool response using the dual-primal finite element tearing and interconnecting method incorporated with tree-cotree splitting," IEEE Antennas and Propagation Society International Symposium, Chicago, IL, July 2012.

56. D. Nagle, J. Tan, and J. M. Jin, "Layout-Integrated Electromagnetic Interconnect Characterization and Simulation," 11th International Workshop on Finite Elements for Microwave Engineering, Estes Park, CO, June 2012.

57. W. Yao and J. M. Jin, "Application of tree-cotree splitting to the dual-primal finite element tearing and interconnecting method for solving low-frequency breakdown problems," 11th International Workshop on Finite Elements for Microwave Engineering, Estes Park, CO, June 2012.

58. W. Yao and J. M. Jin, "Analysis of electromechanical devices using the dual-primal finite element tearing and interconnecting method incorporated with the LU recombination method," 11th International Workshop on Finite Elements for Microwave Engineering, Estes Park, CO, June 2012.

59. M. F. Xue and J. M. Jin, "Preliminary research on the discontinuous enrichment method based domain decomposition scheme for solving the three-dimensional vector curl-curl equation," 11th International Workshop on Finite Elements for Microwave Engineering, Estes Park, CO, June 2012.

60. M. F. Xue and J. M. Jin, "Analysis of three-dimensional array structures using nonconformal and cement FETI-DP methods," 11th International Workshop on Finite Elements for Microwave Engineering, Estes Park, CO, June 2012.

61. X. L. Li and J. M. Jin, "On the physics, accuracy, and efficiency of the dual-field domain-decomposition method for time-domain electromagnetic simulation," 11th International Workshop on Finite Elements for Microwave Engineering, Estes Park, CO, June 2012.

62. W. Yao, J. M. Jin, and P. Krein, "Analysis of

electromechanical problems using the dual-primal finite element tearing and interconnecting method," Power and Energy Conference in Illinois, Champaign, IL, February 24-25, 2012.

63. M. F. Xue and J. M. Jin, "FETI-DP methods for analysis of phased-array antennas," 28th International Review of Progress in Applied Computational Electromagnetics, Columbus, OH, April 10-14, 2012.

64. J.-M. Jin, "On the development of hybrid finite element-boundary integral methods for electromagnetic analysis," 28th International Review of Progress in Applied Computational Electromagnetics, Columbus, OH, April 10-14, 2012.

65. X. L. Li, J. M. Jin, and J. L. Tan, "Three finite-element time-domain–based numerical algorithms for high-frequency broadband PCB simulations," 20th Conference on Electrical Performance of Electronic Packaging and Systems (EPEPS), San Jose, CA, Oct. 2011.

66. J.-M. Jin, "On the challenges of numerical computation of electromagnetic scattering from a large, deep, and perfectly conducting open cavity," USNC/URSI National Radio Science Meeting, Spokane, WA, July 2011.

67. S. Yan, J. M. Jin, and Z. Nie, "A higher-order Calderón preconditioner for the electric-field integral equation using the Nyström scheme," USNC/URSI National Radio Science Meeting, Spokane, WA, July 2011.

68. M. F. Xue, J. M. Jin, S. Wong, C. Macon, and M. Kragalott, "Experimental validation of the FETI-DPEM algorithm for simulating phased-array antennas," IEEE Antennas and Propagation Society International Symposium, Spokane, WA, July 2011.

69. X. L. Li and J. M. Jin, "A comparative study of three finite element-based explicit numerical schemes for solving Maxwell's equations," IEEE Antennas and Propagation Society International Symposium, Spokane, WA, July 2011.

70. S. Yan, J. M. Jin, and Z. Nie, "On the testing of the identity operator and the accuracy improvement of the second-kind SIEs," IEEE Antennas and Propagation Society International Symposium, Spokane, WA, July

2011.

71. J.-M. Jin, "Time-domain finite element analysis of electromagnetic radiation and scattering and microwave circuits," IEEE International Workshop on Antenna Technology, Hong Kong, March 7-9, 2011.

72. S. Yan, J. M. Jin, and Z. Nie, "Accuracy improvement of the numerical solutions to the second-kind integral equations for electromagnetic scattering analysis," 27th International Review of Progress in Applied Computational Electromagnetics, Williamsburg, VA, March 27-31, 2011.

73. D. Riley, J. M. Jin, and N. Riley, "Efficient analysis of finite periodic structures based on ultra-wideband metamaterials," 10th International Workshop on Finite Elements for Microwave Engineering, Meredith, NH, Oct. 2010.

74. R. Wang and J. M. Jin, "A hybrid field-circuit simulator based on the extended time-domain finite element method," 10th International Workshop on Finite Elements for Microwave Engineering, Meredith, NH, Oct. 2010.

75. N. Riley, D. Riley, and J.-M. Jin, "Design and modeling of finite and low-profile, ultra-wideband phased-array antennas," IEEE International Symposium on Phased Array Systems & Technology, Waltham, MA, Oct. 2010.

76. J.-M. Jin, Z. Lou, R. Petersson, Y.-J. Li, R. Wang, D. Riley, and N. Riley, "Finite element analysis of phased-array antennas," IEEE International Symposium on Phased Array Systems & Technology, Waltham, MA, Oct. 2010.

77. S. Yan, J. M. Jin, and Z. Nie, "Calderón preconditioning techniques for integral equation based methods," URSI International Symposium on Electromagnetic Theory, Berlin, Germany, Aug. 2010.

78. L. E. Sun, W. C. Chew, and J. M. Jin, "Suppression of field projection error in EPA at low frequencies by augmentation method," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

79. Y. Shi and J. M. Jin, "Scattering analysis of mixed metallic/uniaxial objects using surface integral equations

accelerated by adaptive cross approximation algorithm," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

80. M. S. Tong, W. C. Chew, and J. M. Jin, "Inversion of electromagnetic scattering by Nyström forward solution and Gauss-Newton minimization approach," USNC/URSI National Radio Science Meeting, Toronto, Canada, June 2010.

81. M. F. Xue and J. M. Jin, Acceleration and accuracy improvement of FEM computation by using FETI-DP and BI hybrid algorithm," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

82. S. Yan, J. M. Jin, and Z. Nie, "A study of the augmented EFIE with a Calderon preconditioner," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

83. S. Yan, J. M. Jin, and Z. Nie, "A comparative study of different Calderon preconditioned PMCHWT formulations," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

84. S. Yan, J. M. Jin, and Z. Nie, "Derivation of N-Muller equations using Calderon identities," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

85. R. Wang and J. M. Jin, "An enhanced flexible time-stepping scheme for the hybrid time-domain finite element method," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

86. R. Wang, D. Riley, and J. M. Jin, "Application of tree-cotree splitting technique to the transient full-wave analysis based on the time-domain finite-element method," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

87. R. Wang and J. M. Jin, "Hybrid field-circuit simulation based on the extended time-domain finite element method," 2010 Asia-Pacific Symposium on Electromagnetic Compatibility, Beijing, China, May 2010.

88. X. Li and J. M. Jin, "Modeling of doubly dispersive

materials in the time-domain finite-element dual-field domain-decomposition algorithm," USNC/URSI National Radio Science Meeting, Charleston, SC, June 2009.

89. S. Yan, J. M. Jin, and Z. Nie, "Analysis of low-frequency electromagnetic problems using the EFIE with a Calderón multiplicative preconditioner and loop-star decomposition," USNC/URSI National Radio Science Meeting, Charleston, SC, June 2009.

90. S. Yan, J. M. Jin, and Z. Nie, "Implementation of the Calderón multiplicative preconditioner for the EFIE solution with curvilinear triangular patches," IEEE Antennas and Propagation Society International Symposium, Charleston, SC, June 2009.

91. S.-H. Lee and J. M. Jin, "The approximate modal interface–solution space projection method including internal ports for efficient finite-element analysis of multilayer printed circuits," IEEE Antennas and Propagation Society International Symposium, Charleston, SC, June 2009.

92. R. Wang and J. M. Jin, "Incorporation of frequency-dependent multiport lumped networks into a hybrid time-domain finite-element solver," IEEE Antennas and Propagation Society International Symposium, Charleston, SC, June 2009.

93. S.-H. Lee and J. M. Jin, "Tree-cotree splitting enhanced broadband finite-element simulation including lumped circuit elements," IEEE Antennas and Propagation Society International Symposium, Charleston, SC, June 2009.

94. Y. J. Li and J. M. Jin, "Full-wave analysis of antenna-array mutual coupling using the FETI-DPEM algorithm," IEEE Antennas and Propagation Society International Symposium, Charleston, SC, June 2009.

95. Y. J. Li and J. M. Jin, "Parallel eigen-analysis of 3D electromagnetic cavities using the FETI-DPEM method," USNC/URSI National Radio Science Meeting, Charleston, SC, June 2009.

96. R. Wang and J. M. Jin, "A multiple time-stepping scheme for hybrid field-circuit simulation based on the extended time-domain finite element method," USNC/URSI National Radio Science Meeting,

Charleston, SC, June 2009.

97. J. M. Jin, "25 years of progress and future challenges in finite element methodologies and applications," 25th Annual Review of Progress in Applied Computational Electromagnetics (ACES 2009), Monterey, California, March 8-12, 2009.

98. R. Wang and J. M. Jin, "A symmetric hybrid time-domain finite element method for transient field-circuit simulation," 25th Annual Review of Progress in Applied Computational Electromagnetics (ACES 2009), Monterey, California, March 8-12, 2009.

99. Y. J. Li and J. M. Jin, "The parallel FETI-DPEM eigensolver for analysis of 3D electromagnetic cavities," 25th Annual Review of Progress in Applied Computational Electromagnetics (ACES 2009), Monterey, California, March 8-12, 2009.

100. S. H. Lee and J. M. Jin, "Finite element electromagnetic simulation for high-frequency/high-speed circuits," Asia Pacific Microwave Conference (APMC2008), Hong Kong, Dec. 16-20, 2008.

101. S. H. Lee and J. M. Jin, "Fast reduced-order finite-element modeling of lossy coupled wires using lumped impedance elements," IEEE 17th Topical Meeting on Electrical Performance of Electronic Packaging (EPEP), San Jose, CA, Oct. 2008.

102. J. M. Jin, E. Michielssen, and D. Riley, "Fast time-domain computational techniques and their application in EMC," 2008 Asia-Pacific Symposium on EMC & 19th International Zurich Symposium on Electromagnetic Compatibility, Singapore, May 2008.

103. S. H. Lee and J. M. Jin, "Enhanced domain decomposition–model order reduction method for efficient broadband full-wave analysis of multilayer printed circuit boards," XXIX-th General Assembly of the International Union of Radio Science, Chicago, IL, August 2008.

104. R. Wang, H. Wu, A. C. Cangellaris, and J. M. Jin, "Analysis of antenna arrays with distributed feed network using the time-domain finite element method," XXIX-th General Assembly of the International Union of Radio Science, Chicago, IL, August 2008.

105. Y. Li and J. M. Jin, "An accelerated FETI-DPEM method for modeling photonic crystal nanocavities," XXIX-th General Assembly of the International Union of Radio Science, Chicago, IL, August 2008.

106. D. Riley and J. M. Jin, "Finite-element time-domain analysis of electrically and magnetically dispersive periodic structures," USNC/URSI National Radio Science Meeting, San Diego, CA, July 2008.

107. R. Wang and J. M. Jin, "A transient electromagnetic-circuit simulator based on extended time-domain finite element method," USNC/URSI National Radio Science Meeting, San Diego, CA, July 2008.

108. Y. Li and J. M. Jin, "Analysis of antenna array mutual coupling effects using the parallelized FETI-DPEM method," USNC/URSI National Radio Science Meeting, San Diego, CA, July 2008.

109. X. Li and J. M. Jin, "Application of the recursive FFT algorithm in the time-domain finite-element method," USNC/URSI National Radio Science Meeting, San Diego, CA, July 2008.

110. R. Wang, H. Wu, A. C. Cangellaris, and J. M. Jin, "Time-domain finite-element modeling of antenna arrays with distributed feed network," IEEE Antennas and Propagation Society International Symposium, San Diego, CA, July 2008.

111. S. H. Lee and J. M. Jin, "Application of the tree-cotree splitting for improved matrix conditioning in the full-wave finite-element analysis of high-speed circuits," IEEE Antennas and Propagation Society International Symposium, San Diego, CA, July 2008.

112. S. H. Lee and J. M. Jin, "The approximate modal interface–solution space projection method for efficient broadband full-wave analysis of multilayer interconnection structures," IEEE Antennas and Propagation Society International Symposium, San Diego, CA, July 2008.

113. Y. Li and J. M. Jin, "Implementation of the 2nd-order ABC with auxiliary variables in the FETI-DPEM method for 3D EM problems," IEEE Antennas and Propagation Society International Symposium, San Diego, CA, July 2008.

114. Y. Li and J. M. Jin, "The FETI-DPEM method for the parallel solution of 3D EM problems," IEEE Antennas and Propagation Society International Symposium, San Diego, CA, July 2008.

115. J. M. Jin, X. Li, and D. Riley, "Modeling of electrically and magnetically dispersive media in the time-domain finite element method," 9th International Workshop on Finite Elements for Microwave Engineering, Bonn, Germany, May 2008.

116. Y. Li and J. M. Jin, "A highly efficient domain decomposition method for the finite element computation of electromagnetic fields," 9th International Workshop on Finite Elements for Microwave Engineering, Bonn, Germany, May 2008.

117. K. Mao, J. Tan, and J. M. Jin, "A domain decomposition method for the finite element simulation of circuit board interconnects," IEEE 16th Topical Meeting on Electrical Performance of Electronic Packaging (EPEP), Atlanta, GA, 2007.

118. S. H. Lee and J. M. Jin, "Efficient full-wave analysis of multilayer interconnection structures using a novel domain decomposition–model order reduction method," IEEE 16th Topical Meeting on Electrical Performance of Electronic Packaging (EPEP), Atlanta, GA, 2007.

119. Z. Lou and J. M. Jin, "A novel domain decomposition method for parallel time-domain finite element computation of electromagnetic fields," International Symposium on Electromagnetic Theory (EMTS), Ottawa, Canada, July 2007.

120. S. H. Lee and J. M. Jin, "Adaptive solution space projection in conjunction with finite-element eigenfunction expansion for fast and robust wideband simulation of microwave devices," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

121. Z. Y. Zeng and J. M. Jin, "An efficient quantification of scattering variation due to uncertain geometrical deviation," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

122. X. Lin, L. Olson, and J. M. Jin, "An interpolatory spectral element method using curl-conforming vector basis

functions on tetrahedra," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

123. A. E. Yilmaz, Z. Lou, E. Michielssen, and J. M. Jin, "A fast, iterative, implicit, single-boundary time-domain finite element-boundary integral solver," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

124. R. Wang, H. Wu, A. Cangellaris, and J. M. Jin, "Incorporation of feed-network modeling into the time-domain finite element analysis of antennas," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

125. Y. Li and J. M. Jin, "A fast full-wave analysis of electromagnetic wave propagation in large 3D photonic bandgap structures," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

126. Y. Li and J. M. Jin, "An improved dual-primal domain decomposition method for 3D electromagnetic problems," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

127. Z. Lou, D. Correia, and J. M. Jin, "Implementation of second-order perfectly matched layers in the time-domain finite element method," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

128. Z. Lou and J. M. Jin, "A new explicit higher-order time-domain finite-element scheme for solving Maxwell's equations," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

129. Y. Li and J. M. Jin, "A highly efficient finite element domain decomposition method for analysis of large-scale photonic crystal problems," PIERS 2007, Beijing, China, March 2007.

130. C. S. Liang, D. A. Streater, J. M. Jin, E. Dunn, and T. Rozendal, "Ground-plane backed hemispheric Luneberg lens reflector," USNC/URSI National Radio Science Meeting, NM, July 2006.

131. A. E. Yilmaz, Z. Lou, E. Michielssen, and J. M. Jin, "A parallel time-domain adaptive integral method-

accelerated single-boundary finite element-boundary integral solver," USNC/URSI National Radio Science Meeting, NM, July 2006.

132. A. E. Yilmaz, J. M. Jin, E. Michielssen, and J. Kotulski, "A leapfrogging time-domain integral equation solver for dielectric bodies," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

133. R. Wang and J. M. Jin, "An efficient finite element-boundary integral formulation for numerical modeling of scattering by discrete body-of-revolution," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

134. D. Correia and J. M. Jin, "Second-order PML for the analysis of waveguide problems," USNC/URSI National Radio Science Meeting, NM, July 2006.

135. Y. Li and J. M. Jin, "A vector dual-primal finite element tearing and interconnecting method for solving 3-D large-scale electromagnetic problems," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

136. Z. Lou, L. E. R. Petersson, and J. M. Jin, "Recent Advances of the time-domain finite element method for computational electromagnetics," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

137. L. E. R. Petersson and J. M. Jin, "A 3-D Floquet boundary condition for time-domain finite element analysis of periodic geometries," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

138. A. E. Yilmaz, J. M. Jin, and E. Michielssen, "A stable time-domain integral equation formulation for composite structures," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

139. Z. Lou and J. M. Jin, "A novel domain-decomposition method for time-domain finite-element simulation of electromagnetic fields," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

140. Z. Lou and J. M. Jin, "Time-domain finite element

modeling and simulation of broadband antennas," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

141. Z. Lou and J. M. Jin, "Development of time-domain finite element method for analysis of broadband antennas and arrays," 8th International Workshop on Finite Elements for Microwave Engineering, Stellenbosch, South Africa, May 2006.

142. L. E. R. Petersson and J. M. Jin, "Time-domain finite element simulation of periodic structures," 8th International Workshop on Finite Elements for Microwave Engineering, Stellenbosch, South Africa, May 2006.

143. A. E. Yilmaz, J. M. Jin, and E. Michielssen, "A low-frequency extension of the time-domain adaptive integral method," 14th Topical Meeting on Electrical Performance of Electronic Packaging (EPEP 2005), Austin, TX, Oct. 2005.

144. L. E. R. Petersson and J. M. Jin, "Analysis of infinite phased arrays using a FEM-TD formulation with an accurate Floquet ABC," Antenna Applications Symposium, Monticello, IL, Sept. 2005.

145. A. E. Yilmaz, J. M. Jin, and E. Michielssen, "A dual/variable time stepping framework for TDIE-based hybrid field-circuit simulators," USNC/URSI National Radio Science Meeting, Washington, DC, July 2005.

146. A. E. Yilmaz, J. M. Jin, and E. Michielssen, "Hybrid time-domain integral equation/circuit solvers for nonlinearly loaded antennas on complex platforms," USNC/URSI National Radio Science Meeting, Washington, DC, July 2005.

147. A. E. Yilmaz, M. J. Choi, A. C. Cangellaris, J. M. Jin, and E. Michielssen, "Incorporation of frequency dependent multiport macromodels into a fast time-domain integral equation solver," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

148. J. K. Byun and J. M. Jin, "Finite-element analysis of scattering from a BOR using spherical infinite elements," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

149. L. E. R. Petersson, Z. Lou, and J. M. Jin, "A 2-D Floquet boundary condition for time-domain finite element analysis of periodic geometries," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

150. L. E. R. Petersson and J. M. Jin, "An efficient procedure for the projection of a given field onto hierarachal vector basis functions of arbitrary order," USNC/URSI National Radio Science Meeting, Washington, DC, July 2005.

151. K. Mao, J. K. Byun, and J. M. Jin, "Simulation of finite cavity-backed antenna arrays using an accelerated FE-BI method," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

152. A. E. Yilmaz, J. M. Jin, and E. Michielssen, "A dual/variable time stepping framework for TDIE-based hybrid field-circuit simulators," USNC/URSI National Radio Science Meeting, Washington, DC, July 2005.

153. D. Riley, J. M. Jin, Z. Lou, and R. Petersson, "Total- and scattered-field decomposition technique for the finite-element time-domain method," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

154. D. Correia and J. M. Jin, "Efficient absorption of evanescent waves in the FDTD simulations," USNC/URSI National Radio Science Meeting, Washington, DC, July 2005.

155. C. S. Liang, D. A. Streater, J. M. Jin, E. Dunn, and T. Rozendal, "A quantitative study of Luneberg lens reflectors," USNC/URSI National Radio Science Meeting, Washington, DC, July 2005.

156. E. A. Dunn, J. K. Byun, and J. M. Jin, "A higher-order finite element-boundary integral method for electromagnetic scattering from bodies of revolution," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

157. L. E. R. Petersson and J. M. Jin, "A 3-D time-domain finite element formulation for periodic structures," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

158. Z. Lou and J. M. Jin, "An accurate waveguide port boundary condition for the time-domain finite element

method," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

159. J. M. Jin, "A highly robust and versatile finite element-boundary integral hybrid code for scattering by BOR objects," 21th Annual Review of Progress in Applied Computational Electromagnetics, Hawaii, April 2005.

160. J. M. Jin, M. Botha, D. Jiao, Y. J. Li, J. Liu, Z. Lou, and T. Rylander, "Higher-order finite element solutions of 3D wave scattering," PIERS 2004, Nanjing, China, Aug. 2004.

161. Z. Lou, K. Mao, and J. M. Jin, "Finite element analysis of conformal array antennas," 2004 International Symposium on Antennas and Propagation, Sendai, Japan, Aug. 2004.

162. A. Yilmaz, J. M. Jin, and E. Michielssen, "Broadband analysis of electromagnetic scattering from dielectric coated conductors with parallel TD-AIM," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

163. T. Rylander, M. M. Botha, and J. M. Jin, "Application of preconditioned iterative solvers to the time-domain finite element method," USNC/URSI National Radio Science Meeting, Monterey, CA, June 2004.

164. T. Rylander and J. M. Jin, "Stability and accuracy of coaxial waveguide port algorithm for the time-domain finite element method," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

165. T. Rylander and J. M. Jin, "Perfectly matched layers in three dimensions for the time-domain finite element method," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

166. A. Yilmaz, J. M. Jin, and E. Michielssen, "A parallel time-domain adaptive integral method based hybrid field-circuit simulator," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

167. A. Yilmaz, A. C. Cangellaris, J. M. Jin, and E. Michielssen, "Time domain adaptive integral method for EMI/EMC applications," USNC/URSI National Radio Science Meeting, Monterey, CA, June 2004.

168. M. M. Botha and J. M. Jin, "A numerical investigation into the accuracy of FE-BI and MoM for canonical structures," USNC/URSI National Radio Science Meeting, Monterey, CA, June 2004.

169. X. Wang, M. M. Botha, and J. M. Jin, "A simple error estimator for the moment method in electromagnetic scattering," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

170. Z. Lou and J. M. Jin, "Higher-order finite element analysis of finite-by-infinite arrays," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

171. M. M. Botha and J. M. Jin, "A posteriori error indicators for 3D electromagnetic FE-BI analysis," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

172. M. M. Botha and J. M. Jin, "A stationary FE-BI formulation for 3D electromagnetic analysis," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

173. J. K. Byun and J. M. Jin, "A comparative study of infinite elements for two-dimensional electromagnetic scattering analysis," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

174. L. E. R. Petersson and J. M. Jin, "A time-domain finite element formulation for periodic structures," USNC/URSI National Radio Science Meeting, Monterey, CA, June 2004.

175. D. Correia and J. M. Jin, "Time-domain split-field formulation for both periodic boundary condition and PML," USNC/URSI National Radio Science Meeting, Monterey, CA, June 2004.

176. A. Yilmaz, J. M. Jin, and E. Michielssen, "A parallel FFT-accelerated transient field-circuit simulator," PIERS 2004, Pisa, Italy, March 28-31, 2004.

177. M. E. Kowalski and J. M. Jin, "Optimization of electromagnetic phased-arrays for hyperthermia," URSI 2004, National Radio Science Meeting, Boulder, CO, Jan. 5-8, 2004.

178. W. C. Chew and J. M. Jin, "Study of metamaterials and their applications," PIERS 2003, Hawaii, Oct. 13-16,

2003.

179. K. C. Donepudi, X. Wang, W. C. Chew, and J. M. Jin, "Higher-order solutions of integral equations of wave scattering," PIERS 2003, Hawaii, Oct. 13-16, 2003.

180. T. Rylander and J. M. Jin, "Stability of the time-domain finite element method," USNC/URSI National Radio Science Meeting, Columbus, OH, June 2003.

181. A. Yilmaz, J. M. Jin, and E. Michielssen, "Efficient solution of time domain volume integral equations using the adaptive integral method," USNC/URSI National Radio Science Meeting, Columbus, OH, June 2003.

182. A. Yilmaz, J. M. Jin, and E. Michielssen, "Discrete wavelet transform compression for time domain integral equations," USNC/URSI National Radio Science Meeting, Columbus, OH, June 2003.

183. K. C. Donepudi, X. Wang, W. C. Chew, and J. M. Jin, "Fast high-order solutions for electromagnetic scattering from three-dimensional bodies," USNC/URSI National Radio Science Meeting, Columbus, OH, June 2003.

184. T. Rylander and J. M. Jin, "Conformal perfectly matched layers for the time-domain finite element method," IEEE Antennas and Propagation Society International Symposium, Columbus, OH, June 2003.

185. T. Rylander and J. M. Jin, "Stable waveguide ports for the time-domain finite element method," IEEE Antennas and Propagation Society International Symposium, Columbus, OH, June 2003.

186. A. Yilmaz, J. M. Jin, and E. Michielssen, "Time-domain adaptive integral method for the combined field integral equation," IEEE Antennas and Propagation Society International Symposium, Columbus, OH, June 2003.

187. J. M. Jin, J. Liu, Z. Lou, and C. S. Liang, "A fully high-order finite-element simulation of scattering by deep cavities," IEEE Antennas and Propagation Society International Symposium, Columbus, OH, June 2003.

188. J. Liu and J. M. Jin, "Analysis of conformal antennas on a complex platform," IEEE Antennas and Propagation Society International Symposium, Columbus, OH, June 2003.

189. Z. Lou and J. M. Jin, "High-order finite-element analysis of electromagnetic scattering from periodic structures,"

IEEE Antennas and Propagation Society International Symposium, Columbus, OH, June 2003.

190. A. E. Yilmaz, K. Aygun, J. M. Jin, and E. Michielssen, "Fast analysis of heatsink emissions with time-domain AIM," IEEE Int. Symp. Electromagn. Compat., Istanbul, Turkey, May 2003.

191. M. E. Kowalski and J. M. Jin, "Karhunen-Loeve based model order reduction of nonlinear systems," IEEE Antennas and Propagation Society International Symposium, San Antonio, TX, June 2002.

192. M. E. Kowalski and J. M. Jin, "An efficient, temperature-based algorithm for feedback control of electromagnetic phased-array hyperthermia," IEEE Antennas and Propagation Society International Symposium, San Antonio, TX, June 2002.

193. A. E. Yilmaz, S. Q. Li. J. M. Jin and E. Michielssen, "A parallel framework for FFT-accelerated time-marching algorithms," USNC/URSI National Radio Science Meeting, San Antonio, TX, June 2002.

194. J. M. Jin and J. Liu, "A highly efficient higher-order hybrid finite element–boundary integral method for large-scale scattering analysis," XXVII-th General Assembly of the International Union of Radio Science, Maastricht, Netherlands, Aug. 2002.

195. J. Liu and J. M. Jin, "Scattering analysis of a large body with deep cavities," IEEE Antennas and Propagation Society International Symposium, San Antonio, TX, June 2002.

196. K. Donepudi, J. M. Jin, and W. C. Chew, "A higher-order multilevel fast multipole algorithms for scattering from mixed conducting/dielectric bodies," IEEE Antennas and Propagation Society International Symposium, San Antonio, TX, June 2002.

197. D. Jiao, J. M. Jin, E. Michielssen, and D. Riley, "Time-domain finite-element simulation of three-dimensional scattering and radiation problems using perfectly matched layers," IEEE Antennas and Propagation Society International Symposium, San Antonio, TX, June 2002.

198. J. Liu, J. M. Jin, E. K. N. Yung, and R. S. Chen, "A robust 3-D higher-order finite element analysis of

microwave devices," IEEE Antennas and Propagation Society International Symposium, San Antonio, TX, June 2002.

199. D. Jiao, J. M. Jin, and E. Michielssen, "Time-domain finite element analysis of electromagnetic scattering and radiation," 6th International Workshop on Finite Elements for Microwave Engineering--Antennas, Circuits and Devices, Chios, Greece, May 30-June 1, 2002.

200. J. Liu and J. M. Jin, "A highly efficient higher-order finite element–boundary integral method for electromagnetic scattering and radiation problems," 6th International Workshop on Finite Elements for Microwave Engineering--Antennas, Circuits and Devices, Chios, Greece, May 30-June 1, 2002.

201. J. Liu, E. Dunn, P. Baldensperger, and J. M. Jin, "Computation of radar cross section of jet engine inlets," 18th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2002.

202. J. Liu, J. M. Jin, E. K. N. Yung, and R. S. Chen, "A fast three-dimensional finite element analysis of microwave waveguide devices," 18th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2002.

203. D. Jiao, J. M. Jin, and E. Michielssen, "Time-domain finite element simulation of electromagnetic transient scattering," International Conference on Electromagnetics in Advanced Applications (ICEAA01), Torino, Italy, Sept. 2001.

204. A. E. Yilmaz, J. M. Jin, and E. Michielssen, "An FFT-accelerated MOT scheme for the analysis of scattering in lossy media," USNC/URSI National Radio Science Meeting, Boston, MA, July 2001.

205. A. E. Yilmaz, D. S. Weile, J. M. Jin, and E. Michielssen, "A hierarchical FFT algorithm (HIL-FFT) for accelerating marching-on-in-time methods," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

206. J. Liu and J. M. Jin, "A novel, highly effective preconditioner for solving the finite element--boundary

integral matrix equation of 3-D scattering," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

207. K. C. Donepudi, J. M. Jin, and W. C. Chew, "A grid-robust, higher-order multilevel fast multipole algorithm for 3-D electromagnetic scattering analysis," USNC/URSI National Radio Science Meeting, Boston, MA, July 2001.

208. P. Baldensperger, J. Liu, and J. M. Jin, "A hybrid SBR/FE-BI technique for computing the RCS of electrically large objects with deep cavities," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

209. M. E. Kowalski and J. M. Jin, "Control of electromagnetic phased-arrays for hyperthermia using tomographic temperature feedback," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

210. J. Liu and J. M. Jin, "A novel hybridization of higher order finite element and boundary integral methods for electromagnetic scattering and radiation problems," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

211. D. Jiao and J. M. Jin, "A general approach for the stability analysis of time-domain finite element method," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

212. D. Jiao, A. Ergin, B. Shanker, E. Michielssen, and J. M. Jin, "A fast higher-order time-domain finite element-boundary integral method for 3-D electromagnetic scattering analysis," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

213. D. Jiao and J. M. Jin, "Three-dimensional orthogonal vector basis functions for time-domain finite element solution of vector wave equations," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

214. D. Jiao and J. M. Jin, "Time-domain finite element modeling of dispersive media," IEEE Antennas and Propagation Society International Symposium, Boston,

MA, July 2001.

215. M. E. Kowalski and J. M. Jin, "Prediction and optimization of transient temperature fields in electromagnetic hyperthermia," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

216. D. Jiao, A. Ergin, B. Shanker, E. Michielssen, and J. M. Jin, "A higher-order time-domain finite element-boundary integral method for 3-D scattering analysis," 17th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2001.

217. D. Jiao, A. Ergin, B. Shanker, E. Michielssen, and J. M. Jin, "A fast time-domain finite element-boundary integral method for 3-D scattering," 17th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2001.

218. J. M. Jin, F. Ling, and D. Jiao, "Fast analysis of microstrip antennas and arrays," 17th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2001.

219. A. E. Yilmaz, D. S. Weile, J. M. Jin, and E. Michielssen, "FFT-based acceleration of marching-on-in-time method (FFT-MOT)," 17th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2001.

220. M. E. Kowalski and J. M. Jin, "A numerically efficient method for evaluation of transient temperature fields in biological media," WC2000, World Congress on Medical Physics and Biomedical Engineering, Chicago, IL, July 23-28, 2000.

221. M. E. Kowalski and J. M. Jin, "Dynamic optimization of radiofrequency hyperthermia treatments," WC2000, World Congress on Medical Physics and Biomedical Engineering, Chicago, IL, July 23-28, 2000.

222. F. Ling and J. M. Jin, "Fast electromagnetic modeling of multilayer microstrip antennas and circuits,'' 5th International Symposium on Antennas, Propagation, and EM theory, Beijing, China, Aug. 2000.

223. D. Jiao, M. Lu, E. Michielssen, and J. M. Jin, "A fast time-domain finite-element— boundary-integral method

for electromagnetic transient analysis," 5th International Workshop on Finite Elements for Microwave Engineering, Boston, MA, June 2000.

224. X. T. Yin, J. M. Jin, J. M. Song, and W. C. Chew, "New development of the hybrid FEM/MLFMA for electromagnetic analysis," USNC/URSI National Radio Science Meeting, Salt Lake City, Utah, July 2000.

225. E. Branch and J. M. Jin, "A higher-order FEM for calculating the RCS of BORs," USNC/URSI National Radio Science Meeting, Salt Lake City, Utah, July 2000.

226. D. Jiao, J. M. Jin, and J. Shang, "Characteristic-based time-domain method for electromagnetic analysis," IEEE Antennas and Propagation Society International Symposium, Salt Lake City, Utah, July 2000.

227. D. Jiao, M. Lu, E. Michielssen, and J. M. Jin, "A time-domain finite-element— boundary-integral method for 2D electromagnetic transient analysis," IEEE Antennas and Propagation Society International Symposium, Salt Lake City, Utah, July 2000.

228. J. Liu and J. M. Jin, "A special higher-order finite element method for scattering by deep cavities," IEEE Antennas and Propagation Society International Symposium, Salt Lake City, Utah, July 2000.

229. K. C. Donepudi, J. M. Song, J. M. Jin, G. Kang, and W. C. Chew, "Point-based implementation of multilevel fast multipole algorithm for higher-order Galerkin's method," IEEE Antennas and Propagation Society International Symposium, Salt Lake City, Utah, July 2000.

230. K. C. Donepudi, J. M. Jin, S. Velamoarambil, J. M. Song, and W. C. Chew, "A higher-order multilevel fast multipole algorithm for 3D scattering," IEEE Antennas and Propagation Society International Symposium, Salt Lake City, Utah, July 2000.

231. G. Kang, J. M. Song, W. C. Chew, K. Donepudi, and J. M. Jin, "Grid-robust higher-order vector basis functions for solving integral equations," IEEE Antennas and Propagation Society International Symposium, Salt Lake City, Utah, July 2000.

232. J. Liu and J. M. Jin, "Parallel computation of scattering by deep cavities," Progress in Electromagnetics Research Symposium (PIERS 2000), Cambridge, MA,

July 5-14, 2000.

233. M. E. Kowalski, B. Singh, K. D. Trott, L. C. Kempel, K. C. Hill, and J. M. Jin, "On the integral equation-asymptotic Phase (IE-AP) method for three-dimensional scattering," Progress in Electromagnetics Research Symposium (PIERS 2000), Cambridge, MA, July 5-14, 2000.

234. K. C. Donepudi, J. M. Jin, S. Velamoarambil, J. M. Song, and W. C. Chew, "Parallelized higher-order multilevel fast multipole algorithm for 3D scattering," Progress in Electromagnetics Research Symposium (PIERS 2000), Cambridge, MA, July 5-14, 2000.

235. K. C. Donepudi, J. M. Song, J. M. Jin, G. Kang, and W. C. Chew, "A novel implementation of multilevel fast multipole algorithm for higher-order Galerkin's method," 16th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2000.

236. G. Kang, J. M. Song, W. C. Chew, K. Donepudi, and J. M. Jin, "A novel grid-robust higher-order vector basis function for the method of moments," 16th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2000.

237. F. Ling, J. M. Song, and J. M. Jin, "Multilevel fast multipole algorithm for analysis of large-scale microstrip structures," 16th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2000.

238. F. Ling, K. Donepudi, and J. M. Jin, "Higher-order electromagnetic modeling of multilayer microstrip structures," 16th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2000.

239. D. Jiao and J. M. Jin, "Fast electromagnetic analysis using the asymptotic waveform evaluation method," 16th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2000.

240. D. Jiao, J. M. Jin, and J. Shang, "Characteristic-based time-domain method for antenna analysis," 16th Annual Review of Progress in Applied Computational

Electromagnetics, Monterey, CA, March 2000.

241. J. M. Song, K. Donepudi, S. Velamparambil, G. Kang, W. C. Chew, J. M. Jin, "Point-based MLFMA for Galerkin's method," 36-th Annual Technical Meeting for Society of Engineering Science, Austin, TX, Oct. 25-27, 1999, p. WA6-5.

242. X. Q. Sheng, E. K. N. Yung, C. H. Chan, J. M. Jin, and W. C. Chew, "Scattering from large bodies with cracks and cavities by the fast and accurate finite-element boundary-integral method," XXVI-th General Assembly of the International Union of Radio Science, Toronto, Canada, Aug. 1999.

243. W. C. Chew, J. M. Song, S. Velamparambil, J. S. Zhao, A. Ergin, B. Hu, E. Michielssen, and J. M. Jin, "Fast solvers for integral equations," XXVI-th General Assembly of the International Union of Radio Science, Toronto, Canada, Aug. 1999.

244. M. Kowalski, J. Chen, J. M. Jin, and L. L. Latour, "Numerical evaluation of the signal-to-noise ratio of MR surface coils using FDTD and reciprocity," International Society for Magnetic Resonance in Medicine Seventh Scientific Meeting, Philadelphia, PA, May 1999.

245. X. Q. Sheng, E. K. N. Yung, J. M. Jin, and W. C. Chew, "Scattering from complex targets by fast and accurate FE-BI method," Progress in Electromagnetics Research Symposium (PIERS 1999), Taipei, Taiwan, March 1999.

246. A. D. Greenwood and J. M. Jin, "Finite element analysis of complex axisymmetric radiating structures," Progress in Electromagnetics Research Symposium (PIERS 1999), Taipei, Taiwan, March 1999.

247. J. Liu, K. Donepudi, and J. M. Jin, "A special finite element method for scattering by deep cavities," International Conference on Electromagnetics in Advanced Applications (ICEAA99), Torino, Italy, Sept. 1999.

248. D. Jiao, F. Ling, and J. M. Jin, "Fast electromagnetic analysis using the asymptotic waveform evaluation method," International Conference on Electromagnetics in Advanced Applications (ICEAA99), Torino, Italy, Sept. 1999.

249. F. L. Teixeira, K. P. Hwang, W. C. Chew, and J. M. Jin,

"On dynamic stability of conformal PML-FDTD for electromagnetic field computations," International Microwave and Optoelectronics Conference (IMOC'99), Rio de Janeiro, Brazil, Aug. 1999.

250. X. Q. Sheng, X. T. Yin, J. M. Song, J. M. Jin, and W. C. Chew, "Further development of the hybrid finite-element and multi-level fast multipole algorithm for electromagnetic scattering analysis," (invited) XXVI-th General Assembly of the International Union of Radio Science, Toronto, Canada, Aug. 1999.

251. D. Jiao and J. M. Jin, "Fast and accurate frequency response calculation using asymptotic waveform evaluation and combined field integral equation," XXVI-th General Assembly of the International Union of Radio Science, Toronto, Canada, Aug. 1999.

252. M. Kowalski and J. M. Jin, "A numerical study of the signal-to-noise ratio of magnetic resonanc surface coils," USNC/URSI National Radio Science Meeting, Orlando, Florida, July 1999.

253. M. Kowalski and J. M. Jin, "A numerical study of control algorithms for MR-monitored microwave hyperthermia systems," USNC/URSI National Radio Science Meeting, Orlando, Florida, July 1999.

254. M. Zunoubi, J. Liu, K. Donepudi, and J. M. Jin, "Higher-order finite element-boundary integral method for scattering by large cavities," USNC/URSI National Radio Science Meeting, Orlando, Florida, July 1999.

255. A. D. Greenwood and J. M. Jin, "A field picture of wave propagation in inhomogeneous dielectric lenses," USNC/URSI National Radio Science Meeting, Orlando, Florida, July 1999.

256. A. D. Greenwood and J. M. Jin, "Finite element analysis of complex axisymmetric radiating structures," IEEE Antennas and Propagation Society International Symposium, Orlando, Florida, July 1999.

257. C. F. Wang, F. Ling, and J. M. Jin, "A fast algorithm for solving CFIE of EM scattering," IEEE Antennas and Propagation Society International Symposium, Orlando, Florida, July 1999.

258. F. Ling, D. Jiao, and J. M. Jin, "Efficient electromagnetic modeling of microstrip structures in multilayer media,"

IEEE Antennas and Propagation Society International Symposium, Orlando, Florida, July 1999.

259. X. Y. Zhu, H. Y. Chao, J. M. Jin, E. Michielssen, and W. C. Chew, "Characterization of mutual coupling in a multi-function antenna system," IEEE Antennas and Propagation Society International Symposium, Orlando, Florida, July 1999.

260. X. Y. Zhu and J. M. Jin, "Approximate calculation of scattered field from three-dimensional narrow cracks," IEEE Antennas and Propagation Society International Symposium, Orlando, Florida, July 1999.

261. K. Donepudi, G. Kang, J. M. Song, J. M. Jin, and W. C. Chew, "Higher-order MoM implementation to solve integral equations," IEEE Antennas and Propagation Society International Symposium, Orlando, Florida, July 1999.F. Ling, J. M. Jin, D. G. Fang, and N. N. Feng, "Electromagnetic modeling of microstrip structures in multilayer media," (invited) 15th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 1999.

262. F. Ling, J. M. Jin, D. G. Fang, and N. N. Feng, "Electromagnetic modeling of microstrip structures in multilayer media," (invited) 15th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 1999.

263. A. D. Greenwood and J. M. Jin, "A hybrid MoM/FEM method for scattering from a complex BOR with appendages," (invited) 15th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 1999.

264. F. Ling, C. F. Wang, and J. M. Jin, "An efficient algorithm for analyzing large-scale microstrip structures using adaptive integral method combined with discrete complex image method," International Conference on Microwave and Millimeter Wave Technology, Beijing, China, Aug. 1998.

265. J. M. Jin, "Hybridization in Computational Electromagnetics" (invited plenary talk), International Conference on Microwave and Millimeter Wave Technology, Beijing, China, Aug. 1998.

266. J. M. Jin, "The finite element method for electromagnetic

field computation," (invited) Workshop on Computational Electromagnetics in Magnetic Resonance, College Station, TX, June 1998.

267. A. C. Wright, J. Chen, T. A. Neideen, J. M. Jin, and R. L. Magin, "Scaleable ladder RF probes for thin layer MR spectroscopy and imaging," Workshop on Computational Electromagnetics in Magnetic Resonance, College Station, TX, June 1998.

268. E. A. Forgy, W. C. Chew, and J. M. Jin, "A hybrid MoM/FDTD technique for studying human head/antenna interactions," IEEE-APS Conference on Antennas and Propagation for Wireless Communications, Waltham, MA, Nov. 1998.

269. W. C. Chew, A. Ergin, V. Jandhyala, J. M. Jin, C. C. Lu, E. Michielssen, B. Shanker, X. Sheng, J. M. Song, and J. S. Zhao, "Fast electromagnetic scattering algorithm using multilevel and hybrid techniques," Proc. SIAM 4th Int. Conf. Math. Numer. Aspects Wave Propag., Golden, CO, June 1998, pp. 118-122.

270. G. X. Fan and J. M. Jin, "A hybrid method for analyzing scattering from a large planar slotted waveguide array antenna in a real environment," IEEE Antennas and Propagation Society International Symposium, Atlanta, Georgia, June 1998.

271. G. X. Fan and J. M. Jin, "A hybrid frontal-FEM/BIE/PO formulation for analyzing scattering from large and complex jet engine inlets," USNC/URSI National Radio Science Meeting, Atlanta, Georgia, June 1998.

272. A. D. Greenwood and J. M. Jin, "A hybrid technique for axisymmetric scatterers with appendages," USNC/URSI National Radio Science Meeting, Atlanta, Georgia, June 1998.

273. M. Zunoubi, J. M. Jin, and W. C. Chew, "A combined finite-element and spectral Lanzos decomposition method for efficient analysis of Maxwell's equations in frequency and time domains," USNC/URSI National Radio Science Meeting, Atlanta, Georgia, June 1998.

274. J. M. Jin and K. Donepudi, "Electromagnetic scattering from large, deep, and arbitrarily-shaped open cavities," IEEE Antennas and Propagation Society International Symposium, Atlanta, Georgia, June 1998.

275. X. Q. Sheng, J. M. Jin, J. M. Song, C. C. Lu, and W. C. Chew, "On the formulation of hybrid finite-element and boundary-integral methods for 3D scattering using multilevel fast multipole algorithm," IEEE Antennas and Propagation Society International Symposium, Atlanta, Georgia, June 1998.

276. F. Ling, C. F. Wang, and J. M. Jin, "Application of adaptive integral method to scattering and radiation analysis of arbitrarily shaped planar structures," IEEE Antennas and Propagation Society International Symposium, Atlanta, Georgia, June 1998.

277. J. M. Jin, F. Ling, S. Carolan, J. M. Song, W. C. Gibson, W. C. Chew, C. C. Lu, and R. Kipp, "A hybrid SBR/MoM technique for analysis of scattering from small protrusions on a large conducting body," IEEE Antennas and Propagation Society International Symposium, Atlanta, Georgia, June 1998.

278. J. Chen, J. M. Jin, and L. L. Latour, "Accurate characterization of eddy current for MRI system," International Society for Magnetic Resonance in Medicine Sixth Scientific Meeting, Sydney, Australia, April 1998.

279. J. Chen, Z. Feng, and J. M. Jin, "Three-dimensional full-wave analysis of shielded and end-capped birdcage coils loaded with the human head," International Society for Magnetic Resonance in Medicine Sixth Scientific Meeting, Sydney, Australia, April 1998.

280. Z. M. Feng and J. M. Jin, "Accurate analysis of arbitrary RF Coils for MRI," International Society for Magnetic Resonance in Medicine Sixth Scientific Meeting, Sydney, Australia, April 1998.

281. M. Zunoubi, J. M. Jin, K. Donepudi, and W. C. Chew, "The spectral Lanczos decomposition method for efficient time-domain and frequency-domain finite-element solution of Maxwell's equations," 14th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 1998.

282. C. F. Wang, F. Ling, and J. M. Jin, "A BCG-FFT solution of scattering and radiation by large finite arrays of microstrip antennas," 14th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA,

March 1998.

283. X. Q. Sheng, J. M. Jin, J. M. Song, W. C. Chew, and C. C. Lu, "Solution of combined-field integral equation using multi-level fast multipole algorithm for scattering by homogeneous bodies," 14th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 1998.

284. A. D. Greenwood and J. M. Jin, "A novel, efficient algorithm for scattering from a complex BOR using vector FEM and PML," 14th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 1998.

285. J. Chen, Z. Feng, R. L. Magin, and J. M. Jin, "Numerical analysis of SAR and B1-field inhomogeneity of shielded RF birdcage coils loaded with the human head," International Scientific Meeting on Electromagnetics in Medicine, Chicago, IL, Nov. 1997, p. 60.

286. W. C. Chew, J. M. Jin, and E. Michielssen, "Complex coordinate system as a generalized absorbing boundary condition," IEEE Antennas and Propagation Society International Symposium, Montreal, Canada, 1997, vol. 3, pp. 2060-2063.

287. J. M. Jin, G. X. Fan, F. Ling, C. C. Lu, J. M. Song, and W. C. Chew, "A hybrid SBR/MoM technique for analysis of scattering from small protrusions on a large conducting surface," Progress in Electromagnetic Research Symposium, Ridgefield, CT, July 1997.

288. W. C. Chew, J. M. Jin, and E. Michielssen, "Complex coordinate stretching as a generalized absorbing boundary condition," 13th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, 1997, vol. 2, pp. 909-914.

289. E. A. Forgy, J. Chen, W. C. Chew, and J. M. Jin, "A comparison of the BCG-FFT and FD-TD methods for the 3-D human head absorption problem," IEEE Antennas and Propagation Society International Symposium, Montreal, Canada, 1997, vol. 2, pp. 1202-1205.

290. A. D. Greenwood and J. M. Jin, "Hybrid MoM/SBR method to compute scattering from a slot array in a complex geometry," USNC/URSI National Radio

Science Meeting, Montreal, Canada, 1997, p. 178.

291. M. Zunoubi, J. M. Jin, and W. C. Chew, "The spectral Lanczos decomposition method for solving 3-D low-frequency electromagnetic diffusion by the finite elements method," USNC/URSI National Radio Science Meeting, Montreal, Canada, 1997, p. 39.

292. J. M. Song, X. Q. Sheng, C. C. Lu, W. C. Chew, and J. M. Jin, "Fast multipole method for large penetrable scatterers," USNC/URSI National Radio Science Meeting, Montreal, Canada, 1997, p. 66.

293. J. Chen and J. M. Jin, "Calculation of SAR and B1-Field within human head excited by MRI birdcage coils," IEEE Antennas and Propagation Society International Symposium, Montreal, Canada, 1997, vol. 2, pp. 1210-1213.

294. C. F. Wang and J. M. Jin, "Efficient computation of electromagnetic fields in arbitrarily-shaped, inhomogeneous dielectric bodies using transpose-free QMR and FFT," IEEE Antennas and Propagation Society International Symposium, Montreal, Canada, 1997, vol. 1, pp. 72-75.

295. F. Ling, X. Q. Sheng, and J. M. Jin, "Hybrid MoM/SBR and FEM/SBR methods for scattering by large bodies with inhomogeneous protrusions," IEEE Antennas and Propagation Society International Symposium, Montreal, Canada, 1997, vol. 2, pp. 644-647.

296. J. M. Jin, J. Chen, W. C. Chew, R. L. Magin, and P. J. Dimbylow, "3D electromagnetic modeling for high-frequency MRI applications," International Society for Magnetic Resonance in Medicine Fifth Scientific Meeting, Vancouver, Canada, April 1997.

297. A. D. Greenwood and J. M. Jin, "Hybrid MoM/SBR method to compute scattering from a slot array antenna in a complex geometry," 13th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, 1997, vol. 1, pp. 696-704.

298. M. Zunoubi, J. M. Jin, and W. C. Chew, "The spectral Lanczos decomposition method for solving low-frequency electromagnetic diffusion by the finite elements method," 13th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA,

1997, vol. 1, pp. 598-603.

299. J. M. Jin, X. Q. Sheng, and W. C. Chew, "Complementary perfectly matched layers for use as an absorbing boundary condition," Progress in Electromagnetic Research Symposium, Hong Kong, Jan. 1997.

300. J. M. Jin, J. Chen, H. Gan, W. C. Chew, R. L. Magin, and P. J. Dimbylow, "Computation of electromagnetic fields for high-frequency magnetic resonance imaging applications," Workshop on Advances in MR Safety and Compatibility: Implications for Interventional and Functional MRI, McLean, VA, June 9-11, 1996.

301. J. M. Jin and N. Lu, "Finite element solution of scattering using coupled pair of basis functions on elliptic enclosure," USNC/URSI National Radio Science Meeting, Baltimore, MD, 1996, p. 49.

302. A. D. Greenwood, S. Ni, and J. M. Jin, "Computation of the radiation pattern of a microstrip patch antenna in a complex geometry," IEEE Antennas and Propagation Society International Symposium, Baltimore, MD, 1996, pp. 256-259. This paper was also presented under the title "Hybrid FEM/SBR method to compute the radiation pattern from a microstrip patch antenna in a complex geometry" at the 1996 Antenna Applications Symposium, Monticello, IL, Sept. 1996.

303. J. Chen, J. M. Jin, H. Gan, and W. C. Chew, "Analysis of electromagnetic wave interaction with biological tissue using CG-FFT method," IEEE Antennas and Propagation Society International Symposium, Baltimore, MD, 1996.

304. N. Lu and J. M. Jin, "Finite element analysis of RF field in human body for MRI application," USNC/URSI National Radio Science Meeting, Baltimore, MD, 1996, p. 124.

305. G. Fan and J. M. Jin, "Scattering from a cylindrically conformal slotted-waveguide array antenna," IEEE Antennas and Propagation Society International Symposium, Baltimore, MD, 1996, pp. 1394-1397. This paper was also presented at the 1996 Antenna Applications Symposium, Monticello, IL, Sept. 1996.

306. J. M. Jin and W. C. Chew, "Combined PML and ABC for

finite element analysis of scattering problems," (invited) 12th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, 1996, pp. 962-971.

307. N. Lu and J. M. Jin, "Application of fast multipole method to finite element–boundary integral solution of scattering problems," 12th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, 1996, pp. 1182-1189.

308. J. M. Jin, N. Lu, and S. Ni, "New developments of hybrid finite element methods for scattering and radiation by complex targets," (invited) National Radio Science Meeting, Boulder, CO, Jan. 9-13, 1996, p. 148.

309. N. Lu, J. M. Jin, E. Michielssen, and R. L. Magin, "Optimization of RF coil design using genetic algorithm and simulated annealing method," The third Meeting of the Society of Magnetic Resonance, Nice France, 1995.

310. J. M. Jin, N. Lu, and S. Ni, "Hybrid finite element methods for electromagnetic scattering and radiation," 1995 International Conference on Radio Science, Beijing, China, 1995.

311. W. C. Chew and J. M. Jin, "Analysis of perfectly-matched layers using lattice EM theory in a discretized world," USNC/URSI National Radio Science Meeting, Newport Beach, CA, 1995.

312. S. Ni, J. M. Jin, and S. W. Lee, "Computation of radiation pattern of microstrip patch antennas on complex bodies," USNC/URSI National Radio Science Meeting, Newport Beach, CA, 1995.

313. J. M. Jin and N. Lu, "Investigation of adaptive absorbing boundary condition for finite element solution of three-dimensional scattering," IEEE Antennas and Propagation Society International Symposium, Newport Beach, CA, 1995.

314. J. M. Jin, S. Ni, and S. W. Lee, "Hybridization of SBR and FEM for scattering by large bodies with cracks and cavities," IEEE Antennas and Propagation Society International Symposium, Newport Beach, CA, 1995.

315. J. M. Jin and T. Perkins, "An innovative design of combined transmit/receive RF coils for MR imaging," The Second Meeting of the Society of Magnetic

Resonance, San Francisco, CA, 1994.

316. J. M. Jin, "3D hybrid finite element analysis of scattering and radiation by a class of waveguide-fed structures," USNC/URSI National Radio Science Meeting, Seattle, WA, 1994.

317. J. M. Jin, "A simple method to incorporate the effects of an RF shield into MRI antenna analysis," USNC/URSI National Radio Science Meeting, Seattle, WA, 1994.

318. J. M. Jin and W. C. Chew, "Variational formulation of electromagnetic boundary-value problems involving anisotropic media," IEEE Antennas and Propagation Society International Symposium, Seattle, WA, 1994.

319. S. K. Jeng, J. M. Jin, S. Ni, and S. W. Lee, "Combination of PO/SBR and the finite element method for scattering from a large PEC target with a small cavity," IEEE Antennas and Propagation Society International Symposium, Seattle, WA, 1994.

320. J. M. Jin, G. Shen, and T. Perkins, "Analysis of open coils including shielding effects for MRI applications," 12th Annual Scientific Meeting of the Society of Magnetic Resonance in Medicine, New York, Aug. 14-20, 1993.

321. J. M. Jin, G. Shen, and T. Perkins, "On the field inhomogeneity of a birdcage coil," 12th Annual Scientific Meeting of the Society of Magnetic Resonance in Medicine, New York, Aug. 14-20, 1993.

322. J. M. Jin, "Variational formulation of electromagnetics for field computation," USNC/URSI National Radio Science Meeting, Ann Arbor, Michigan, 1993.

323. J. D. Collins, J. M. Jin, and J. L. Volakis, "Eliminating of interior resonances in the finite element - boundary integral solution of scattering problems," 5th Biennial IEEE Conference on Electromagnetic Field Computation, Claremont, California, 1992.

324. J. M. Jin and J. L. Volakis, "Radiation and scattering analysis of three-dimensional cavity arrays via a hybrid finite element method," USNC/URSI National Radio Science Meeting, Chicago, Illinois, 1992.

325. K. M. Mitzner, J. L. Volakis, J. M. Jin, L. C. Kempel, and D. Ross, "An integral equation in terms of charge for TE scattering by curved open surfaces," USNC/URSI

National Radio Science Meeting, Chicago, Illinois, 1992.

326. A. Chatterjee, J. M. Jin, and J. L. Volakis, "Application of edge-based finite elements and vector ABCs in 3-D scattering," IEEE Antennas and Propagation Society International Symposium, Chicago, Illinois, 1992.

327. J. Gong, J. L. Volakis, A. Chatterjee, and J. M. Jin, "Characterization of cavity-backed conformal antennas and arrays using a hybrid finite element method with tetrahedral elements," IEEE Antennas and Propagation Society International Symposium, Chicago, Illinois, 1992.

328. J. L. Volakis, A. Alexanian, and J. M. Jin, "Radar cross section analysis and control of microstrip patch antennas," IEEE Antennas and Propagation Society International Symposium, Chicago, Illinois, 1992.

329. J. M. Jin and J. L. Volakis, "Radiation and scattering analysis of microstrip patch antennas via a hybrid finite element method," The Second International Conference on Electromagnetics in Aerospace Applications, Torino, Italy, 1991.

330. J. M. Jin, J. L. Volakis, and V. V. Liepa, "An engineer's approach for terminating finite element meshes in scattering analysis," IEEE Antennas and Propagation Society International Symposium, London, Ontario, Canada, 1991, pp. 1216-1219.

331. J. M. Jin and J. L. Volakis, "Scattering and radiation from microstrip patch antennas and arrays residing in a cavity," IEEE Antennas and Propagation Society International Symposium, London, Ontario, Canada, 1991, pp. 657-660.

332. J. M. Jin and J. L. Volakis, "A finite element - boundary integral formulation for scattering by a three dimensional aperture in a thick conducting plane," 4th Biennial IEEE Conference on Electromagnetic Field Computation, Toronto, 1990.

333. J. M. Jin, J. L. Volakis, and J. D. Collins, "A finite element - boundary integral formulation for scattering by two and three dimensional structures," USNC/URSI National General Assembly, Session B4, Prague, Chechoslovakia, 1990.

334. J. M. Jin and J. L. Volakis, "A FEM/BEM formulation for

a CG-FFT solution of 3-D scattering by a cavity," IEEE Antennas and Propagation Society International Symposium, Dallas, Texas, 1990, pp. 1726-1729.

335. J. M. Jin and J. L. Volakis, "A FEM/BEM formulation for a CG-FFT solution of 2-D scattering by grooves and thick slots," USNC/URSI National Radio Science Meeting, Dallas, Texas, 1990, p. 260.

336. J. M. Jin and J. L. Volakis, "Electromagnetic scattering by a finite array of perfectly conducting patches on a dielectric slab," IEEE Antennas and Propagation Society International Symposium, San Jose, California, 1989, pp. 215-218.

337. J. M. Jin, V. V. Liepa, and J. L. Volakis, "Application of isoparametric elements in the numerical solution of electromagnetic field problems," Proceeding of the Second International Symposium on Antennas and EM Theory, Shanghai, China, 1989.

338. J. M. Jin, V. V. Liepa, and C. T. Tai, "Volume-surface integral formulation for electromagnetic scattering by inhomogeneous cylinders," IEEE Antennas and Propagation Society International Symposium, Syracuse, New York, 1988, pp. 372-375.

339. J. M. Jin, J. L. Volakis, and V. V. Liepa, "A comparison between the OSRC approach and the PO approximation for solving EM scattering," IEEE Antennas and Propagation Society International Symposium, Syracuse, New York, 1988, pp. 732-735.

340. J. M. Jin and V. V. Liepa, "An exploration of the capability of the hybrid finite element method for EM scattering by inhomogeneous cylinders," IEEE Antennas and Propagation Society International Symposium, Syracuse, New York, 1988, pp. 1122-1125.

341. J. M. Jin and V. V. Liepa, "Hybrid finite element technique with application to electromagntic scattering from coated cylinders," USNC/URSI National Radio Science Meeting, Blacksburg, Virginia, June 15-19, 1987.

342. S. Zhang and J. M. Jin, "Dyadic Green's functions for circular waveguides and coaxial lines with moving media," Proceeding of the First International Symposium on Antennas and EM Theory, Beijing, China, 1985.

Prof. Jin's Research Group

Courses

ECE 520

Fundamentals of electromagnetic principles and theorems, including, Maxwell's Equations and boundary conditions; Energy conservation and Poynting's theorem; Uniquess theorem, Reciprocity theorem, Duality principles and Equivalence principles; etc.. Applications of electromagnetic theory and theorems to the analysis of waveguide, cavity, antenna and scattering problems. Solution of boundary-value problems in Cartesian, cylindrical and spherical coordinates.

Course Webpage

ECE 540

Basic computational techniques for numerical analysis of electromagnetics problems, including the finite difference, finite element, and moment methods. Emphasis on the formulation of physical problems into mathematical boundary-value problems, numerical discretization of continuous problems into discrete problems, and development of rudimentary computer codes for simulation of electromagnetic fields in engineering problems using each of these techniques.

Course Webpage

Theses Advised

Ph.D. Theses

1. S. S. Ni, "**Hybridization of the Finite-Element Method and the Shooting-and-Bouncing-Ray Method for Scattering and Radiation from Large and Complex Targets**," Ph.D. Thesis, 1995 (presently at Northrop-Grumman).

2. J. Chen, "**Simulations of Electromagnetic Effect in Magnetic Resonance Imaging**," Ph.D. Thesis, 1998 (formerly at Motorola, presently at University of Houston).

3. A. D. Greenwood, "**Finite Element Method for Electromagnetic Scattering and Radiation from Complex Axisymmetric Structures**," Ph.D. Thesis, 1998 (presently at Air Force Research Laboratory).

4. F. Ling, "**Fast Electromagnetic Modeling of Multilayer Microstrip Antennas and Circuits**," Ph.D. Thesis, 2000 (formerly at Motorola and Neolinear, presently at Cadence).

5. E. D. Branch, "**A Higher-Order Finite Element Method for Computing the Radar Cross Section of Bodies of Revolution**," Ph.D. Thesis, 2000 (presently at Air Force Research Laboratory).

6. D. Jiao, "**Advanced Time-Domain Finite Element Method for Electromagnetic Analysis**," Ph.D. Thesis, 2001 (formerly at Intel, presently at Purdue University).

7. J. Liu, "**Higher-Order Finite Element–Boundary Integral Methods for Electromagnetic Scattering and Radiation Analysis**," Ph.D. Thesis, 2002 (formerly at Ansoft, presently at Sigrity).

8. M. E. Kowalski, "**Analysis and Optimization of Electromagnetic Phased-Arrays for Hyperthermia**," Ph.D. Thesis, 2002 (presently at SLAC, Stanford University).

9. K. Donepudi, "**Fast Higher-Order Solutions for Electromagnetic Scattering from Three-Dimensional Bodies**," Ph.D. Thesis, 2002 (presently at Intel Corporation).

10. Ali E. Yilmaz, "**Parallel FFT-Accelerated Time-Domain Integral Equation Solvers for Electromagnetic Analysis**," Ph.D. Thesis, 2005 (presently at UT-Austin).

11. E. A. Dunn, "**A Higher-Order Finite Element—Boundary Integral Method for Electromagnetic Scattering and Radiation from Bodies of Revolution**," Ph.D. Thesis, 2005 (presently at SAIC).

12. Z. Lou, "**Time-Domain Finite-Element Simulation of Large Antennas and Antenna Arrays**," Ph.D. Thesis, 2006.

13. D. Correia, "**A Higher-Order Perfectly Matched Layer for Open-Region, Waveguide, and Periodic Electromagnetic Problems**," Ph.D. Thesis, 2006.

14. K. Mao, "**Finite Element Analysis of Multilayer Transmission Lines and Circuit Components**," Ph.D. Thesis, 2007.

15. Y.-J. Li, "**Development and Application of the FETI-DPEM Algorithm for Analysis of Three-Dimensional Large-Scale Electromagnetic Problems**," Ph.D. Thesis, 2009.

16. S. H. Lee, "**Efficient Finite Element Electromagnetic Analysis for High-Frequency/ High-Speed Circuits and Multiconductor Transmission Lines** ," Ph.D. Thesis, 2009.

17. R. Wang, "**Incorporation of Feed-Network and Circuit Modeling into the Time-Domain Finite Element Analysis of Antenna Arrays and Microwave Circuits**," Ph.D. Thesis, 2009.

18. Y. Su, "**Calderón Technique Based Integral Equation Methods in Computational Electromagnetics**," Ph.D. Thesis, 2011 (awarded by University of Electronic Science and Technology of China).

19. X. L. Li, "**Investigation of Explicit Finite-Element Time-Domain Methods and Modeling of Dispersive Media and 3D High-Speed Circuits**," Ph.D. Thesis, 2012.

20. W. Yao, "**Accurate, Efficient, and Stable Domain

Decomposition Methods for Analysis of Electromechanical Problems**," Ph.D. Thesis, 2013.

21. M. F. Xue, "**Unified Conformal/Nonconformal Domain Decomposition Methods for Solving Large-Scale Multi-Region Electromagnetic Problems**," Ph.D. Thesis, 2014.

22. H.-T. Meng, "**Investigation of General-Purpose Computing on Graphics Processing Units and its Application to the Finite Element Analysis of Electromagnetic Problems**," Ph.D. Thesis, 2015.

M.S. Theses

1. N. L. Lu, "**Application of Adaptive Absorbing Conditions and Fast Multipole Method to Finite Element Solution of Three-Dimensional Scattering**," M.S. Thesis, 1995 (presently at Intel).

2. S. T. Carolan, "**Hybridization of the Method of Moments and the Shooting-and-Bouncing-Ray Method for Scattering from Large Geometries with Small Protrusions**," M.S. Thesis, 1997 (presently at OpenPort).

3. Z. M. Feng, "**Analysis of Shielded RF Coils Using Moment Methods**," M.S. Thesis, 1997 (continued Ph.D. study at UI, presently at MIT).

4. K. Donepudi, "**Spectral Lanczos Decomposition Method for Time- and Frequency-Domain Analysis of Maxwell's Equations using FEM**," M.S. Thesis, 1997 (continued Ph.D. study at UI, presently at Intel Corporation).

5. W. C. Gibson, "**Incremental Length Diffraction Coefficients in XPATCH**," M.S. Thesis, 1998 (presently at deciBel Research, Inc.).

6. M. E. Kowalski, "**Modeling, Optimization, and Control of Electromagnetic Oncological Hyperthermia**," M.S. Thesis, 1999 (continued Ph.D. study at UI, presently at SLAC, Stanford University).

7. E. Dunn, "**Iterative Solvers and Preconditioners for Finite Element Analysis of Indoor Wave**

Propagation," M.S. Thesis, 2000 (continued as a Ph.D. student at UI, presently at SAIC).

8. A. E. Yilmaz, "**FFT-Based Algorithms for Fast Analysis of Transient Electromagnetic Scattering**," M.S. Thesis, 2000 (continued as a Ph.D. student at UI, presently at UT-Austin).

9. Z. Lou, "**High-Order Finite Element Analysis of Periodic Structures**," M.S. Thesis, 2003 (continued as a Ph.D. student at UI, presently in China).

10. A. R. Siripuram, "**Finite Element Modeling of Microwave Breakdown in Air-Filled Waveguide Devices**," M.S. Thesis, 2004 (jointed SPAWAR).

11. Y. Zhong, "**The Domain Decomposition Method for Finite Element Analysis of Deep Cavities**," M.S. Thesis, 2004 (continued as a Ph.D. student at UI).

12. R. Hu, "**Higher-Order Finite Element Analysis of Anisotropic, Lossy, and Inhomogeneous Waveguides**," M.S. Thesis, 2004 (continued as a Ph.D. student at UI).

13. Y. J. Li, "**Vector Dual-Primal Finite Element Tearing and Interconnecting Method for Solving 3-D Electromagnetic Problems**," M.S. Thesis, 2005 (continued as a Ph.D. student at UI, presently at Cadence).

14. R. Wang, "**Finite Element-Boundary Integral Analysis of Electromagnetic Scattering by Discrete Bodies of Revolution**," M.S. Thesis, 2006 (continued as a Ph.D. student at UI, presently at ADI).

15. X. L. Li, "**Modeling of Electric and Magnetic, Anisotropic, Dispersive and Lossy Materials Using the Time-Domain Finite-Element Method**," M.S. Thesis, 2007 (continued as a Ph.D. student at UI, presently at Cadence).

16. H. D. Pinto, "**Implementation and Experiments with the Discontinuous Galerkin Method for Maxwell's Equations**," M.S. Thesis, 2009 (Joined NASA Goddard Center).

17. W. Yao, "**Finite Element Analysis of 3D Electric Machine Problems**," M.S. Thesis, 2010 (continued as a Ph.D. student at UI).

18. H. T. Meng, "**Acceleration of Asymptotic**

Computational Electromagnetics Physical Optics – Shooting and Bouncing Ray (PO-SBR) Method Using CUDA,"** M.S. Thesis, 2011 (continued as a Ph.D. student at UI).

19. S. Yan, "**Accuracy Improvement of the Second-Kind Fredholm Integral Equations in Computational Electromagnetics**," M.S. Thesis, 2012 (continued as a Ph.D. student at UI).

20. P. Chen, "**Application of the Time-Domain Finite-Element Method to Analysis of 3D Electric Machine Problems**," M.S. Thesis, 2012 (joined Analog Device, Inc.).

21. T. J. Lu, "**Signal Integrity Analysis of High-Speed Multilayer Interconnects Using the Finite Element Method**," M.S. Thesis, 2012 (continued as a Ph.D. student at UI).

22. J. Guan, "**OpenMP-CUDA Implementation of the Moment Method and Multilevel Fast Multipole Algorithm on Multi-GPU Computing Systems**," M.S. Thesis, 2013 (continued as a Ph.D. student at UI).

23. Y. J. Zeng, "**Full-Wave Analysis of Metallic Structures at Optical Frequencies**," M.S. Thesis, 2014 (continued as a Ph.D. student at UI).

Invited Talks

Invited Talks

1. "**RF Coil/Field Analysis for Magnetic Resonance Imaging (MRI)**," The 6th Annual Little Rock Workshop on Advances in MR Engineering, Robert Allerton Conference Center, University of Illinois, Urbana, IL, June 2, 1997.

2. "**New Developments of Hybrid Finite Element

Methods for Scattering and Radiation by Complex Targets,” National Radio Science Meeting, Boulder, CO, Jan. 9-13, 1996.

3. "**Hybridization in Computational Electromagnetics**,” Annual Conference of Electro-magnetic Code Consortium (EMCC), May 1998.

4. "**Hybridization in Computational Electromagnetics**,” H-Infinity Meeting of the Defense Research Initiative Program, San Diego, CA, June 1998.

5. "**Hybridization in Computational Electromagnetics**,” Southwest Jiaotong University, China, Aug. 1998.

6. "**Hybridization in Computational Electromagnetics**,” (Plenary talk) International Conference on Microwave and Millimeter Wave Technology, Beijing, China, Aug. 1998.

7. "**The Finite Element Method for Electromagnetic Field Computation**,” Workshop on Computational Electromagnetics in Magnetic Resonance, College Station, TX, June 1998.

8. "**Finite Element Method and FFT Based Methods in CEM**,” 1998 Antenna Applications Symposium, Allerton Park, Monticello, IL, Sept. 1998.

9. "**On the IE-AP Method**,” Mission Research Corporation, Dayton, OH, April 1999.

10. "**Computational Electromagnetics for Antenna Modeling**,” Second H-Infinity Workshop of the Defense Research Initiative Program, Arlington, VA, June 1999.

11. "**Computational Electromagnetics: A Brief Overview**,” Air Force Research Laboratory, Dayton, OH, Sept. 8, 1999.

12. "**Higher-Order Methods for Computational Electromagnetics**,” Annual Conference of Electromagnetic Code Consortium (EMCC), St. Louis, MO, May 2000.

13. "**Electromagnetic Analysis and Design in Magnetic Resonance Imaging**,” Medtronic, Minneapolis, Minnesota, May 2000.

14. "**Fast Algorithms for Electromagnetic Modeling of Microstrip Problems**,” International Microwave Conference, Boston, June 2000.

15. "**Fast Electromagnetic Modeling of Multilayer**

Microstrip Antennas and Circuits," (Plenary talk) 5th International Symposium on Antennas, Propagation, and EM Theory, Beijing, China, Aug. 2000.

16. "**Fast Electromagnetic Modeling of Multilayer Microstrip Antennas and Circuits**," Department of Electronic Engineering, City University of Hong Kong & MTT/AP/LEO Chapter, IEEE HK Section, Oct. 2000.

17. "**Fast Algorithms for Electromagnetic Modeling of Microstrip Problems**," Third H-Infinity Workshop of the Defense Research Initiative Program, Annapolis, VA, Oct. 2000.

18. "**Higher-Order Methods for Computational Electromagnetics**," Department of Electronic Engineering, City University of Hong Kong & MTT/AP/LEO Chapter, IEEE HK Section, March 28, 2001.

19. "**Fast Electromagnetic Modeling of Multilayer Microstrip Antennas and Circuits**," Department of Electronic Engineering, Chinese University of Hong Kong, May 2, 2001.

20. "**Higher-Order Methods for Computational Electromagnetics**," Anhui University, Hefei, China, May 10, 2001.

21. "**Fast Electromagnetic Modeling of Multilayer Microstrip Antennas and Circuits**," University of Science and Technology of China, May 11, 2001.

22. "**A Novel Hybridization of Higher-Order Finite Element and Boundary Integral Methods for Electromagnetic Scattering and Radiation Problems**," Annual Conference of Electromagnetic Code Consortium (EMCC), Kauai, Hawaii, May 28 – June 1, 2001.

23. "**A Novel Hybridization of Higher-Order Finite Element and Boundary Integral Methods for Electromagnetic Scattering Problems**," Air Force Institute of Technology, Dayton, Ohio, November 8, 2001.

24. "**A Novel Hybridization of Higher-Order Finite Element and Boundary Integral Methods for Electromagnetic Scattering Problems**," AFOSR Electromagnetics Workshop, San Antonio, TX, January

2002.

25. "**Prediction of Radar Cross Section of Jet Engine Inlets**," Annual Conference of Electromagnetic Code Consortium (EMCC), Albuquerque, New Mexico, May 2002.

26. "**Finite Element Analysis of Electromagnetic Scattering and Radiation Problems in the Time Domain**," Annual Conference of Electromagnetic Code Consortium (EMCC), Albuquerque, New Mexico, May 2002.

27. "**The Fascinating World of Computational Electromagnetics**," ECE Undergraduate seminar, University of Illinois, October 2002.

28. "**The Finite Element Method for Computational Electromagnetics: Recent Progress, Current Status, and Future Directions**," SIP/CEA/CEN Joint Forum-- Use of High Performance Computing in Interdisciplinary Engineering, College Park, MD, November 6, 2002.

29. "**Recent Advances in the Finite Element Method for Computational Electromagnetics**," Institute of Mathematical Science, National University of Singapore, February 25, 2003.

30. "**The Finite Element Method for Computational Electromagnetics: Recent Progress, Current Status, and Future Directions**," Institute of Mathematical Science, National University of Singapore, February 27, 2003.

31. "**Scattering Analysis of a Large Body with Deep Cavities**," Annual Conference of Electromagnetic Code Consortium (EMCC), Hampton, Virginia, May 2003.

32. "**A Fully High-Order Finite-Element Simulation of Scattering by Deep Cavities**," Annual Conference of Electromagnetic Code Consortium (EMCC), Hampton, Virginia, May 2003.

33. "**The Finite Element Method for Computational Electromagnetics: Recent Progress, Current Status, and Future Directions**," Stanford University, September 2003.

34. "**Finite Element Analysis of Electromagnetic Scattering and Radiation Problems in the Time Domain**," AFRL, Kirtland AFB, Albuquerque, New

Mexico, Feb. 2004.

35. "**Computational Electromagnetics and Acoustics**," PET Annual Tech Review, Austin, TX, March 2004.

36. "**The Finite Element Method for Computational Electromagnetics: Recent Progress, Current Status, and Future Directions**," Michigan State University, April 8, 2004.

37. "**The Finite Element Method for Computational Electromagnetics: Recent Progress, Current Status, and Future Directions**," Ohio State University, April 22, 2004.

38. "**CEA PET Annual Technical Review: Accomplishments and Future Vision**," Annual Conference of Electromagnetic Code Consortium (EMCC), Seattle, WA, May 2004.

39. "**The Finite Element Method for Computational Electromagnetics: Recent Progress, Current Status, and Future Directions**," Southeast University, August 27, 2004.

40. "**The Fascinating World of Computational Electromagnetics**," Nanjing University, August 31, 2004.

41. "**The Fascinating World of Computational Electromagnetics**," Peking University, November 23, 2004.

42. "**The Finite Element Method for Computational Electromagnetics: Recent Progress, Current Status, and Future Directions**," Peking University, November 24, 2004.

43. "**Higher-Order Accurate Solutions of 3D Wave Scattering**," Peking University, November 25, 2004.

44. "**A Quantitative Study of Luneberg Lens Reflectors**," UIUC ECE 590 Electromagnetics, Optics and Remote Sensing Seminar Series, January 2005.

45. "**Computational Electromagnetics and Acoustics (CEA): KY4 Accomplishments and Future Vision**," PET Annual Tech Review, Columbus, OH, March 2005.

46. "**Electromagnetic Simulation of Antennas and Arrays with Accurate Modeling of Antenna Feeds and Feed Networks**," Annual Conference of Electromagnetic Code Consortium (EMCC), Cincinnati,

OH, May 2005.

47. "**CEA PET Annual Technical Review: Serving DOD Users in Computational Electromagnetics and Acoustics**," Annual Conference of Electromagnetic Code Consortium (EMCC), Cincinnati, OH, May 2005.

48. "**The Finite Element Method for Computational Electromagnetics**," Lockheed Martin Corporation, Sunnyvale, CA, November 2005.

49. "**Development of Time-Domain Electromagnetic Simulation Techniques for Analysis of Broadband Antennas and Arrays**," AFOSR Electromagnetics Workshop, San Antonio, TX, January 10-13, 2006.

50. "**CEA PET Annual Technical Review: Serving DOD Users in Computational Electromagnetics and Acoustics**," Annual Conference of Electromagnetic Code Consortium (EMCC), Tucson, AZ, May 2006.

51. "**A Systematic Numerical Convergence Study of Typical Computational Electromagnetics Schemes**," Annual Conference of Electromagnetic Code Consortium (EMCC), Tucson, AZ, May 2006.

52. "**Time-Domain Finite Element Method for Analysis of Broadband Antennas and Arrays**," Annual Conference of Electromagnetic Code Consortium (EMCC), Tucson, AZ, May 2006.

53. "**Back to Reality: Solving Maxwell's Equations in the Time Domain Using the Finite Element Method**," UIUC ECE 590 Electromagnetics, Optics and Remote Sensing Seminar Series, September 2006.

54. "**A Fast Full-Wave Analysis of Large-Scale 3-D Photonic Crystal Problems Using the FETI-EM Method**," SPAWAR, San Diego, November 30, 2006.

55. "**A Fast Full-Wave Analysis of Large-Scale 3-D Photonic Crystal Problems Using the FETI-EM Method**," University of New Mexico, December 1, 2006.

56. "**A Fast Full-Wave Analysis of Large-Scale Phased-Array Antenna and Photonic Crystal Problems Using the FETI-EM Method**," AFOSR Electromagnetics Workshop, San Antonio, TX, January 9-11, 2007.

57. "**CEA PET Annual Technical Review: Serving DOD Users in Computational Electromagnetics and Acoustics**," Annual Conference of Electromagnetic

Code Consortium (EMCC), San Diego, CA, May 2007.

58. "**A Fast Full-Wave Analysis of Large-Scale Phased-Array Antenna and Photonic Band-Gap Problems Using the FETI-EM Method**," Annual Conference of Electromagnetic Code Consortium (EMCC), San Diego, CA, May 2007.

59. "**A Highly Efficient Domain Decomposition Method for the Finite Element Computation of Electromagnetic Fields: Application to Large-Scale Phased-Array Antennas and Photonic Crystal Problems**," IEEE AP/MTT Hong Kong Joint Chapter, City University of Hong Kong, January 18, 2008.

60. "**Fast Time-Domain Computational Techniques and Their Applications in EMC**," 2008 International Symposium on Electromagnetic Compatibility Technology, Wuhan, China, January 2008.

61. "**Back to Reality: Solving Maxwell's Equations in the Time Domain Using the Finite Element Method**," IEEE AP/MTT Hong Kong Joint Chapter, City University of Hong Kong, February 26, 2008.

62. "**The Fascinating World of Computational Electromagnetics**," University of Macau/IEEE Macau CAS/COM Joint-Chapter, February 28, 2008.

63. "**Fast Time-Domain Computational Techniques and Their Applications in EMC**," IEEE AP/MTT Hong Kong Joint Chapter, City University of Hong Kong, March 4, 2008.

64. "**The Fascinating World of Computational Electromagnetics**," University of Hong Kong, April 2, 2008.

65. "**Electromagnetic Simulation of Large-Scale Photonic Crystal Problems**," University of Hong Kong, April 16, 2008.

66. "**A Highly Efficient Domain Decomposition Method for the Finite Element Computation of Electromagnetic Fields: Application to Large-Scale Phased-Array Antennas and Photonic Crystal Problems**," Institute of High Performance Computing, Singapore, May 23, 2008.

67. "**The Fascinating World of Computational Electromagnetics**," Shanghai Jiao Tong University,

Shanghai, China, June 6, 2008.

68. "**Back to Reality: Solving Maxwell's Equations in the Time Domain Using the Finite Element Method**," Shanghai Jiao Tong University, Shanghai, China, June 7, 2008.

69. "A Highly Efficient Domain Decomposition Method for the Finite Element Computation of Electromagnetic Fields: Application to Large-Scale Phased-Array Antennas and Photonic Crystal Problems," Zhejiang University, Hangzhou, China, June 7, 2008.

70. "**The Fascinating World of Computational Electromagnetics**," Beijing Institute of Technology, Beijing, June 12, 2008.

71. "**Back to Reality: Solving Maxwell's Equations in the Time Domain Using the Finite Element Method**," Beijing Institute of Technology, Beijing, June 18, 2008.

72. "**Fast Time-Domain Computational Techniques and Their Applications in EMC**," Beijing Institute of Technology, Beijing, June 19, 2008.

73. "**A Highly Efficient Domain Decomposition Method for the Finite Element Computation of Electromagnetic Fields: Application to Large-Scale Phased-Array Antennas and Photonic Crystal Problems**," Beijing Institute of Technology, Beijing, June 20, 2008.

74. "**Finite Element Domain Decomposition Analysis of Large-Scale Electromagnetic Problems**," Northrop Grumman, Los Angles, CA, November 11, 2008.

75. "**Finite Element Analysis of Phased-Array Antennas**," Global Chinese Microwave Summit, Hefei, China, November 16, 2008.

76. "**Finite Element Analysis of Phased-Array Antennas**," Southeast University, Nanjing, November 19, 2008.

77. "**Incorporation of Feed-Network and Circuit Modeling into the Time-Domain Finite Element Analysis of Antennas and Phased Arrays**," AFOSR Electromagnetics Workshop, San Antonio, TX, January 6-8, 2009.

78. "**A Highly Efficient Domain Decomposition Method for the Finite Element Computation of**

Electromagnetic Fields: Application to Large-Scale Phased-Array Antennas and Photonic Crystal Problems," Michigan State University, East Lansing, MI, March 18, 2009.

79. "**A Novel, Highly Efficient Domain Decomposition Technique for the Finite Element Computation of Electromagnetic Fields: Application to Large-Scale Phased-Array Antennas and Photonic Crystal Problems**," University of Michigan, Ann Arbor, MI, April 22, 2009.

80. "**Incorporation of Circuit and Lumped-Network Modeling into the Time-Domain Finite Element Analysis**," Annual Conference of Electromagnetic Code Consortium (EMCC), Oklahoma City, OK, May 2009.

81. "**25 Years of Progress and Future Challenges in Finite Element Methodologies and Applications**," University of Electronic Science and Technology in China, Chengdu, China, August 11, 2009.

82. "**A Dual-field Domain Decomposition Method for Time-Domain Finite Element Computation of Electromagnetic Fields**," 19th International Conference on Domain Decomposition Methods, Zhanjiajie, Hunan, August 18, 2009.

83. "**Novel, Highly Efficient Domain Decomposition Techniques for Solving Large-Scale Electromagnetic Problems**," University of North Carolina, Charlotte, NC, Sept. 23, 2009.

84. "**The Fascinating World of Computational Electromagnetics**," North China Electric Power University, Beijing, April 17, 2010.

85. "**Fast Time-Domain Computational Techniques and Their Applications in EMC**," North China Electric Power University, Beijing, April 17, 2010.

86. "**Recent Progress in Computational Electromagnetics with a Focus on the Finite Element and Boundary Element Methods**," ECE 590I-CEME Tele-Seminar, University of Illinois, May 3 & 10, 2010.

87. "**Novel, Highly Efficient Domain Decomposition Techniques for Finite Element Computation of Electromagnetic Fields**," University of Texas, Austin,

TX, May 14, 2010.

88. "**25 Years of Progress and Future Challenges in Finite Element Methodologies and Applications**," A-Star Institute of High Performance Computing/IEEE AP/MTT Singapore Chapter, Singapore, June 29, 2010.

89. "**Fast Time-Domain Computational Techniques and Their Applications in EMC**," A-Star Institute of High Performance Computing, Singapore, July 1, 2010.

90. "**25 Years of Progress and Future Challenges in Finite Element Methodologies and Applications**," Nanyang Technological University/IEEE AP/MTT Singapore Chapter, Singapore, July 2, 2010.

91. "**Finite Element Analysis of Antennas and Phased Arrays in the Time Domain**," 34th Annual Antenna Applications Symposium, Allerton Conference Center, Monticello, IL, September 22, 2010.

92. "**Novel, Highly Efficient Domain Decomposition Techniques for Finite Element Computation of Electromagnetic Fields**," University of Houston, Houston, TX, November 12, 2010.

93. "**Prediction of Radar Cross Section of Jet Engine Inlets**," LibertyWorks, Rolls-Royce North American Technologies Inc., Indianapolis, IN, December 7, 2010.

94. "**Time-Domain Finite Element Analysis of Electromagnetic Radiation and Scattering and Microwave Circuits**," 2011 IEEE International Workshop on Antenna Technology, Hong Kong, March 7-9, 2011.

95. "**Finite Element Analysis of Antennas and Phased Arrays in the Time Domain**," City University of Hong Kong, March 10, 2011.

96. "**On the V&V of the FETI-EM for Simulating the NRL Dual-Polarized Vivaldi Phased Array**," Annual Conference of Electromagnetic Code Consortium (EMCC), San Diego, CA, May 2011.

97. "**Finite Element Analysis of Antennas and Phased Arrays in the Time Domain**," International Workshop on Computational Electromagnetics, Chengdu, June 5, 2011.

98. "**Novel, Highly Efficient Domain Decomposition Techniques for Finite Element Computation of**

Electromagnetic Fields," Nanjing University of Science and Technology, Nanjing, China, June 15, 2011.

99. "**On the Challenges of Numerical Computation of Electromagnetic Scattering from a Large, Deep, and Perfectly Conducting Open Cavity**," USNC/URSI National Radio Science Meeting, Spokane, WA, July 4, 2011.

100. "**Fundamentals and Advances in Full-Wave Characterization of Interconnects for PCB Signal Integrity Applications**," 20th Conference on Electrical Performance of Electronic Packaging and Systems (EPEPS), San Jose, CA, Oct. 2011 (Embedded Tutorial with D. Nagle and J. Tan).

101. "**Finite Element Analysis of Antennas and Phased Arrays in the Time Domain**," A-Star Institute of High Performance Computing/IEEE AP/MTT Singapore Chapter, Singapore, January 13, 2012.

102. "**Time-Domain Finite Element Method for Electromagnetic Analysis**" (Plenary talk), 28th International Review of Progress in Applied Computational Electromagnetics, Columbus, OH, April 10-14, 2012.

103. "**Recent Progress and Future Challenges in the Finite Element Method for Electromagnetic Analysis**," Department of Information Science and Electronic Engineering, Zhejiang University, June 29, 2012.

104. "**Computational Electromagnetics: The Past, Present, and Future**," Department of Information Science and Electronic Engineering, Zhejiang University, July 2, 2012.

105. "**Finite Element Analysis of Antennas and Phased Arrays in the Time Domain**," Advanced Communication Center, Tel-Aviv University, Israel, July 30, 2012.

106. "**Domain Decomposition Methods for FEM Modeling of Large-Scale Phased Arrays**," Advanced Communication Center, Tel-Aviv University, Israel, July 30, 2012.

107. "**Computational Electromagnetics: The Past, Present, and Future**," Department of School of

Computer Science and Technology, Zhejiang University, December 14, 2012.

108. "**From the Finite Element Method to the Discontinuous Galerkin Method**," International Workshop on Electromagnetic Theory, Modeling and Simulations, Chengdu, June 8, 2013.

109. "**From the Finite Element Method to the Discontinuous Galerkin Method**," International Forum on New-Wave of Computational Electromagnetics and Application to Advanced Microelectronics, Zhejiang University, Hangzhou, June 14, 2013.

110. "**Domain Decomposition Methods for the Finite Element Analysis of Large-Scale Electromagnetic Problems**," 2013 ACES International Workshop on Computational Electromagnetics Methods and Applications, Harbin, China, November 19, 2013.

111. "**Computational Electromagnetics: The Past, Present, and Future**," Institute of Electronics, Chinese Academy of Science, Beijing, China, November 22, 2013.

112. "**Domain Decomposition Methods for the Finite Element Analysis of Large-Scale Electromagnetic Problems**," 30th International Review of Progress in Applied Computational Electromagnetics, Jacksonville, FL, March 2014.

113. "**Domain Decomposition Methods for the Finite Element Analysis of Large-Scale Electromagnetic Problems**," International Forum on New-Wave of Computational Electromagnetics and Application to Advanced Microelectronics, Zhejiang University, Hangzhou, May 2014.

114. "**Domain Decomposition Methods for the Finite Element Analysis of Large-Scale Electromagnetic Problems**," International Workshop on Electromechanical Coupling, Xidian University, Xi'an, May 2014.

115. "**Computational Electromagnetics: The Past, Present, and Future**," Hunan University, Changsha, China, November 25, 2014.

116. "**Computational Electromagnetics: The Past, Present, and Future**," Jiangsu Normal University,

Xuzhou, China, January 14, 2015.

117. "**From FETD to DGTD for Computational Electromagnetics**," 31st International Review of Progress in Applied Computational Electromagnetics, Williamsburg, VA, March 2015.

118. "**From FETD to DGTD for Computational Electromagnetics**," Southeast University, Nanjing, China, May 12, 2015.

119. "**Domain Decomposition Methods for the Finite Element Analysis of Large-Scale Electromagnetic Problems**," Nanjing University of Science and Technology, Nanjing, China, May 13, 2015.

120. "**Multi-Physics Modeling in Computational Electromagnetics: Challenges and Opportunities**," International Workshop on Electromagnetic Theory, Modeling and Simulations, Chengdu, June 4, 2015.

121. "**Multi-Physics Modeling in Computational Electromagnetics: Challenges and Opportunities**," Zhejiang University, Hangzhou, June 11, 2015.

122. "**The Finite Element Time-Domain Method for Computational Electromagnetics**," International Workshop on Electromechanical Coupling, Xidian University, Xi'an, June 15, 2015.

123. "**Multi-Physics Modeling in Computational Electromagnetics: Challenges and Opportunities**," (invited Speaker) IEEE MTT-S International Conference on Numerical Electromagnetic and Multiphysics Modeling and Optimization for RF, Microwave, and Terahertz Applications, Ottawa, Canada, August 11, 2015.

124. "**Multi-Physics Modeling in Computational Electromagnetics: Challenges and Opportunities**," Computational Science and Engineering Seminar, University of Illinois at Urbana-Champaign, September 23, 2015.

Prof. Jin's Research Group

Principal Investigator

Professor Jian-Ming Jin,
Y.T. Lo Chair in Electrical and Computer Engineering

Room 5050, ECE Building
306 North Wright Street
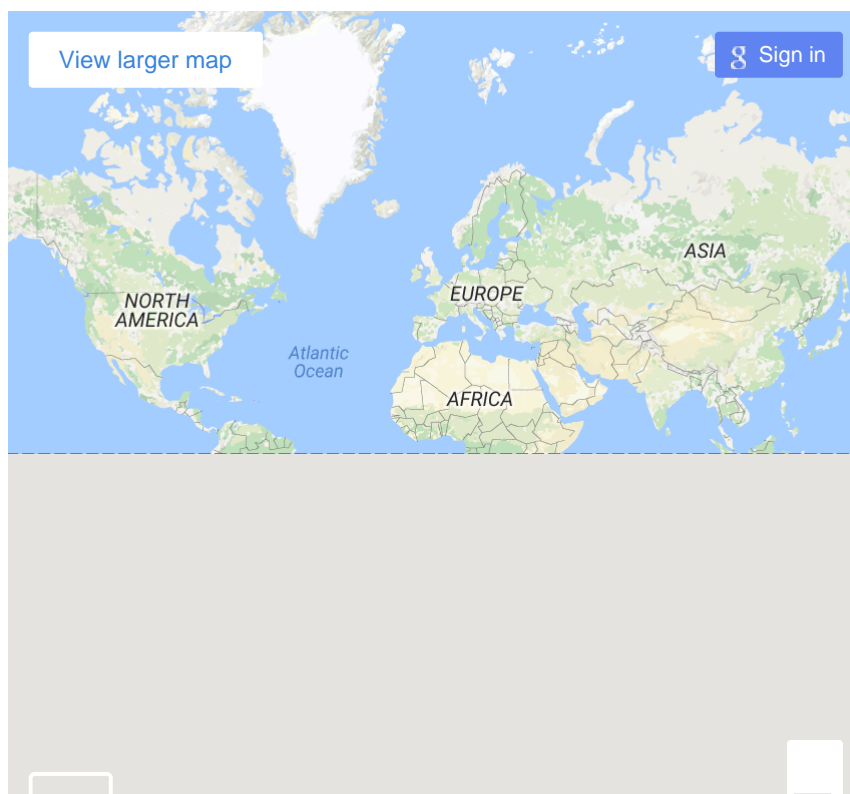Urbana Illinois, 61801

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Links

University of Illinois

College of Engineering

Department of Electrical and Computer Engineering

JIANMING JIN

RESEARCH INTEREST

Computational electromagnetics, multi-physics modeling, finite element methods, bioelectromagnetics (magnetic resonance imaging and electromagnetic hyperthermia), wave scattering and propagation, electromagnetic interference and compatibility, microwave and millimeter-wave circuits, wireless communications, antennas and electromagnetic theory

EDUCATION

NANJING UNIVERSITY, Nanjing, China
B.S. in Physics, 1982

NANJING UNIVERSITY, Nanjing, China
M.S. in Applied Physics, 1984

UNIVERSITY OF MICHIGAN, Ann Arbor, MI
Ph.D. in Electrical Engineering, 1989

EXPERIENCE

UNIVERSITY OF ILLINOIS, Urbana, IL

Y. T. Lo Chair Professor in Electrical and Computer Engineering   2009-present

DEPARTMENT OF DEFENSE, United States

Functional Area Point of Contact (FAPOC)/Academic Advisor   2002-2014
High Performance Computing Modernization Program

UNIVERSITY OF ILLINOIS, Urbana, IL

Director   2007-present
Electromagnetics Laboratory and
Center for Computational Electromagnetics

Sony Faculty Scholar   2005-2009
Department of Electrical and Computer Engineering

Professor   2001-present
Department of Electrical and Computer Engineering

Henry Magnuski Scholar 1998-2000
Department of Electrical and Computer Engineering

Associate Professor 1997-2001
Department of Electrical and Computer Engineering

Associate Director 1995-2007
Center for Computational Electromagnetics

Beckman Institute Affiliate 1994-present
Beckman Institute for Advanced Science and Technology

Assistant Professor 1993-1997
Department of Electrical and Computer Engineering

OTSUKA ELECTRONICS (USA), INC., Fort Collins, CO

Senior Scientist/Mathematical Modeler 1992-1993

THE UNIVERSITY OF MICHIGAN, Ann Arbor, MI

Assistant Research Scientist 1990-1992
Department Electrical Engineering and Computer Science

Research Fellow 1989-1990
Department Electrical Engineering and Computer Science

Research Assistant 1985-1989
Department Electrical Engineering and Computer Science

SUMMITEC CORPORATION, Oak Ridge, TN

Research Engineer 1991-1992

NANJING UNIVERSITY, Nanjing, China

Faculty Member 1984-1985
Department of Information Physics

Research Assistant 1982-1984
Department of Information Physics

PROFESSIONAL AWARDS

1. National Science Foundation Young Investigator (NYI) Award, 1994

2. Office of Naval Research (ONR) Young Investigator Award, 1995

3. UIUC List of Excellent Teachers, 1996

4. UIUC Junior Xerox Award for Faculty Research, 1997

5. Henry Magnuski Outstanding Young Scholar, 1998-2000

6. UIUC List of Excellent Teachers, Fall 1998

7. Valued Service Award, Applied Computational Electromagnetics Society, 1999

8. Distinguished Visiting Professor, Air Force Research Laboratory, 1999

9. UIUC List of Excellent Teachers, Fall 1999

10. UIUC Senior Xerox Award for Faculty Research, 2000

11. Elected to IEEE Fellow "For contributions to computational electromagnetics and its applications to antennas, radar scattering, microwave circuits, and biomedical technology" in 2001

12. Visiting Professor, City University of Hong Kong, 2000-2001, 2008

13. Adjunct Professor, Anhui University, Hefei, China, 2001

14. UIUC List of Excellent Teachers, Fall 2001

15. UIUC List of Excellent Teachers, Spring 2002

16. UIUC List of Excellent Teachers, Fall 2002

17. Elected to the category of the Highly Cited Authors (top 0.5%) by ISI (www.isihighlycited.com), 2002

18. UIUC List of Excellent Teachers, Spring 2003

19. Adjunct Professor, Peking University, Beijing, China, 2003

20. Guest Professor, Southeast University, Nanjing, China, 2004

21. Adjunct Professor, Nanjing University, Nanjing, China, 2004

22. UIUC List of Excellent Teachers, Spring 2004

23. UIUC List of Excellent Teachers, Fall 2004

24. Sony Faculty Scholar Award, 2005-2009

25. UIUC List of Excellent Teachers, Fall 2005

26. UIUC List of Excellent Teachers, Spring 2006

27. UIUC List of Excellent Teachers, Spring 2007

28. Best Student Paper Award (for Shih-Hao Lee), EPEP 2007

29. Guest Professor, Shanghai Jiaotong University, 2008

30. Visiting Professor, Beijing Institute of Technology, 2008

31. Visiting Professor, The University of Hong Kong, 2008

32. Best Student Paper Award (for Rui Wang), ACES 2009

33. Visiting Professor, A-STAR, Singapore, 2010

34. UIUC List of Excellent Teachers, Fall 2009

35. UIUC List of Excellent Teachers, Spring 2010

36. IEEE Chengdu Section Best Student Paper Award (for Su Yan), 2010

37. Best Student Paper Award (for Su Yan), ACES 2011

38. UIUC List of Excellent Teachers, Spring 2011

39. EPEPS Certificate of Appreciation, 2011

40. UIUC List of Excellent Teachers, Fall 2011

41. Guangbiao Chair Professor, Zhejiang University, 2012

42. UIUC List of Excellent Teachers, Spring 2012

43. Student Paper Award (for Wang Yao and Mingfeng Xue), FEM Workshop, 2012

44. UIUC List of Excellent Teachers, Spring 2013

45. UIUC List of Excellent Teachers, Fall 2013

46. ACES Technical Achievement Award "For numerous contributions to the development of finite elements in electromagnetics," 2014

47. Visiting Professor, Xidian University, 2014

48. International Advisor, Chinese Society of Computational Physics, 2014

49. UIUC List of Excellent Teachers, Spring 2014

50. Elected to Fellow of Applied Computational Electromagnetics Society, 2015

51. UIUC List of Excellent Teachers, Fall 2014

52. Elected to the ACES Board of Directors, 2015

53. Best Student Paper Award (for Tianjian Lu), ACES 2015

54. IEEE Antennas and Propagation Society Chen-To Tai Distinguished Educator Award, 2015

55. IEEE Antennas and Propagation Edward E. Altschuler AP-S Magazine Prize Paper Award (with H. T. Meng, et al), 2015

56. IEEE Antennas and Propagation Society Distinguished Lecturer, 2015

57. UIUC List of Excellent Teachers, Spring 2015

SOCIETY MEMBERSHIP

1. Fellow, Institute of Electrical and Electronic Engineers (IEEE) since 2001

2. Fellow, Applied Computational Electromagnetics Society (ACES)

3. Fellow, Electromagnetics Academy

4. IEEE Antennas and Propagation (AP) Society

5. IEEE Microwave Theory and Techniques (MTT) Society

6. USNC/URSI Commission B

7. International Society for Magnetic Resonance in Medicine

8. Tau Beta Pi, National Engineering Honor Society

PROFESSIONAL ACTIVITIES

Journal Editorship:
- Guest Editor of a special issue for *IEEE Transactions on Antennas and Propagation,* 2008.
- Associate Editor, *Medical Physics,* 2010.
- Associate Editor for *Radio Science*, 1999-2002.
- Associate Editor for *IEEE Transactions on Antennas and Propagation* 1996-1998.
- Member of Editorial Board for *Microwave and Optical Technology Letters* since 1998.
- Member of Editorial Board for *Electromagnetics* since 1997.
- Member of Editorial Board for *IEEE Transactions on Microwave Theory and Techniques* since 1994.
- Guest Editor of a special issue for *Electromagnetics*, 1996.

Short Courses:
- Presented a tutorial "From FETD to DGTD for Computational Electromagnetics" at 31st International Review of Progress in Applied Computational Electromagnetics, Williamsburg, VA, March 2015.
- Presented a tutorial "Domain Decomposition Methods for the Finite Element Analysis of Large-Scale Electromagnetic Problems" at 30th International Review of Progress in Applied Computational Electromagnetics, Jacksonville, FL, March 2014.
- Organized an embedded tutorial (with D. Nagle and J. Tan) "Fundamentals and Advances in Full-Wave Characterization of Interconnects for PCB Signal Integrity Applications" at 20th Conference on Electrical Performance of Electronic Packaging and Systems (EPEPS), San Jose, CA, Oct. 2011.
- Organized a short course "Finite Element Analysis for Complex Antennas and Arrays" at Air Force Research Laboratory, Dayton, OH, February 2009.
- Organized a short course "Finite Element Analysis for Complex Antennas and Arrays" at Annual Conference of Electromagnetic Code Consortium (EMCC), San Diego, CA, May 2007.
- Organized a short course "Computational Electromagnetics: Current Status and Capabilities" at Air Force Research Laboratory, Dayton, OH, December 2003.

- Organized a short course on "Recent Advances in Finite Element Method for Computational Electromagnetics" for the 2003 Applied Computational Electromagnetics Society Annual Review Conference, Monterey, California, March 2003.
- Organized a short course on "Recent Advances in Finite Element Method for Computational Electromagnetics" for the 2002 IEEE Antennas and Propagation Society International Symposium, San Antonio, Texas, June 2002.
- Organized (with W. Chew, E. Michielssen, and J. M. Song) a short course on "Recent Advances in Fast Algorithms for Computational Electromagnetics" for the 2000 IEEE Antennas and Propagation Society International Symposium, Salt Lake City, Utah, July 2000.
- Organized (with W. Chew, E. Michielssen, and J. M. Song) a short course on "Recent Advances in Fast Algorithms for Computational Electromagnetics" for the 2000 Applied Computational Electromagnetics Society Annual Review Conference, Monterey, California, March 2000.
- Organized (with W. Chew, E. Michielssen, and J. M. Song) a short course on "Recent Advances in Fast Algorithms for Computational Electromagnetics" for the 1998 Applied Computational Electromagnetics Society Annual Review Conference, Monterey, California, March 1998.
- Organized (with A. Cangellaris) a short course on "High-Speed Interconnect and Package Modeling Using Finite-Difference and Finite-Element Methods" in the IEEE 6th Topical Meeting on Electrical Performance of Electronic Packaging, San Jose, Oct. 1997.
- Organized (with W. Chew and E. Michielssen) a short course on "Computational Electromagnetic and Its Applications," University of Illinois at Urbana-Champaign, Urbana, IL, July 1996.
- Organized (with W. Chew) a short course on "Advanced Finite Element Methods for Electromagnetics" in the 1994 IEEE Antennas and Propagation Society International Symposium, Seattle, Washington, June 1994.

Conference Committees:
- Member of Technical Program Committee, 2015 IEEE Antennas and Propagation Society International Symposium, Vancouver, July 2015.
- General Co-Chair, 12th International Workshop on Finite Elements for Microwave Engineering, Chengdu, China, May 2014.
- Member of Technical Program Committee, 2014 IEEE Antennas and Propagation Society International Symposium, Memphis, TN, July 2014.
- Member of Technical Program Committee, 2013 IEEE Antennas and Propagation Society International Symposium, Orlando, FL, July 2013.
- General Co-Chair, 11th International Workshop on Finite Elements for Microwave Engineering, Estes Park, CO, June 2012.
- Publication Chair & Member of Technical Program Committee, 2011 IEEE Antennas and Propagation Society International Symposium, Chicago, IL, July 2012.
- Member of Technical Program Committee, 2011 IEEE Antennas and Propagation Society International Symposium, Spokane, WA, June 2011.

- Member of Scientific Committee, 10th International Workshop on Finite Elements for Microwave Engineering, Meredith, NH, Oct. 2010.
- Technical Chair, 2008 Asia-Pacific Symposium on Electromagnetic Compatibility in conjunction with the 19th International Zurich Symposium on Electromagnetic Compatibility, Singapore, May 2008.
- Member of Technical Program Committee, 2007 IEEE Antennas and Propagation Society International Symposium, Honolulu, HI, June 2007.
- Member of Technical Program Committee, 2004 IEEE Antennas and Propagation Society International Symposium, Monterey, California, June 2004.
- Member of Technical Program Committee, 2000 IEEE Antennas and Propagation Society International Symposium, Salt Lake City, Utah, July 2000.
- Member of Technical Program Committee, 5th International Symposium on Antennas, Propagation, and EM Theory, Beijing, August 2000.
- Member of Scientific Committee, 5th International Workshop on Finite Elements for Microwave Engineering, Boston, June 2000.
- Technical Program Chairman, 1998 Applied Computational Electromagnetics conference, Monterey, California, March 1998.
- Program Committee Member, Workshop on Computational Electromagnetics in Magnetic Resonance, College Station, TX, May 30 – June 1, 1998.
- Conference Co-Chairman, 1997 Applied Computational Electromagnetics Conference.
- Member of Technical Program Committee, 1993 IEEE Antennas and Propagation Society International Symposium, Ann Arbor, Michigan, June 1993.
- Chaired many sessions for IEEE AP-S International Symposia and URSI Radio Science Meetings since 1992.
- Chaired many sessions for the Applied Computational Electromagnetics conference since 1996.
- Lectured at many universities and companies in U.S., Canada, China, Hong Kong, and Singapore.

Journal and Proposal Review:
- NSF CAREER Award panelist, 2005.
- NSF Proposal Review panelist, 2005.
- Proposal reviewer for the Singapore Government agencies.
- Proposal reviewer for the Hong Kong Government agencies.
- Proposal reviewer for the Canada Government agencies.
- Proposal reviewer for the South Africa Government agencies.
- Proposal reviewer for the Louisiana State Government agencies.
- Proposal reviewer for the North Carolina State Government agencies.
- NSF CAREER Award panelist, 1996.
- Proposal reviewer for NSF, 1995.
- Book reviewer for John Wiley and Sons.
- Book reviewer for Prentice Hall.
- Served as a reviewer for
    IEEE Transactions on Biomedical Engineering

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IEEE Transactions on Antennas and Propagation
IEEE Antennas and Propagation Magazine
IEEE Transactions on Microwave Theory and Techniques
IEEE Transactions on Education
IEEE Transactions on Geoscience and Remote Sensing
Proceedings of IEEE
Proceedings of IEE, Part H
Journal of Electromagnetic Waves and Applications
Microwave and Optical Technology Letters
Quarterly of Applied Mathematics
International Journal for Numerical Methods in Engineering
Journal of Computational Physics
Journal of the Optical Society of America A
Journal of Engineering Mathematics

RESEARCH FUNDING

1. Analysis and design of EM probes for MRI applications (Source: U of I Research Board), PI, $16,380, 1993-1995

2. Electromagnetic scattering from realistic targets (Source: NASA Lewis Research Center), (PI: S. W. Lee), $250,000, 1994-1995

3. NSF Young Investigator Award (Source: NSF, Program director: George Lea), PI, $312,000 ($500,000 including matching funds), 1994-1999

4. ONR Young Investigator Award (Source: ONR, Program director: Bill Stachnik), PI, $256,115, 1995-1998

5. Electromagnetic scattering from realistic targets (Source: NASA Lewis Research Center), Co-PI, $100,000, 1995-1996

6. Center for computational electromagnetics of complex structures (Source: AFOSR/DOD, Program director: Arje Nachman), Associate Director, $3,750,000, 1995-1998

7. Equipment fund (Source: U of I Research Board), Co-PI, $25,000, 1995-1996

8. Computational Electromagnetics (Source: DEMACO, Inc.), PI, $10,000, 1996

9. Industrial Partner Program (Source: Hughes Aircraft Company), Co-PI, $35,000, 1996

10. Industrial Partner Program (Source: Texas Instruments), Co-PI, $20,000, 1996

11. Industrial Partner Program (Source: Quad Design Technology), Co-PI, $20,000, 1996

12. Industrial Partner Program (Source: Viewlogic System), Co-PI, $20,000, 1996

13. Industrial Partner Program (Source: Northrop), Co-PI, $20,000, 1996

14. Industrial Partner Program (Source: Hughes Aircraft Company), Co-PI, $50,000, 1997

15. Industrial Partner Program (Source: Northrop), Co-PI, $10,000, 1997

16. Electromagnetic CAD Environment for Conformal Multi-Purpose Multi-Band for Automobile Applications (Source: General Motors), Co-PI, $40,000, 1997

17. Fast Full Wave Electromagnetic Simulators for High Speed Interconnect, EMI/EMC, and Wireless Applications (Source: IBM Shared University Research Equipment Donation Program), Co-PI, 1998

18. Center for Computational Electromagnetics of Complex Structures (Source: AFOSR/DOD, Program director: Arje Nachman), Associate Director, $2,500,000, 1998-2000

19. Modeling Methodologies and Algorithms for Rapid Electromagnetic Analysis of Complex Electronic Systems (Source: Motorola via Communication Center), Co-PI, $50,000, 1999

20. Large Scale Capacitance Calculations in Layered/Conformal Media (Source: Bell Lab, Lucent Technologies), PI, $21,000, 1999

21. Distinguished Visiting Professorship at AFRL's Center of Excellence for Air Vehicle Simulation (Source: Air Force Research Laboratory, Program director: Joseph Shang), PI, $50,000, 1999

22. Advanced Hybrid FE-IE Computer Program (Source: Mission Research Corporation), PI, $75,000, 1999-2000

23. Modeling Methodologies and Algorithms for Rapid Electromagnetic Analysis of Complex Electronic Systems (Source: Motorola via Communication Center), Co-PI, $50,000, 2000

24. Electromagnetic CAD Environment for Conformal Multi-Purpose Multi-Band for Automobile Applications (Source: General Motors), Co-PI, $250,000, 2000-2001

25. Electromagnetic Scattering from Arbitrarily-Shaped Open Cavity (Source: Lockheed Martin), PI, $50,000, 2000-2001

26. Fast Multipole/Wavelet-IML Hybrids for Electromagnetic Analysis (Source: US Army Research Office), Co-PI, $225,000, 2000-2002

27. Fast Evaluation of Exact Boundary Kernels in Differential Equation Based Maxwell Equation Solvers (Source: Sandia National Laboratory), Co-PI, $30,000, 2000

28. High-Order Hybrid Finite Element Technology for Simulation of Large-Scale Array Antennas embedded in Inhomogeneous Media (Source: Office of Naval Research, Program director: Bill Stachnik and Wen Masters), PI, $327,434, 2000-2003

29. Synthetic Electromagnetic Signature Prediction of Complex Objects (Source: Air Force Research Laboratory, Program director: Jeff Hughes), Associate Director, $1,900,000, 2001

30. Hybrid Finite Element - Boundary Integral Solvers for Analyzing Dispersive Scattering Phenomena (Source: Sandia National Laboratory), PI, $40,000, 2001

31. Fast Time-Domain Integral Equation Solvers for Large-scale Electromagnetic Analysis (Source: DARPA), Co-PI, $1,950,000, 2001-2004

32. Synthetic Electromagnetic Signature Prediction of Complex Objects (Source: Air Force Research Laboratory, Program director: Jeff Hughes), Associate Director, $1,100,000, 2002-2004

33. Hybrid Finite Element - Boundary Integral Solvers for Analyzing Transient Scattering from Periodic Structures (Source: Sandia National Laboratory), Co-PI, $40,000, 2002

34. Functional Area Point of Contact for Computational Electromagnetics and Acoustics (Source: High Performance Computing Modernization Program, DOD), PI, $124,000, 2003-2004

35. Efficient Algorithms for EM Scattering from Targets with Deep Complex Cavities (Source: AFRL via SAIC), PI, $150,000, 2004

36. Functional Area Point of Contact for Computational Electromagnetics and Acoustics (Source: High Performance Computing Modernization Program, DOD), PI, $124,000, 2004-2005

37. Electromagnetic Simulation of Antennas and Arrays Designed Using Novel Electronic Materials and Conformal to Large Complex Bodies (Source: AFOSR/DOD, Program director: Arje Nachman), PI, $1,500,000, 2004-2009

38. Modeling Capability Enhancement for the FE-BI Simulation of Cavity-Backed Antennas and Arrays (Source: High Performance Computing Modernization Program, DOD), PI, $110,000, 2004-2005

39. Research Effort to Develop New Time-Domain Computational EM Solvers (Source: Sandia National Laboratory), PI, $60,000, 2004-2005

40. Functional Area Point of Contact for Computational Electromagnetics and Acoustics (Source: High Performance Computing Modernization Program, DOD), PI, $134,590, 2005-2006

41. A Systematic Numerical Convergence Study of Typical Computational Electromagnetics Schemes (Source: High Performance Computing Modernization Program, DOD), PI, $93,852, 2005-2006

42. Development and Integration of Extraction and Simulation Computational Engines for Power Distribution Network Design Tools (Source: Cadence Design Systems, Inc.), Co-PI, $1,050,000, 2005-2009

43. Implementation of FETI into FEM for CEM simulation, (Source: High Performance Computing Modernization Program, DOD), PI, $60,000, 2006

44. Efficient Algorithms for EM Scattering from Targets with Deep Complex Cavities, (Source: AFRL via SAIC), PI, $150,000, 2006-2007

45. Functional Area Point of Contact for Computational Electromagnetics and Acoustics (Source: High Performance Computing Modernization Program, DOD), PI, $104,000, 2006-2007

46. Study of the Impact of the Level of Detail (LOD) and the Level of Resolution (LOR) of Virtual Target Models (Source: High Performance Computing Modernization Program, DOD), PI, $60,000, 2006-2007

47. Finite Element Method Research (Source: Northrop-Grumman Corporation), PI, $10,000, 2007

48. Functional Area Point of Contact for Computational Electromagnetics and Acoustics (Source: High Performance Computing Modernization Program, DOD), PI, $104,000, 2007-2008

49. Post-Processing Toolkit for the CEMX Computational Electromagnetics Format (Source: High Performance Computing Modernization Program, DOD), PI, $42,000, 2007-2008

50. Equivalence Principle Algorithm and Meshless Nyström Method for Forward and Inverse Electromagnetic Scattering of Complex Structures (Source: AFRL), PI, $250,000, 2007-2009

51. Rapid Antenna Geometry Model Generation in Support of CREATE, (Source: High Performance Computing Modernization Program, DOD), PI, $25,000, 2008-2009

52. Functional Area Point of Contact for Computational Electromagnetics and Acoustics (Source: High Performance Computing Modernization Program, DOD), PI, $104,000, 2008-2009

53. Finite Element Method Research (Source: Northrop-Grumman Corporation), PI, $10,000, 2008

54. Finite Element Method Research (Source: Northrop-Grumman Corporation), PI, $7,000, 2009

55. Benchmarking and Developing FETI-EM into a Library (Source: High Performance Computing Modernization Program, DOD), PI, $72,767, 2010

56. Finite Element Method Research (Source: Northrop-Grumman Corporation), PI, $5,000, 2010

57. Incorporation of Multiple Circuits in the Finite Element Time Domain Analysis of Hybrid Field-Circuit Systems (Source: Sandia National Laboratory), PI, $40,000, 2010-2011

58. Advanced Development of Computational Electromagnetics Principles and Techniques (Source: Northrop-Grumman Corporation), PI, $30,000, 2010-2011

59. Development and Integration of Extraction and Simulation Computational Engines for Power Distribution Network Design Tools (Source: Cadence Design Systems, Inc.), Co-PI, $100,000, 2011

60. Benchmarking and Developing FETI-EM into a Library - II (Source: High Performance Computing Modernization Program, DOD), PI, $81,211, 2011

61. Signature Prediction and Uncertainty Analysis for Radar-based MDA Applications (Source: Missile Defense Agency, DOD), Co-PI, $679,999, 2011-2013

62. Finite Element Simulation of Scattering by Cavities (Source: Rolls Royce Corporation), PI, $50,000, 2011

63. Finite Element Method Research (Source: Northrop-Grumman Corporation), PI, $5,000, 2011

64. The CISCO UCS for Engineering Design: Applications in Electromagnetic and Photonic Simulations (Source: CISCO Systems, Inc.), Co-PI, $150,000, 2011-2012

65. Multiple Transmitter Chains to Minimize Exposure to Electromagnetic Radiation in Portable Devices (Source: National Science Foundation), PI, $42,000, 2011-2012

66. Investigation, Testing, and Demonstration of GPU Acceleration of Electromagnetic Simulation Using FEM (Source: High Performance Computing Modernization Program, DOD), PI, $102,422, 2011-2012

67. Identification and Implementation of a Stable Finite Element Time Domain Solution of Hybrid Field-Circuit Systems (Source: Sandia National Laboratory), PI, $40,000, 2011-2012

68. Surface Integral Equation Research (Source: Northrop-Grumman Corporation), PI, $10,000, 2012

69. GPU Acceleration of the Moment Method for RCS Analysis (Source: High Performance Computing Modernization Program, DOD), PI, $119,891, 2012-2013

70. The CISCO UCS for Engineering Design: Applications in Electromagnetic and Photonic Simulations (Source: CISCO Systems, Inc.), Co-PI, $150,000, 2012-2013

71. Time-Domain Finite Element Analysis of Nonlinear Electromagnetic Problems (Source: Sandia National Laboratory), PI, $30,000, 2013

72. The CISCO UCS for Engineering Design: Applications in Electromagnetic and Photonic Simulations (CISCO Systems, Inc.), Co-PI, $150,000, 2013-2014

73. Time-Domain Finite Element Analysis of Nonlinear Electromagnetic Problems (Source: Sandia National Laboratory), PI, $35,000, 2014

74. A Comparative Study of Robust Domain Decomposition Based Electromagnetic Solvers (Source: High Performance Computing Modernization Program, DOD), PI, $74,852, 2014

75. Numerical Study of Higher-Order Hierarchical Vector Basis Functions on Curvilinear Finite Elements (Source: JPL), PI, $40,000, 2014

76. Modeling, Analysis, and Code Design for Portable Wireless Device Transmitters Subject to an Electromagnetic Exposure Constraint (Source: National Science Foundation, subcontract from University of Notre Dame, Total funding: $1,200,000), PI, $224,911, 2014-2017

77. Time-Domain Finite Element Analysis of Nonlinear Breakdown Problems in High-Power Microwave Devices and Systems (Source: Air Force Research Laboratory), PI, $98,305, 2014-2015

78. Optimized Optical Metrology for the 7nm Node and Beyond Using Parallel Full-Wave Simulation on the Cisco UCS (CISCO Systems, Inc.), Co-PI, $180,000, 2015-2016

79. High-Performance Parallel Domain Decomposition Algorithms for Large-Scale Electromagnetic Simulations (Source: Sandia National Laboratory), PI, $35,000, 2015

80. High Speed Electronic Device Simulator (Source: CFDRC), PI, $54,805, 2015-2016

Total funding: $18.6 Million (by 11/08)

NEW COURSE DEVELOPMENT

1. ECE 497 MRI, Magnetic Resonance Systems and Applications, J. M. Jin, A. Webb, Z. P. Liang, and R. L. Magin, offered in Fall 1994, quality of the course: 5.0/5.0 (Top 5%, evaluated by students)

2. ECE 371 CJ, Introduction to Computational Methods for Electromagnetic Fields, W. Chew and J. M. Jin, offered in Spring 1995, quality of the course: 4.3/5.0 (Top 20%, evaluated by students)

3. ECE 497 JC, Advanced Topics in Computational Electromagnetics, J. M. Jin and W. Chew, offered in Spring 1995, quality of the course: 4.9/5.0 (Top 10%, evaluated by students)

4. ECE 497 CEM, Computational Electromagnetics, J. M. Jin, offered in Fall 1996, Spring 1998, Spring 1999, Fall 2001, quality of the course: 5.0/5.0 (Top 3%, evaluated by students)

5. ECE 440, Computational Electromagnetics, J. M. Jin. This was converted from ECE 497 CEM and became a permanent course in 2002 after a rigorous review by the Department and College of Engineering.

TEACHING EVALUATION

1. Fall 1993, ECE 309, 3.9/5.0 (Top 40%)
2. Spring 1994, ECE 420, 4.5/5.0 (Top 20%)
3. Fall 1994, ECE 309, 4.5/5.0 (Top 25%)
4. Fall 1994, ECE 497 MRI, 4.5/5.0 (Top 13%)
5. Spring 1995, ECE 371 CJ, 4.3/5.0 (Top 24%)
6. Spring 1995, ECE 497 JC, 4.6/5.0 (Top 10%)
7. Fall 1995, ECE 309, 4.7/5.0 (Top 10%)
8. Spring 1996, ECE 309, 4.7/5.0 (Top 13%)
9. Fall 1996, ECE 497 CEM, (Listed as Excellent Teacher)
10. Fall 1997, ECE 420, 4.7/5.0 (Top 10%)
11. Spring 1998, ECE 497 CEM, 5.0/5.0 (Top 3%), (Listed as Excellent Teacher)
12. Fall 1998, ECE 420, 4.6/5.0 (Top 20%)
13. Spring 1999, ECE 497 CEM, (Listed as Excellent Teacher)
14. Fall 2001, ECE 497 CEM, (Listed as Excellent Teacher)
15. Spring 2002, ECE 420, (Listed as Excellent Teacher)
16. Fall 2002, ECE 420, (Listed as Excellent Teacher)
17. Spring 2003, ECE 440, (Listed as Excellent Teacher)
18. Spring 2004, ECE 420, (Listed as Excellent Teacher)
19. Fall 2004, ECE 540, (Listed as Excellent Teacher)

20. Fall 2005, ECE 520, (Listed as Excellent Teacher)
21. Spring 2006, ECE 540, (Listed as Excellent Teacher)
22. Spring 2007, ECE 540, (Listed as Excellent Teacher)
23. Fall 2009, ECE 520, (Listed as Excellent Teacher)
24. Spring 2010, ECE 540, (Listed as Excellent Teacher)
25. Spring 2011, ECE 520, (Listed as Excellent Teacher)
26. Fall 2011, ECE 520, (Listed as Excellent Teacher)
27. Spring 2012, ECE 540, (Listed as Excellent Teacher)
28. Spring 2013, ECE 540, (Listed as Excellent Teacher)
29. Fall 2013, ECE 520, (Listed as Excellent Teacher)
30. Spring 2014, ECE 540, (Listed as Excellent Teacher)

GRADUATE STUDENTS

Ph.D. Theses:

1. S. S. Ni, "Hybridization of the Finite-Element Method and the Shooting-and-Bouncing-Ray Method for Scattering and Radiation from Large and Complex Targets," Ph.D. Thesis, 1995 (presently at Northrop-Grumman).

2. J. Chen, "Simulations of Electromagnetic Effect in Magnetic Resonance Imaging," Ph.D. Thesis, 1998 (formerly at Motorola, presently at University of Houston).

3. A. D. Greenwood, "Finite Element Method for Electromagnetic Scattering and Radiation from Complex Axisymmetric Structures," Ph.D. Thesis, 1998 (presently at Air Force Research Laboratory).

4. F. Ling, "Fast Electromagnetic Modeling of Multilayer Microstrip Antennas and Circuits," Ph.D. Thesis, 2000 (formerly at Motorola and Neolinear, presently at Cadence).

5. E. D. Branch, "A Higher-Order Finite Element Method for Computing the Radar Cross Section of Bodies of Revolution," Ph.D. Thesis, 2000 (presently at Air Force Research Laboratory).

6. D. Jiao, "Advanced Time-Domain Finite Element Method for Electromagnetic Analysis," Ph.D. Thesis, 2001 (formerly at Intel, presently at Purdue University).

7. J. Liu, "Higher-Order Finite Element–Boundary Integral Methods for Electromagnetic Scattering and Radiation Analysis," Ph.D. Thesis, 2002 (formerly at Ansoft, presently at Sigrity).

8. M. E. Kowalski, "Analysis and Optimization of Electromagnetic Phased-Arrays for Hyperthermia," Ph.D. Thesis, 2002 (presently at SLAC, Stanford University).

9. K. Donepudi, "Fast Higher-Order Solutions for Electromagnetic Scattering from Three-Dimensional Bodies," Ph.D. Thesis, 2002 (presently at Intel Corporation).

10. Ali E. Yilmaz, "Parallel FFT-Accelerated Time-Domain Integral Equation Solvers for Electromagnetic Analysis," Ph.D. Thesis, 2005 (presently at UT-Austin).

11. E. A. Dunn, "A Higher-Order Finite Element—Boundary Integral Method for Electromagnetic Scattering and Radiation from Bodies of Revolution," Ph.D. Thesis, 2005 (presently at SAIC).

12. Z. Lou, "Time-Domain Finite-Element Simulation of Large Antennas and Antenna Arrays," Ph.D. Thesis, 2006.

13. D. Correia, "A Higher-Order Perfectly Matched Layer for Open-Region, Waveguide, and Periodic Electromagnetic Problems," Ph.D. Thesis, 2006.

14. K. Mao, "Finite Element Analysis of Multilayer Transmission Lines and Circuit Components," Ph.D. Thesis, 2007.

15. Y.-J. Li, "Development and Application of the FETI-DPEM Algorithm for Analysis of Three-Dimensional Large-Scale Electromagnetic Problems," Ph.D. Thesis, 2009.

16. S. H. Lee, "Efficient Finite Element Electromagnetic Analysis for High-Frequency/ High-Speed Circuits and Multiconductor Transmission Lines," Ph.D. Thesis, 2009.

17. R. Wang, "Incorporation of Feed-Network and Circuit Modeling into the Time-Domain Finite Element Analysis of Antenna Arrays and Microwave Circuits," Ph.D. Thesis, 2009.

18. Y. Su, "Calderón Technique Based Integral Equation Methods in Computational Electromagnetics," Ph.D. Thesis, 2011 (awarded by University of Electronic Science and Technology of China).

19. X. L. Li, "Investigation of Explicit Finite-Element Time-Domain Methods and Modeling of Dispersive Media and 3D High-Speed Circuits," Ph.D. Thesis, 2012.

20. W. Yao, "Accurate, Efficient, and Stable Domain Decomposition Methods for Analysis of Electromechanical Problems," Ph.D. Thesis, 2013.

21. M. F. Xue, "Unified Conformal/Nonconformal Domain Decomposition Methods for Solving Large-Scale Multi-Region Electromagnetic Problems," Ph.D. Thesis, 2014.

22. H.-T. Meng, "Investigation of General-Purpose Computing on Graphics Processing Units and its Application to the Finite Element Analysis of Electromagnetic Problems," Ph.D. Thesis, 2015.

M.S. Theses:

1. N. L. Lu, "Application of Adaptive Absorbing Conditions and Fast Multipole Method to Finite Element Solution of Three-Dimensional Scattering," M.S. Thesis, 1995 (presently at Intel).

2. S. T. Carolan, "Hybridization of the Method of Moments and the Shooting-and-Bouncing-Ray Method for Scattering from Large Geometries with Small Protrusions," M.S. Thesis, 1997 (presently at OpenPort).

3. Z. M. Feng, "Analysis of Shielded RF Coils Using Moment Methods," M.S. Thesis, 1997 (continued Ph.D. study at UI, presently at MIT).

4. K. Donepudi, "Spectral Lanczos Decomposition Method for Time- and Frequency-Domain Analysis of Maxwell's Equations using FEM," M.S. Thesis, 1997 (continued Ph.D. study at UI, presently at Intel Corporation).

5. W. C. Gibson, "Incremental Length Diffraction Coefficients in XPATCH," M.S. Thesis, 1998 (presently at deciBel Research, Inc.).

6. M. E. Kowalski, "Modeling, Optimization, and Control of Electromagnetic Oncological Hyperthermia," M.S. Thesis, 1999 (continued Ph.D. study at UI, presently at SLAC, Stanford University).

7. E. Dunn, "Iterative Solvers and Preconditioners for Finite Element Analysis of Indoor Wave Propagation," M.S. Thesis, 2000 (continued as a Ph.D. student at UI, presently at SAIC).

8. A. E. Yilmaz, "FFT-Based Algorithms for Fast Analysis of Transient Electromagnetic Scattering," M.S. Thesis, 2000 (continued as a Ph.D. student at UI, presently at UT-Austin).

9. Z. Lou, "High-Order Finite Element Analysis of Periodic Structures," M.S. Thesis, 2003 (continued as a Ph.D. student at UI, presently in China).

10. A. R. Siripuram, "Finite Element Modeling of Microwave Breakdown in Air-Filled Waveguide Devices," M.S. Thesis, 2004 (jointed SPAWAR).

11. Y. Zhong, "The Domain Decomposition Method for Finite Element Analysis of Deep Cavities," M.S. Thesis, 2004 (continued as a Ph.D. student at UI).

12. R. Hu, "Higher-Order Finite Element Analysis of Anisotropic, Lossy, and Inhomogeneous Waveguides," M.S. Thesis, 2004 (continued as a Ph.D. student at UI).

13. Y. J. Li, "Vector Dual-Primal Finite Element Tearing and Interconnecting Method for Solving 3-D Electromagnetic Problems," M.S. Thesis, 2005 (continued as a Ph.D. student at UI, presently at Cadence).

14. R. Wang, "Finite Element-Boundary Integral Analysis of Electromagnetic Scattering by Discrete Bodies of Revolution," M.S. Thesis, 2006 (continued as a Ph.D. student at UI, presently at ADI).

15. X. L. Li, "Modeling of Electric and Magnetic, Anisotropic, Dispersive and Lossy Materials Using the Time-Domain Finite-Element Method," M.S. Thesis, 2007 (continued as a Ph.D. student at UI, presently at Cadence).

16. H. D. Pinto, "Implementation and Experiments with the Discontinuous Galerkin Method for Maxwell's Equations," M.S. Thesis, 2009 (Joined NASA Goddard Center).

17. W. Yao, "Finite Element Analysis of 3D Electric Machine Problems," M.S. Thesis, 2010 (continued as a Ph.D. student at UI).

18. H. T. Meng, "Acceleration of Asymptotic Computational Electromagnetics Physical Optics − Shooting and Bouncing Ray (PO-SBR) Method Using CUDA," M.S. Thesis, 2011 (continued as a Ph.D. student at UI).

19. S. Yan, "Accuracy Improvement of the Second-Kind Fredholm Integral Equations in Computational Electromagnetics," M.S. Thesis, 2012 (continued as a Ph.D. student at UI).

20. P. Chen, "Application of the Time-Domain Finite-Element Method to Analysis of 3D Electric Machine Problems," M.S. Thesis, 2012 (joined Analog Device, Inc.).

21. T. J. Lu, "Signal Integrity Analysis of High-Speed Multilayer Interconnects Using the Finite Element Method," M.S. Thesis, 2012 (continued as a Ph.D. student at UI).

22. J. Guan, "OpenMP-CUDA Implementation of the Moment Method and Multilevel Fast Multipole Algorithm on Multi-GPU Computing Systems," M.S. Thesis, 2013 (continued as a Ph.D. student at UI).

23. Y. J. Zeng, "Full-Wave Analysis of Metallic Structures at Optical Frequencies," M.S. Thesis, 2014 (continued as a Ph.D. student at UI).

PUBLICATIONS (Total SCI citations: 6382 as of 7/6/2010)

Books:

1. J. M. Jin, *The Finite Element Method in Electromagnetics*. New York: John Wiley & Sons, 1993 (442 p.; Chinese translation published in 1998 by Xidian University Press; Total citations: 1917 as of 7/6/2010).

2. S. Zhang and J. M. Jin, *Computation of Special Functions.* New York: John Wiley & Sons, 1996 (717 p.; Chinese translation published in 2011 by Nanjing University Press; Total citations: 268 as of 7/6/2010).

3. J. M. Jin, *Electromagnetic Analysis and Design in Magnetic Resonance Imaging*. Boca Raton, FL: CRC Press, 1998 (282 p.; Total citations: 211 as of 7/6/2010).

4. W. C. Chew, J. M. Jin, E. Michielssen, and J. M. Song, Eds. *Fast and Efficient Algorithms in Computational Electromagnetics*. Norwood, MA: Artech House, 2001 (931 p.; Total citations: 642 as of 7/6/2010).

5. J. M. Jin, *The Finite Element Method in Electromagnetics, Second Edition*. New York: John Wiley & Sons, 2002 (755 p.; Total citations: 1917 as of 7/6/2010).

6. J. M. Jin and D. J. Riley, *Finite Element Analysis of Antennas and Arrays*. Hoboken, NJ: John Wiley & Sons, 2008 (440 p.).

7. J. M. Jin, *Theory and Computation of Electromagnetic Fields*. Hoboken, NJ: John Wiley & Sons, 2010 (572 p., accompanying *Instructor's Guide*, Part I and II, 466 p. + 340 p.).

8. J. M. Jin, *The Finite Element Method in Electromagnetics, Third Edition*. Hoboken, NJ: John Wiley & Sons, 2014 (846 p.).

9. J. M. Jin, *Theory and Computation of Electromagnetic Fields*, *Second Edition*. Hoboken, NJ: John Wiley & Sons, 2015 (744 p.).

Conference Proceedings Edited:

J. M. Jin, *Conference Proceedings: 14th Annual Review of Progress in Applied Computational Electromagnetics.* Vols. 1 & 2, Applied Computational Electromagnetics Society, Monterey, CA, 1998 (1142 p.).

Book Reviews:

J. M. Jin, Review of *Generalized Vector and Dyadic Analysis* (2nd edition) by Chen-To Tai, Piscataway, NJ: IEEE Press for *IEEE Antennas Propagat. Mag.*, vol. 39, pp. 103-104, Oct. 1997.

Articles in Edited Books:

[1] J. M. Jin and V. V. Liepa, "A note on the hybrid finite element method for solving scattering problems," *IEEE Trans. Antennas Propagat.*, vol. AP-36, no. 10, pp. 1486-

1490, Oct. 1988. (in *Computational Electromagnetics.* Editors: E. K. Miller, L. Medgyesi-Mitschang and E. H. Newman, New York: IEEE Press, 1992.)

[2] J. M. Jin and V. V. Liepa, "Application of hybrid finite element method to electromagnetic scattering from coated cylinders," *IEEE Trans. Antennas Propagat.*, vol. AP-36, no. 1, pp. 50-54, Jan. 1988. (in *Finite Elements for Wave Electromagnetics.* Editors: P. P. Silvester and G. Pelosi, New York: IEEE Press, 1994.)

[3] J. M. Jin and V. V. Liepa, "A note on the hybrid finite element method for solving scattering problems," *IEEE Trans. Antennas Propagat.*, vol. AP-36, no. 10, pp. 1486-1490, Oct. 1988. (in *Finite Elements for Wave Electromagnetics.* Editors: P. P. Silvester and G. Pelosi, New York: IEEE Press, 1994.)

[4] J. D. Collins, J. L. Volakis, and J. M. Jin, "A combined finite element - boundary integral formulation for solution of two-dimensional scattering problems via CGFFT," *IEEE Trans. Antennas Propagat.*, vol. AP-38, no. 11, pp. 1852-1858, Nov. 1990. (in *Finite Elements for Wave Electromagnetics.* Editors: P. P. Silvester and G. Pelosi, New York: IEEE Press, 1994.)

[5] J. M. Jin and J. L. Volakis, "A hybrid finite element method for scattering and radiation by microstrip patch antennas and arrays residing in a cavity," *IEEE Trans. Antennas Propagat.*, vol. AP-39, pp. 1598-1604, Nov. 1991. (in *Finite Elements for Wave Electromagnetics.* Editors: P. P. Silvester and G. Pelosi, New York: IEEE Press, 1994.)

[6] J. D. Collins, J. M. Jin, and J. L. Volakis, "Eliminating of internal resonances in the finite element - boundary integral method for scattering problems," *IEEE Trans. Antennas Propagat.*, vol. AP-40, no. 12, pp. 1583-1585, Dec. 1992. (in *Finite Elements for Wave Electromagnetics.* Editors: P. P. Silvester and G. Pelosi, New York: IEEE Press, 1994.)

[7] A. Chatterjee, J. M. Jin, and J. L. Volakis, "Edge-based finite elements and vector ABCs applied to 3D scattering," *IEEE Trans. Antennas Propagat.*, vol. AP-41, no. 2, pp. 221-226, Feb. 1993. (in *Finite Elements for Wave Electromagnetics.* Editors: P. P. Silvester and G. Pelosi, New York: IEEE Press, 1994.)

[8] F. Ling and J. M. Jin, "Hybridization of SBR and MoM for scattering by large bodies with inhomogeneous protrusions," *Progress in Electromagnetics Research*, PIER 17, pp. 25-43, 1997.

[9] J. M. Jin and W. C. Chew, "Green's function methods," in *Encyclopedia of Electrical and Electronics Engineering*, J. Webster, Ed. Vol. 8, pp. 462-476, New York: Wiley, 1998.

[10] J. M. Jin and W. C. Chew, "Computational electromagnetics: The method of moments,'' in *Electrical Engineering Handbook*, pp. 619-628, New York: Academic Press, 2004.

[11] A. D. Greenwood and J. M. Jin, "Finite element analysis of complex axisymmetric problems," in *Fast and Efficient Algorithms in Computational Electromagnetics*, Norwood, MA: Artech House, 2001.

[12] J. M. Jin and J. Liu, "Hybridization in computational electromagnetics," in *Fast and Efficient Algorithms in Computational Electromagnetics*, Norwood, MA: Artech House, 2001.

[13] J. M. Jin, K. C. Donepudi, J. Liu, G. Kang, J. Song, and W. C. Chew, "High-order methods in computational electromagnetics," in *Fast and Efficient Algorithms in Computational Electromagnetics*, Norwood, MA: Artech House, 2001.

[14] D. Jiao and J. M. Jin, "Asymptotic waveform evaluation for broadband calculations," in *Fast and Efficient Algorithms in Computational Electromagnetics*, Norwood, MA: Artech House, 2001.

[15] F. Ling and J. M. Jin, "Full-wave analysis of multiplayer microstrip problems," in *Fast and Efficient Algorithms in Computational Electromagnetics*, Norwood, MA: Artech House, 2001.

[16] Z. Lou and J. M. Jin, "Finite element modeling of periodic structures," in *Computational Methods in Large Scale Simulation*, Singapore: World Scientific, 2005.

[17] J. M. Jin and M. Botha, "Finite element analysis," in *Encyclopedia of RF and Microwave Engineering*, vol. 2, pp. 1589-1601, New York: Wiley, 2005.

[18] J. M. Jin, Z. Lou, N. Riley, and D. Riley, "Finite element analysis and modeling of antennas," in *Modern Antenna Handbook*, Ch. 31, pp. 1531-1593, New York: Wiley, 2008.

[19] H. Bagci, A. E. Yilmaz, J. M. Jin, and E. Michielssen, "Time domain adaptive integral method for surface integral equations," in *Modeling and Computations in Electromagnetics,* Berlin: Springer-Verlag, 2007.

[20] J. M. Jin, "Finite element method," in *Advanced Electromagnetic Theory*, Beijing: Higher Education Press, 2008.

[21] J. M. Jin, "Practical electromagnetic modeling methods," in *Handbook on RF Coils* and *Encyclopedia of Magnetic Resonance*, Chichester, UK: Wiley, 2009.

[22] M.-F. Xue and J. M. Jin, "Domain decomposition methods for finite element analysis of large-scale electromagnetic problems," in *Advanced Computational Electromagnetic Methods and Applications*, Norwood, MA: Artech House, 2015.

Journal Articles:

[1] S. Zhang and J. M. Jin, "Derivation of dyadic Green's functions for cylindrical cavities by image method," *Acta Electronica Sinica,* vol. 12, no. 5, pp. 21-26, Sept. 1984.

[2] S. Zhang and J. M. Jin, "Finite element analysis of waveguides partially filled with anisotropic dielectric materials," *Acta Electronica Sinica,* vol. 13, no. 4, pp. 14-22, July 1985.

[3] S. Zhang and J. M. Jin, "Dyadic Green's functions for circular waveguides and coaxial lines with moving media," *Acta Antennica Sinica,* vol. 2, no. 1, pp. 38-45, 1986.

[4] J. M. Jin and S. Zhang, "Second-order finite element analysis of a waveguide partially filled with anisotropic dielectric and an approximate analysis," *Acta Electronica Sinica*, vol. 14, no. 6, pp. 20-26, Nov. 1986.

[5] J. M. Jin and V. V. Liepa, "Application of a hybrid finite element method to electromagnetic scattering from coated cylinders," *IEEE Trans. Antennas Propagat.*, vol. AP-36, no. 1, pp. 50-54, Jan. 1988.

[6] J. M. Jin, V. V. Liepa, and C. T. Tai, "A volume-surface integral equation for electromagnetic scattering by inhomogeneous cylinders," *Journal of Electromagnetic Waves and Applications*, vol. 2, no. 5/6, pp. 573-588, 1988.

[7] J. M. Jin and V. V. Liepa, "A note on the hybrid finite element method for solving scattering problems," *IEEE Trans. Antennas Propagat.*, vol. AP-36, no. 10, pp. 1486-1490, Oct. 1988.

[8] J. M. Jin, J. L. Volakis, and V. V. Liepa, "A comparative study of the OSRC approach in electromagnetic scattering," *IEEE Trans. Antennas Propagat.*, vol. AP-37, no. 1, pp. 118-124, Jan. 1989.

[9] J. M. Jin and V. V. Liepa, "A numerical technique for computing TM scattering by coated wedges and half-planes," *Electromagnetics,* vol. 9, no. 2, pp. 201-214, 1989.

[10] J. M. Jin and V. V. Liepa, "Simple moment method program for computing scattering from complex cylindrical obstacles," *Proc. Inst. Elec. Eng.,* part H, vol. 136, no. 4, pp. 321-329, Aug. 1989.

[11] J. M. Jin, J. L. Volakis, and V. V. Liepa, "A moment method solution of the volume-surface integral equation using isoparametric elements and point-matching," *IEEE Trans. Microwave Theory Tech.,* vol. MTT-37, no. 10, pp. 1641-1645, Oct. 1989.

[12] J. M. Jin and J. L. Volakis, "New technique for characterizing diffraction by inhomogeneously filled slot of arbitrary cross section in thick conducting plane," *Electron. Lett.*, vol. 25, no. 17, pp. 1121-1123, 17th August 1989.

[13] J. M. Jin and J. L. Volakis, "Electromagnetic scattering by a perfectly conducting patch array on a dielectric slab," *IEEE Trans. Antennas Propagat.*, vol. AP-38, no. 4, pp. 556-563, April 1990.

[14] J. M. Jin and J. L. Volakis, "TE scattering by an inhomogeneously filled aperture in a thick conducting plane," *IEEE Trans. Antennas Propagat.*, vol. AP-38, no. 8, pp. 1280-1286, Aug. 1990.

[15] J. M. Jin and J. L. Volakis, "TM scattering by an inhomogeneously filled aperture in a thick conducting plane," *Proc. Inst. Elec. Eng.,* part H, vol. 137, no. 3, pp. 153-159, June 1990.

[16] J. D. Collins, J. L. Volakis, and J. M. Jin, "A combined finite element - boundary integral formulation for solution of two-dimensional scattering problems via CGFFT," *IEEE Trans. Antennas Propagat.*, vol. AP-38, no. 11, pp. 1852-1858, Nov. 1990.

[17] J. D. Collins, J. M. Jin, and J. L. Volakis, "A combined finite element - boundary element formulation for solution of two-dimensional problems via CGFFT," *Electromagnetics*, vol. 10, no. 4, pp. 423-437, 1990.

[18] J. M. Jin and J. L. Volakis, "A finite element - boundary integral formulation for scattering by three-dimensional cavity-backed apertures," *IEEE Trans. Antennas Propagat.*, vol. AP-39, no. 1, pp. 97-104, Jan. 1991.

[19] J. M. Jin, J. L. Volakis, and J. D. Collins, "A finite element - boundary integral method for scattering and radiation by two- and three-dimensional structures," *IEEE Antennas Propagat. Mag.,* vol. 33, no. 3, pp. 22-32, June 1991.

[20] J. M. Jin and J. L. Volakis, "Electromagnetic scattering by and transmission through a three-dimensional slot in a thick conducting plane," *IEEE Trans. Antennas Propagat.*, vol. AP-39, no. 4, pp. 543-550, April 1991.

[21] J. M. Jin and J. L. Volakis, "A hybrid finite element method for scattering and radiation by microstrip patch antennas and arrays residing in a cavity," *IEEE Trans. Antennas Propagat.*, vol. AP-39, pp. 1598-1604, Nov. 1991.

[22] J. M. Jin and J. L. Volakis, "A biconjugate gradient FFT solution for scattering by planar plates," *Electromagnetics*, vol. 12, no. 1, pp. 105-119, Jan.-Mar. 1992.

[23] A. Chatterjee, J. M. Jin, and J. L. Volakis, "A robust finite element solution of three-dimensional scattering problems," *Electron. Lett.*, vol. 28, no. 10, pp. 966-967, May 1992.

[24] J. L. Volakis and J. M. Jin, "A scheme to alter the resonant frequency of the microstrip patch antenna," *IEEE Microwave Guided Wave Lett.*, vol. 2, pp. 292-293, July 1992.

[25] J. M. Jin, J. L. Volakis, C. L. Yu, and A. C. Woo, "Modeling of resistive sheets in finite element solutions," *IEEE Trans. Antennas Propagat.*, vol. AP-40, no. 6, pp. 727-731, June 1992.

[26] J. M. Jin, J. L. Volakis, and V. V. Liepa, "A fictitious absorber for truncating finite element meshes in scattering," *Proc. Inst. Elec. Eng.,* part H, vol. 139, no. 5, pp. 472-476, Oct. 1992.

[27] A. Chatterjee, J. M. Jin, and J. L. Volakis, "Computation of cavity resonances using edge-based finite elements," *IEEE Trans. Microwave Theory Tech.,* vol. MTT-40, no. 11, pp. 2106-2108, Nov. 1992.

[28] J. L. Volakis, A. Alexanian, and J. M. Jin, "Broadband RCS reduction of rectangular patch using distributed loading," *Electron. Lett.*, vol. 28, no. 25, pp. 2322-2323, Dec. 1992.

[29] J. D. Collins, J. M. Jin, and J. L. Volakis, "Eliminating of internal resonances in the finite element - boundary integral method for scattering problems," *IEEE Trans. Antennas Propagat.*, vol. AP-40, no. 12, pp. 1583-1585, Dec. 1992.

[30] A. Chatterjee, J. M. Jin, and J. L. Volakis, "Edge-based finite elements and vector ABCs applied to 3D scattering," *IEEE Trans. Antennas Propagat.*, vol. AP-41, no. 2, pp. 221-226, Feb. 1993.

[31] J. M. Jin and J. L. Volakis, "Scattering and radiation analysis of three-dimensional cavity arrays via a hybrid finite element method," *IEEE Trans. Antennas Propagat.*, vol. AP-41, no. 11, pp. 1580-1586, Nov. 1993.

[32] J. M. Jin and W. C. Chew, "Variational formulation of electromagnetic boundary-value problems involving anisotropic media," *Microwave Opt. Tech. Lett.*, vol. 7, no. 8, pp. 348-351, 1994.

[33] J. M. Jin, G. Shen, and T. Perkins, "On the field inhomogeneity of birdcage coils," *Magn. Reson. Med.*, vol. 32, no. 3, pp. 418-422, Sept. 1994.

[34] J. M. Jin and S. W. Lee, "Hybrid finite element analysis of scattering and radiation by a class of waveguide-fed structures," *Microwave Opt. Tech. Lett.*, vol. 7, no. 17, pp. 798-803, 1994.

[35] J. M. Jin, S. Ni, and S. W. Lee, "A robust hybrid technique for calculating scattering by large and complex targets," *Electron. Lett.,* vol. 30, no. 25, pp. 2169-2170, 1994.

[36] J. M. Jin, S. Ni, and S. W. Lee, "Hybridization of SBR and FEM for scattering by large bodies with cracks and cavities," *IEEE Trans. Antennas Propagat.,* vol. AP-43, no. 10, pp. 1130-1139, Oct. 1995.

24

[37] J. M. Jin, R. L. Magin, G. Shen, and T. Perkins, "A simple method to incorporate the effects of an RF shield into RF resonator analysis for MRI applications," *IEEE Trans. Biomed. Eng.,* vol. BME-42, pp. 840-843, Aug. 1995.

[38] J. Chen and J. M. Jin, "Electromagnetic scattering from waveguide slot antennas with arbitrary terminations," *Microwave Opt. Tech. Lett.*, vol. 10, no. 5, pp. 286-291, 1995.

[39] J. M. Jin and N. Lu, "Application of adaptive absorbing boundary condition to finite element solution of three-dimensional scattering," *Proc. Inst. Elec. Eng.,* part H, vol. 143, no. 1, pp. 57-61, Feb. 1996.

[40] N. Lu and J. M. Jin, "Application of fast multipole method to finite element–boundary integral solution of scattering problems," *IEEE Trans. Antennas Propagat.*, vol. AP-44, no. 6, pp. 781-786, June 1996.

[41] J. M. Jin, J. A. Berrie, R. Kipp, and S. W. Lee, "Calculation of radiation patterns of microstrip antennas on cylindrical bodies of arbitrary cross section," *IEEE Trans. Antennas Propagat.,* vol. AP-45, no. 1, pp. 126-132, Jan. 1997.

[42] W. C. Chew and J. M. Jin, "Perfectly matched layers in the discretized space: An analysis and optimization," *Electromagnetics*, vo. 16, no. 4, pp. 325-340, July 1996.

[43] J. M. Jin and W. C. Chew, "Combining PML and ABC for finite element analysis of scattering problems," *Microwave Opt. Tech. Lett.*, vol. 12, no. 4, pp. 192-197, July 1996.

[44] G. Fan and J. M. Jin, "Scattering from a cylindrically conformal slotted-waveguide array antenna," *IEEE Trans. Antennas Propagat.,* vol. AP-45, no. 7, pp. 1150-1159, July 1997.

[45] J. M. Jin and N. Lu, "The unimoment method applied to elliptic boundaries," *IEEE Trans. Antennas Propagat.,* vol. AP-45, no. 3, pp. 564-566, Mar. 1997.

[46] J. M. Jin, J. Chen, H. Gan, W. C. Chew, R. L. Magin, and P. J. Dimbylow, "Computation of electromagnetic fields for high-frequency magnetic resonance imaging applications," *Phys. Med. Biol.*, vol. 41, pp. 2719-2738, 1996.

[47] W. C. Chew, J. M. Jin, C. C. Lu, E. Michielssen, and J. M. Song, "Fast solution methods in electromagnetics," *IEEE Trans. Antennas Propagat.,* vol. AP-45, no. 3, pp. 533-543, Mar. 1997.

[48] A. D. Greenwood, S. S. Ni, J. M. Jin, and S. W. Lee, "Hybrid FEM/SBR method to compute the radiation pattern from a microstrip patch antenna in a complex geometry," *Microwave Opt. Tech. Lett.*, vol. 13, no. 2, pp. 84-87, Oct. 1996.

[49] J. M. Jin, X. Q. Sheng, and W. C. Chew, "Complementary perfectly matched layers to reduce reflection errors," *Microwave Opt. Tech. Lett.*, vol. 14, no. 5, pp. 284-287, Apr. 1997.

[50] J. M. Jin and J. Chen, "On the SAR and field inhomogeneity of birdcage coils loaded with the human head," *Magn. Reson. Med.,* vol. 38, no. 6, pp. 953-963, 1997.

[51] J. M. Jin and N. Lu, "Finite element analysis of scattering using coupled basis functions for elliptic boundaries," *IEE Proc.-Microw. Antennas Propag.,* vol. 144, no. 6, pp. 501-508, Dec. 1997.

[52a] F. Ling and J. M. Jin, "Hybridization of SBR and MoM for scattering by large bodies with inhomogeneous protrusions—Summary," *J. Electromagn. Waves Appl.*, vol. 11, pp. 1249-1255, 1997.

[52b] F. Ling and J. M. Jin, "Hybridization of SBR and MoM for scattering by large bodies with inhomogeneous protrusions," *Progress in Electromagnetics Research*, PIER 17, pp. 25-43, 1997.

[53] X. Sheng and J. M. Jin, "Hybrid FEM/SBR method to compute scattering by large bodies with small protruding scatterers," *Microwave Opt. Tech. Lett.*, vol. 15, no. 2, pp. 78-84, June 1997.

[54] C. F. Wang and J. M. Jin, "Simple and efficient computation of electromagnetic fields in arbitrarily-shaped, inhomogeneous dielectric bodies using transpose-free QMR and FFT," *IEEE Trans. Microwave Theory Tech.,* vol. 46, no. 5, pp. 553-558, May 1998.

[55] W. C. Chew, J. M. Jin, and E. Michielssen, "Complex coordinate stretching as a generalized absorbing boundary condition," *Microwave Opt. Tech. Lett.*, vol. 15, no. 6, pp. 363-369, Aug. 1997.

[56] M. Zunoubi, J. M. Jin, W. C. Chew, and D. Kennedy, "A spectral Lanczos decomposition method for solving axisymmetric low-frequency electromagnetic diffusion by the finite-element method," *J. Electromagn. Waves Appl.*, vol. 11, pp. 1389-1406, 1997.

[57] J. Chen, Z. Feng, and J. M. Jin, "Numerical simulation of SAR and B1-field inhomogeneity of shielded RF coils loaded with the human head," *IEEE Trans. Biomed. Eng.,* vol. 45, no. 5, pp. 650-659, May 1998.

[58] M. Zunoubi, J. M. Jin, K. Donepudi, and W. C. Chew, "A spectral Lanczos decomposition method for solving 3D low-frequency electromagnetic diffusion by the finite-element method," *IEEE Trans. Antennas Propagat.,* vol. 47, no. 2, pp. 242-248, Feb. 1999.

[59] X. Q. Sheng, J. M. Jin, J. M. Song, C. C. Lu, and W. C. Chew, "On the formulation of hybrid finite-element and boundary-integral method for 3D scattering," *IEEE Trans. Antennas Propagat.,* vol. 46, no. 3, pp. 303-311, March 1998.

[60] F. Ling and J. M. Jin, "Scattering and radiation analysis of microstrip antennas using discrete complex image method and reciprocity theorem," *Microwave Opt. Tech. Lett.*, vol. 16, no. 4, pp. 212-216, Nov. 1997.

[61] A. D. Greenwood and J. M. Jin, "Hybrid MoM/SBR method to compute scattering from a slot array in a complex geometry," *Appl. Comput. Electromagn. Soc. J.*, vol. 13, no. 1, pp. 43-51, Mar. 1998.

[62] M. Zunoubi, K. Donepudi, J. M. Jin, and W. C. Chew, "Efficient frequency-domain and time-domain finite-element solution of Maxwell's equations using spectral Lanczos decomposition method," *IEEE Trans. Microwave Theory Tech.,* vol. 46, no. 8, pp. 1141-1149, Aug. 1998.

[63] X. Q. Sheng, J. M. Jin, J. M. Song, W. C. Chew, and C. C. Lu, "Solution of combined-field integral equation using multi-level fast multipole method for scattering by homogeneous bodies," *IEEE Trans. Antennas Propagat.,* vol. 46, no. 11, pp. 1718-1726, Nov. 1998.

[64] G. Fan and J. M. Jin, "Scattering from a large planar slotted waveguide array antenna," *Electromagnetics*, vol. 19, no. 1, pp. 109-130, Jan.-Feb. 1999.

[65] C. F. Wang, F. Ling, and J. M. Jin, "A fast full-wave analysis of scattering and radiation from large finite arrays of microstrip antennas," *IEEE Trans. Antennas Propagat.,* vol. 46, no. 10, pp. 1467-1474, Oct. 1998.

[66] J. M. Jin, F. Ling, S. Carolan, J. M. Song, W. C. Gibson, W. C. Chew, C. C. Lu, and R. Kipp, "A hybrid SBR/MoM for analysis of scattering by small protrusion on a large conducting body," *IEEE Trans. Antennas Propagat.,* vol. 46, no. 9, pp. 1349-1357, Sept. 1998.

[67] J. Zhang and J. M. Jin, "Preliminary study of AWE for FEM analysis of scattering problems," *Microwave Opt. Tech. Lett.*, vol. 17, no. 1, pp. 7-12, Jan. 1998.

[68] J. Chen, W. Hong, and J. M. Jin, "An iterative measured equation technique for electromagnetic problems," *IEEE Trans. Microwave Theory Tech.,* vol. MTT-46, no. 1, pp. 25-30, Jan. 1998.

[69] K. P. Hwang and J. M. Jin, "A total variation diminishing finite difference scheme for the transient response of a lossless transmission line," *IEEE Trans. Microwave Theory Tech.,* vol. 46, no. 8, pp. 1193-1196, Aug. 1998.

[70] J. M. Jin, M. Zunoubi, K. Donepudi, and W. C. Chew, "Frequency-domain and time-domain finite-element solution of Maxwell's equations using spectral Lanczos

decomposition method," *Comput. Methods Appl. Mech. Engrg.*, vol. 169, pp. 279-296, 1999.

[71] J. M. Jin, "Electromagnetic scattering from large, deep, and arbitrarily-shaped open cavities," *Electromagnetics*, vol. 18, no. 1, pp. 3-34, Jan.-Feb. 1998.

[72] A. D. Greenwood and J. M. Jin, "A novel efficient algorithm for scattering from a complex BOR using vector FEM and cylindrical PML," *IEEE Trans. Antennas Propagat.,* vol. 47, no. 4, pp. 620-629, April 1999.

[73] J. M. Jin, "Electromagnetics in magnetic resonance imaging (invited paper)," *IEEE Antennas Propagat. Mag.,* vol. 40, no. 6, pp. 7-22, Dec. 1998 (This paper is featured on the cover of the journal).

[74] F. Ling, C. F. Wang, and J. M. Jin, "Application of adaptive integral method to scattering and radiation analysis of planar structures," *J. Electromagn. Waves Appl.*, vol. 12, no. 8, pp. 1021-1038, 1998.

[75] M. Zunoubi, J. M. Jin, and W. C. Chew, "Spectral Lanczos decomposition method for time-domain and frequency-domain finite-element solution of Maxwell's equations," *Electron. Lett.,* vol. 34, no. 4, pp. 346-347, Feb. 1998.

[76] F. Ling, C. F. Wang, and J. M. Jin, "An efficient algorithm for analyzing large-scale microstrip structures using adaptive integral method combined with discrete complex image method," *IEEE Trans. Microwave Theory Tech.,* vol. 48, no. 5, pp. 832-839, May 2000.

[77] A. D. Greenwood and J. M. Jin, "Computation of the RCS of a complex BOR using FEM with coupled azimuth potentials and PML," *Electromagnetics,* vol. 19, no. 2, pp. 147-170, 1999.

[78] C. F. Wang, F. Ling, J. M. Song, and J. M. Jin, "Adaptive integral solution of combined field integral equation," *Microwave Opt. Tech. Lett.*, vol. 19, no. 5, pp. 321-328, 1998.

[79] X. Y. Zhu and J. M. Jin, "Approximate calculation of scattered field from three-dimensional narrow cracks," *J. Electromagn. Waves Appl.*, vol. 13, no. 1, pp. 3-24, 1999.

[80] A. D. Greenwood and J. M. Jin, "Finite element analysis of complex axisymmetric radiating structures," *IEEE Trans. Antennas Propagat.,* vol. 47, no. 8, pp. 1260-1266, Aug. 1999.

[81] A. D. Greenwood and J. M. Jin, "A field picture of wave propagation in inhomogeneous dielectric lenses," *IEEE Antennas Propagat. Mag.,* vol. 41, no. 5, pp. 9-18, Oct. 1999.

[82] K. P. Hwang and J. M. Jin, "Application of a hyperbolic grid generation technique to a conformal PML implementation," *IEEE Microwave Guided Wave Lett.*, vol. 9, no. 4, pp. 137-139, April 1999.

[83] F. Ling, C. F. Wang, and J. M. Jin, "A fast electromagnetic solver using adaptive integral method," *Chinese J. Electron.,* vol. 8, no. 4, pp. 340-347, Sept. 1999.

[84] F. Ling, D. Jiao, and J. M. Jin, "Efficient electromagnetic modeling of microstrip structures in multilayer media," *IEEE Trans. Microwave Theory Tech.,* vol. 47, no. 9, pp. 1810-1818, Sept. 1999.

[85] D. Jiao, X. Y. Zhu, and J. M. Jin, "Fast and accurate frequency-sweep calculations using asymptotic waveform evaluation and combined-field integral equation," *Radio Science*, vol. 34, no. 5, pp. 1055-1063, Sept.-Oct. 1999.

[86] D. Jiao and J. M. Jin, "Fast frequency-sweep analysis of RF coils for MRI," *IEEE Trans. Biomed. Eng.,* vol. 46, pp. 1387-1390, Nov. 1999.

[87] D. Jiao and J. M. Jin, "Fast frequency-sweep analysis of cavity-backed microstrip patch antennas," *Microwave Opt. Tech. Lett.*, vol. 22, no. 6, pp. 389-393, Sept. 1999.

[88] F. Ling, J. M. Song, and J. M. Jin, "Multilevel fast multipole algorithm for analysis of large-scale microstrip structures," *IEEE Microwave Guided Wave Lett.*, vol. 9, no. 12, pp. 508-510, Dec. 1999.

[89] A. D. Greenwood and J. M. Jin, "A hybrid MoM/FEM technique for scattering from a complex BOR with appendages," *Appl. Comput. Electromagn. Soc. J.*, vol. 15, no. 1, pp. 13-19, March 2000.

[90] D. Jiao and J. M. Jin, "Fast frequency-sweep analysis of microstrip antennas on a dispersive substrate," *Electron. Lett.,* vol. 35, no. 14, pp. 1122-1123, July 1999.

[91] D. Jiao and J. M. Jin, "Asymptotic waveform evaluation for scattering by a dispersive dielectric object," *Microwave Opt. Tech. Lett.,* vol. 24, no. 4, pp. 232-234, Feb. 2000.

[92] M. Kowalski, J. M. Jin, and J. Chen, "Computation of the signal-to-noise ratio of high-frequency magnetic resonance imagers," *IEEE Trans. Biomed. Eng.,* vol. 47, no. 11, pp. 1525-1533, Nov. 2000.

[93] J. Liu and J. M. Jin, "A special higher-order finite element method for scattering by deep cavities," *IEEE Trans. Antennas Propagat.,* vol. 48, no. 5, pp. 494-703, May 2000.

[94] D. Jiao, J. M. Jin, and J. S. Shang, "Characteristic-based time-domain method for antenna analysis," *Radio Science,* vol. 36, no. 1, pp. 1-8, Jan./Feb. 2001.

[95] D. Jiao, J. M. Jin, and J. S. Shang, "Characteristic-based finite-volume time-domain method for scattering by coated objects," *Electromagnetics,* vol. 20, no. 3, pp. 257-268, May-June 2000.

[96] F. L. Teixeira, K. P. Hwang, W. C. Chew, and J. M. Jin, "Conformal PML-FDTD schemes for electromagnetic field simulations: A dynamic stability study," *IEEE Trans. Antennas Propagat.,* vol. 49, no. 6, pp. 902-907, June 2001.

[97] K. C. Donepudi, J. M. Jin, S. Velamoarambil, J. M. Song, and W. C. Chew, "A higher-order parallelized multilevel fast multipole algorithm for 3D scattering," *IEEE Trans. Antennas Propagat.,* vol. 49, no. 7, pp. 1069-1078, July 2001.

[98] F. Ling, K. C. Donepudi, and J. M. Jin, "Higher-order full-wave analysis of multilayer microstrip structures," *Microwave Opt. Tech. Lett.,* vol. 25, no. 2, pp. 141-145, April 2000.

[99] M. E. Kowalski and J. M. Jin, "Determination of electromagnetic phased array driving signals for hyperthermia based on a steady-state temperature criterion," *IEEE Trans. Microwave Theory Tech.,* vol. 48, no. 11, pp. 1864-1873, Nov. 2000.

[100] G. Kang, J. M. Song, W. C. Chew, K. Donepudi, and J. M. Jin, "A novel grid-robust higher-order vector basis function for the method of moments," *IEEE Trans. Antennas Propagat.,* vol. 48, no. 6, pp. 908-915, June 2001.

[101] F. Ling and J. M. Jin, "Discrete complex image method for Green's functions of general multilayer media," *IEEE Microwave Guided Wave Lett.*, vol. 10, no. 10, pp. 400-402, Oct. 2000.

[102] D. Jiao, M. Lu, E. Michielssen, and J. M. Jin, "A fast time-domain finite-element—boundary-integral method for electromagnetic analysis," *IEEE Trans. Antennas Propagat.,* vol. 49, no. 10, pp. 1453-1461, Oct. 2001.

[103] K. C. Donepudi, J. M. Song, J. M. Jin, G. Kang, and W. C. Chew, "A novel implementation of multilevel fast multipole algorithm for higher-order Galerkin's method," *IEEE Trans. Antennas Propagat.,* vol. 48, no. 8, pp. 1192-1197, Aug. 2000.

[104] F. Ling, J. Liu, and J. M. Jin, "Efficient electromagnetic modeling of three-dimensional multilayer microstrip antennas and circuits,'' *IEEE Trans. Microwave Theory Tech.,* vol. 50, no. 6, pp. 1628-1635, June 2002.

[105] A. E. Yilmaz, D. S. Weile, J. M. Jin, and E. Michielssen, "A fast Fourier transform accelerated marching-on-in-time algorithm (MOT-FFT) for electromagnetic analysis,'' *Electromagnetics*, vol. 21, no. 3, pp. 181-197, April 2001.

[106] J. Liu and J. M. Jin, "A novel hybridization of higher order finite element and boundary integral methods for electromagnetic scattering and radiation problems," *IEEE Trans. Antennas Propagat.,* vol. 49, no. 12, pp. 1794-1806, Dec. 2001.

[107] D. Jiao and J. M. Jin, "Time-domain finite-element modeling of dispersive media," *IEEE Microwave Wireless Components Lett.*, vol. 11, no. 5, pp. 220-222, May 2001.

[108] X. Q. Sheng, E. K. N. Yung, J. M. Jin, and W. C. Chew, "Incorporate approximate boundary conditions into the fast and accurate finite-element boundary-integral formulation for scattering by complex targets," *J. Electromagn. Waves Appl.*, vol. 13, pp. 1395-1405, Oct. 1999.

[109] C. F. Wang, J. M. Jin, L. W. Li, P. S. Kooi, and M. S. Leong, "A multilevel BCG-FFT method for the analysis of a microstrip antenna and array," *Microwave Opt. Tech. Lett.,* vol. 27, no. 1, pp. 20-23, Oct. 2000.

[110] X. Q. Sheng, E. K. N. Yung, C. H. Chan, J. M. Jin, and W. C. Chew, "Scattering from large bodies with cracks and cavities by a fast and accurate finite-element boundary-integral method," *IEEE Trans. Antennas Propagat.,* vol. 48, no. 8, pp. 1153-1160, Aug. 2000.

[111] M. E. Kowalski and J. M. Jin, "Lanczos-based model order reduction for optimization and control of electromagnetically induced hyperthermia," *Appl. Comput. Electromagn. Soc. J.*, vol. 16, no. 12, pp. 126-137, July 2001.

[112] M. E. Kowalski, B. Singh, L. C. Kempel, K. D. Trott, and J.-M. Jin, "Application of the integral equation-asymptotic phase (IE-AP) method to three-dimensional scattering," *J. Electromagn. Waves Appl.,* vol. 15, no. 7, pp. 885-900, 2001.

[113] D. Jiao, A. Ergin, B. Shanker, E. Michielssen, and J. M. Jin, "A fast time-domain higher-order finite-element—boundary-integral method for 3-D electromagnetic scatter-ing analysis," *IEEE Trans. Antennas Propagat.,* vol. 50, no. 9, pp. 1192-1202, Sept. 2002.

[114] A. E. Yilmaz, D. S. Weile, J. M. Jin, and E. Michielssen, "A hierarchical FFT algorithm (HIL-FFT) for the fast analysis of transient electromagnetic scattering," *IEEE Trans. Antennas Propagat.,* vol. 50, no. 7, pp. 971-982, July 2002.

[115] D. Jiao and J. M. Jin, "Three-dimensional orthogonal vector basis functions for time-domain finite element solution of vector wave equations," *IEEE Trans. Antennas Propagat.,* vol. 51, no. 1, pp. 59-66, Jan. 2003.

[116] D. Jiao and J. M. Jin, "A general approach for the stability analysis of time-domain finite element method," *IEEE Trans. Antennas Propagat.,* vol. 50, no. 11, pp. 1624-1632, Nov. 2002.

[117] D. Jiao and J. M. Jin, "An effective algorithm for implementing perfectly matched layers in time-domain finite-element simulation of open-region EM problems," *IEEE Trans. Antennas Propagat.,* vol. 50, no. 11, pp. 1615-1623, Nov. 2002.

[118] J. Liu and J. M. Jin, "A highly effective preconditioner for solving the finite element--boundary integral matrix equation of 3-D scattering," *IEEE Trans. Antennas Propagat.,* vol. 50, no. 9, pp. 1212-1221, Sept. 2002.

[119] D. Jiao, J. M. Jin, E. Michielssen, and D. Riley, "Time-domain finite-element simulation of three-dimensional scattering and radiation problems using perfectly matched layers," *IEEE Trans. Antennas Propagat.,* vol. 51, no. 2, pp. 296-305, Feb. 2003.

[120] D. Jiao and J. M. Jin, "Time-domain finite element simulation of cavity-backed microstrip patch antennas," *Microwave Opt. Tech. Lett.,* vol. 32, no. 4, pp. 251-254, Feb. 2002.

[121] M. E. Kowalski, B. Babak, J. M. Jin, and A. G. Webb, "Optimization of electromagnetic phased-arrays for hyperthermia using magnetic resonance temperature estimation," *IEEE Trans. Biomed. Eng.,* vol. 49, no. 11, pp. 1229-1241, Nov. 2002.

[122] J. Liu, J. M. Jin, E. K. N. Yung, and R. S. Chen, "A fast higher-order three-dimensional finite element analysis of microwave waveguide devices," *Microwave Opt. Tech. Lett.,* vol. 32, no. 5, pp. 344-352, March 2002.

[123] A. E. Yilmaz, D. S. Weile, B. Shanker, J. M. Jin, and E. Michielssen, "Fast analysis of transient scattering in lossy media," *IEEE Antennas Propagat. Lett.,* vol. 1, no. 1, pp. 14-17, 2002.

[124] J. Liu, E. Dunn, P. Baldensperger, and J. M. Jin, "Computation of radar cross section of jet engine inlets," *Microwave Opt. Tech. Lett.,* vol. 33, no. 5, pp. 322-325, June 2002.

[125] K. Donepudi, J. M. Jin, and W. C. Chew, "A higher-order multilevel fast multipole algorithm for scattering from mixed conducting/dielectric bodies," *IEEE Trans. Antennas Propagat.,* vol. 51, no. 10, pp. 2814-2821, Oct. 2003.

[126] J. Liu and J. M. Jin, "Scattering analysis of a large body with deep cavities," *IEEE Trans. Antennas Propagat.,* vol. 51, no. 6, pp. 1157-1167, June 2003.

[127] H. T. Hui, E. K. N. Yung, and J. M. Jin, "Study of the effect of host loss on the chirality of composite chiral materials," *Radio Science*, vol. 37, no. 1, pp. 16-1–16-2, Jan.-Feb. 2002.

[128] R. S. Chen, D. X. Wang, E. K. N. Yung, and J. M. Jin, "Application of the multifrontal method to the vector FEM for analysis of microwave filters," *Microwave Opt. Tech. Lett.,* vol. 31, no. 6, pp. 465-470, Dec. 2001.

[129] J. Liu and J. M. Jin, "Analysis of conformal antennas on a complex platform," *Microwave Opt. Tech. Lett.,* vol. 36, no. 2, pp. 139-142, Jan. 2003.

[130] M. E. Kowalski and J. M. Jin, "Model-order reduction for nonlinear models of electromagnetic phased-array hyperthermia," *IEEE Trans. Biomed. Eng.,* vol. 50, no. 11, pp. 1243-1254, Nov. 2003.

[131] M. E. Kowalski and J. M. Jin, "A temperature-based feedback control system for electromagnetic phased-array hyperthermia: Theory and simulation," *Phys. Med. Biol.,* vol. 48, pp. 633-651, March 2003.

[132] J. M. Jin, J. Liu, Z. Lou, and C. S. Liang, "A fully high-order finite element simulation of scattering by deep cavities," *IEEE Trans. Antennas Propagat.,* vol. 51, no. 9, pp. 2420-2429, Sept. 2003.

[133] K. C. Donepudi, J. M. Jin, and W. C. Chew, "A grid-robust higher-order multilevel fast multipole algorithm for analysis of 3-D scatterers," *Electromagnetics*, vol. 23, no. 4, pp. 315-330, May-June 2003.

[134] Z. Lou and J. M. Jin, "High-order finite element analysis of periodic absorbers," *Microwave Opt. Tech. Lett.,* vol. 37, no. 3, pp. 203-207, May 2003.

[135] Z. Lou and J. M. Jin, "Analysis of 3-D frequency selective structures using a high-order finite element method," *Microwave Opt. Tech. Lett.,* vol. 38, no. 4, pp. 259-263, Aug. 2003.

[136] A. E. Yilmaz, J. M. Jin, and E. Michielssen, "Time-domain adaptive integral method for surface integral equations," *IEEE Trans. Antennas Propagat.,* vol. 52, no. 10, pp. 2692-2708, Oct. 2004.

[137] D. Correia and J. M. Jin, "3D-FDTD-PML analysis of left-handed metamaterials," *Microwave Opt. Tech. Lett.,* vol. 40, no. 3, pp. 201-205, Feb. 2004.

[138] T. Rylander and J. M. Jin, "Perfectly matched layers for the time domain finite element method applied to Maxwell's equations," *J. Comput. Physics*, vol. 200, no. 1, pp. 238-250, Oct. 2004.

[139] Z. Lou and J. M. Jin, "Finite element analysis of phased array antennas," *Microwave Opt. Tech. Lett.,* vol. 40, no. 6, pp. 490-496, March 2004.

[140] J. M. Jin, "A note on 'Backward scattering theorem applying to a perfectly conducting sphere,'" *J. Electromagn. Waves Appl.*, vol. 17, no. 7, p. 1089, 2003.

[141] J. K. Byun and J. M. Jin, "A comparative study of infinite elements for two-dimensional electromagnetic scattering analysis," *Electromagn.,* vol. 24, no. 4, pp. 219-236, May-June 2004.

[142] M. E. Kowalski and J. M. Jin, "Model-based optimization of phased-arrays for electromagnetic hyperthermia," *IEEE Trans. Microwave Theory Tech.,* vol. 52, no. 8, pp. 1964-1977, Aug. 2004.

[143] M. M. Botha and J. M. Jin, "On the variational formulation of hybrid finite element-boundary integral techniques for electromagnetic analysis," *IEEE Trans. Antennas Propagat.,* vol. 52, no. 11, pp. 3037-3047, Nov. 2004.

[144] T. Rylander and J. M. Jin, "Stable coaxial waveguide port algorithm for the time domain finite element method," *Microwave Opt. Tech. Lett.,* vol. 42, no. 2, pp. 115-119, July 2004.

[145] Z. Lou and J. M. Jin, "Higher-order finite element analysis of finite-by-infinite arrays," *Electromagn.,* vol. 24, no. 7, pp. 497-514, Oct. 2004.

[146] D. Riley, J. M. Jin, Z. Lou, and R. Petersson, "Total- and scattered-field decomposition technique for the finite-element time-domain method," *IEEE Trans. Antennas Propagat.,* vol. 54, no. 1, pp. 35-41, Jan. 2006.

[147] L. E. R. Petersson and J. M. Jin, "An efficient procedure for the projection of a given field onto hierarchical vector basis functions of arbitrary order," *Electromagn.,* vol. 25, no. 2, pp. 81-91, Feb.-March 2005.

[148] M. M. Botha and J. M. Jin, "Adaptive finite element-boundary integral analysis for electromagnetic fields in 3D," *IEEE Trans. Antennas Propagat.,* vol. 53, no. 5, pp. 1710-1720, May 2005.

[149] C. S. Liang, D. A. Streater, J. M. Jin, E. Dunn, and T. Rozendal, "A quantitative study of Luneberg lens reflectors," *IEEE Antennas Propagat. Mag.,* vol. 47, no. 2, pp. 30-42, April 2005.

[150] J. K. Byun and J. M. Jin, "Finite-element analysis of scattering from a complex BOR using spherical infinite elements," *Electromagn.,* vol. 25, no. 4, pp. 267-304, May-June 2005.

[151] L. E. R. Petersson and J. M. Jin, "A two-dimensional time-domain finite element formulation for periodic structures," *IEEE Trans. Antennas Propagat.,* vol. 53, no. 4, pp. 1480-1488, April 2005.

[152] X. Wang, M. M. Botha, and J. M. Jin, "An error estimator for the moment method in electromagnetic scattering," *Microwave Opt. Tech. Lett.,* vol. 44, no. 4, pp. 320-326, Feb. 2005.

[153] T. Rylander and J. M. Jin, "Perfectly matched layers in three dimensions for the time-domain finite element method applied to radiation problems," *IEEE Trans. Antennas Propagat.,* vol. 53, no. 4, pp. 1489-1499, April 2005.

[154] A. E. Yilmaz, J. M. Jin, and E. Michielssen, "A parallel FFT-accelerated transient field-circuit simulator," *IEEE Trans. Microwave Theory Tech.,* vol. 53, no. 9, pp. 2851-2865, Sept. 2005.

[155] Z. Lou, L. E. R. Petersson, J. M. Jin, and D. Riley, "Total- and scattered-field decomposition technique for the finite-element time-domain modeling of buried scatterers," *IEEE Antennas Wireless Propagat. Lett.*, vol. 4, pp. 133-137, 2005.

[156] J. M. Jin, "Comments on 'A FEM analysis of open boundary structures using edge elements and a cylindrical harmonic expansion'," *Electromagn.,* vol. 24, no. 6, p. 491, Aug.-Sept. 2004.

[157] D. Correia and J. M. Jin, "A simple and efficient implementation of CFS-PML in the FDTD analysis of periodic structures," *IEEE Microwave Wireless Comp. Lett.,* vol. 15, no. 7, pp. 487-489, July 2005.

[158] J. M. Jin, "A highly robust and versatile finite element-boundary integral hybrid code for scattering by BOR objects," *IEEE Trans. Antennas Propagat.,* vol. 53, no. 7, pp. 2274-2281, July 2005.

[159] Z. Lou and J. M. Jin, "An accurate waveguide port boundary condition for the time-domain finite element method," *IEEE Trans. Microwave Theory Tech.,* vol. 53, no. 9, pp. 3014-3023, Sept. 2005.

[160] D. Riley and J. M. Jin, "Modeling of magnetic loss in the finite-element time-domain method," *Microwave Opt. Tech. Lett,* vol. 46, no. 2, pp. 165-168, July 2005.

[161] C. S. Liang, D. A. Streater, J. M. Jin, E. Dunn, and T. Rozendal, "Ground-plane backed hemispheric Luneberg lens reflector," *IEEE Antennas Propagat. Mag.,* vol. 48, no. 1, pp. 37-49, Feb. 2006.

[162] L. E. R. Petersson and J. M. Jin, "A three-dimensional time-domain finite element formulation for periodic structures," *IEEE Trans. Antennas Propagat.,* vol. 54, no. 1, pp. 12-19, Jan. 2006.

[163] Z. Lou and J. M. Jin, "Modeling and simulation of broadband antennas using the time-domain finite element method," *IEEE Trans. Antennas Propagat.,* vol. 53, no. 12, pp. 4099-4110, Dec. 2005.

[164] D. Correia and J. M. Jin, "On the development of a higher-order PML," *IEEE Trans. Antennas Propagat.,* vol. 53, no. 12, pp. 4157-4163, Dec. 2005.

[165] L. E. R. Petersson and J. M. Jin, "Analysis of periodic structures via a time-domain finite element formulation with a Floquet ABC," *IEEE Trans. Antennas Propagat.,* vol. 54, no. 3, pp. 933-944, March 2006.

[166] E. Dunn, J. K. Byun, E. Branch, and J. M. Jin, "Numerical simulation of BOR scattering and radiation using a higher-order FEM," *IEEE Trans. Antennas Propagat.,* vol. 54, no. 3, pp. 945-952, March 2006.

[167] K. Mao, J. K. Byun, and J. M. Jin, "Enhancing the modeling capability of the FE-BI method for simulation of cavity-backed antennas and arrays," *Electromagn.,* vol. 26, no. 7, pp. 503-515, Oct. 2006.

[168] A. E. Yilmaz, J. M. Jin, and E. Michielssen, "A TDIE-based asynchronous electromagnetic-circuit simulators," *IEEE Microwave Wireless Comp. Lett.,* vol. 16, no. 3, pp. 122-124, March 2006.

[169] Z. Lou and J. M. Jin, "A novel dual-field time-domain finite-element domain-decomposition method for computational electromagnetics," *IEEE Trans. Antennas Propagat.,* vol. 54, no. 6, pp. 1850-1862, June 2006.

[170] Z. Lou and J. M. Jin, "A new explicit time-domain finite-element method based on element-level decomposition," *IEEE Trans. Antennas Propagat.,* vol. 54, no. 10, pp. 2990-2999, Oct. 2006.

[171] Y. J. Li and J. M. Jin, "A vector dual-primal finite element tearing and interconnecting method for solving 3-D large-scale electromagnetic problems," *IEEE Trans. Antennas Propagat.,* vol. 54, no. 10, pp. 3000-3009, Oct. 2006.

[172] D. Correia and J. M. Jin, "Performance of regular PML, CFS PML and second-order PML for waveguide problems," *Microwave Opt. Tech. Lett.,* vol. 48, no. 10, pp. 2121-2126, Oct. 2006.

[173] Z. Lou and J. M. Jin, "A dual-field domain-decomposition method for time-domain finite-element analysis of large finite arrays," *J. Comput. Physics*, vol. 222, no. 1, pp. 408-427, March 2007.

[174] A. E. Yilmaz, J. M. Jin, and E. Michielssen, "Analysis of low-frequency electromagnetic transients by an extended time-domain adaptive integral method," *IEEE Trans. Adv. Packaging (TADVP),* vol. 30, no. 2, pp. 301-312, May 2007.

[175] R. Wang and J. M. Jin, "A finite element-boundary integral formulation for numerical simulation of scattering by discrete body-of-revolution geometries," *Electromagn.,* vol. 27, no. 2-3, pp. 65-86, Feb.-April 2007.

[176] H. Bagci, A. E. Yilmaz, J. M. Jin, and E. Michielssen, "Fast and rigorous analysis of EMC/EMI phenomena of electrically large and complex cable-loaded structures," *IEEE Trans. Electromag. Compatibility,* vol. 49, no. 2, pp. 361-381, May 2007.

[177] A. E. Yilmaz, Z. Lou, E. Michielssen, and J. M. Jin, "A single-boundary, implicit, and FFT-accelerated time-domain finite element-boundary integral solver," *IEEE Trans. Antennas Propagat.,* vol. 55, no. 5, pp. 1382-1397, May 2007.

[178] P. Wang, M. Y. Xia, J. M. Jin, and L. Z. Zhou, "Time-domain integral equation solvers using quadratic B-spline temporal basis functions," *Microwave Opt. Tech. Lett.,* vol. 49, no. 5, pp. 1154-1159, May 2007.

[179] Z. Lou, D. Correia, and J. M. Jin, "Second-order perfectly matched layers for the time-domain finite element method," *IEEE Trans. Antennas Propagat.,* vol. 55, no. 3, pp. 1000-1004, March 2007.

[180] A. E. Yilmaz, J. M. Jin, and E. Michielssen, "A leapfrogging-in-time integral equation solver," *IEEE Antennas Wireless Propagat. Lett.,* vol. 6, pp. 203-206, 2007.

[181] S.-H. Lee and J. M. Jin, "Adaptive solution space projection for fast and robust wideband finite-element simulation of microwave components," *IEEE Microwave Wireless Comp. Lett.,* vol. 17, no. 7, pp. 474-476, July 2007.

[182] Z. Y. Zeng and J. M. Jin, "An efficient calculation of scattering variation due to uncertain geometrical deviation," *Electromagn.,* vol. 27, no. 7, pp. 387-398, Sept. 2007.

[183] Y. Li and J. M. Jin, "A new dual-primal domain decomposition approach for finite element simulation of 3D large-scale electromagnetic problems," *IEEE Trans. Antennas Propagat.,* vol. 55, no. 10, pp. 2803-2810, Oct. 2007.

[184] S.-H. Lee and J. M. Jin, "Efficient full-wave analysis of multilayer interconnection structures using a novel domain decomposition-model order reduction method," *IEEE Trans. Microwave Theory Tech.,* vol. 56, no. 1, pp. 121-130, Jan. 2008.

[185] Y. J. Li and J. M. Jin, "A fast full-wave analysis of large-scale three-dimensional photonic crystal devices," *J. Opt. Soc. Am. B*, vol. 24, no. 9, pp. 2406-2415, Sept. 2007.

[186] S.-H. Lee, K. Mao, and J. M. Jin, "A complete finite element analysis of multilayer anisotropic transmission lines from DC to terahertz frequencies," *IEEE Trans. Adv. Packaging (TADVP),* vol. 31, no. 2, pp. 326-338, May 2008.

[187] J. M. Jin, Z. Lou, Y. J. Li, N. Riley, and D. Riley, "Finite element analysis of complex antennas and arrays," *IEEE Trans. Antennas Propagat.,* vol. 56, no. 8, pp. 2222-2240, Aug. 2008.

[188] M. Nawaz, J.-P. Leburton, and J. M. Jin, "Hole scattering by confined optical phonons in silicon nanowires," *Appl. Phys. Lett.*, vol. 90, 183505 (2007).

[189] D. Riley and J. M. Jin, "Finite-element time-domain analysis of electrically and magnetically dispersive periodic structures," *IEEE Trans. Antennas Propagat.,* vol. 56, no. 11, pp. 3501-3509, Nov. 2008.

[190] S.-H. Lee and J. M. Jin, "Application of the tree-cotree splitting for improving matrix conditioning in the full-wave finite-element analysis of high-speed circuits," *Microwave Opt. Tech. Lett.,* vol. 50, no. 6, pp. 1476-1481, June 2008.

[191] R. Wang, H. Wu, A. C. Cangellaris, and J. M. Jin, "Incorporation of feed-network into the time-domain finite element modeling of antenna arrays," *IEEE Trans. Antennas Propagat.,* vol. 56, no. 8, pp. 2599-2612, Aug. 2008.

[192] X. Li and J. M. Jin, "Time-domain finite-element modeling of electrically and magnetically dispersive medium via recursive FFT," *Microwave Opt. Tech. Lett.,* vol. 50, no. 7, pp. 1837-1841, July 2008.

[193] Y. J. Li and J. M. Jin, "Simulation of photonic crystal nanocavity using the FETI-DPEM method," *Microwave Opt. Tech. Lett.,* vol. 50, no. 8, pp. 2083-2086, Aug. 2008.

[194] Y. J. Li and J. M. Jin, "Implementation of the 2nd-order ABC in the FETI-DPEM method for 3D EM problems," *IEEE Trans. Antennas Propagat.,* vol. 56, no. 8, pp. 2765-2769, Aug. 2008.

[195] R. Wang and J. M. Jin, "A symmetric electromagnetic-circuit simulator based on the extended time-domain finite element method," *IEEE Trans. Microwave Theory Tech.,* vol. 56, no. 12, pp. 2875-2884, Dec. 2008.

[196] Y. J. Li and J. M. Jin, "Parallel implementation of the FETI-DPEM method for 3D EM simulations," *J. Comput. Physics,* vol. 228, no. 9, pp. 3255-3267, May 2009.

[197] S.-H. Lee and J. M. Jin, "Fast reduced-order finite-element modeling of lossy thin wires using lumped impedance elements," *IEEE Trans. Adv. Packaging (TADVP),* vol. 33, no. 1, pp. 212-218, Feb. 2010.

[198] R. Wang and J. M. Jin, "Incorporation of multiport lumped networks into the symmetric hybrid time-domain finite-element analysis of microwave devices," *IEEE Trans. Microwave Theory Tech.,* vol. 57, no. 8, pp. 2030-2037, Aug. 2009.

[199] Y. J. Li and J. M. Jin, "Full-wave analysis of antenna-array mutual coupling using the FETI-DPEM algorithm," *Microwave Opt. Tech. Lett.,* vol. 51, no. 9, pp. 2088-2093, Sept. 2009.

[200] A. V. Giannopoulos, Y.-J. Li, C. M. Long, J. M. Jin, and K. D. Choquette, "Optical properties of photonic crystal heterostructure cavity lasers," *Optical Express*, vol. 17, pp. 5379-5390, March 2009.

[201] S. Yan, J. M. Jin, and Z. P. Nie, "EFIE analysis of low-frequency problems with loop-star decomposition and Calderon multiplicative preconditioner," *IEEE Trans. Antennas Propagat.,* vol. 58, no. 3, pp. 857-867, March 2010.

[202] R. Wang, D. Riley, and J. M. Jin, "Application of tree-cotree splitting to the time-domain finite-element analysis of electromagnetic problems," *IEEE Trans. Antennas Propagat.,* vol. 58, no. 5, pp. 1590-1600, May 2010.

[203] S. Yan, J. M. Jin, and Z. P. Nie, "A comparative study of Calderon preconditioners for PMCHWT equations," *IEEE Trans. Antennas Propagat.,* vol. 58, no. 7, pp. 2375-2383, July 2010.

[204] R. Wang and J. M. Jin, "A flexible time-stepping scheme for hybrid field-circuit simulation based on the extended time-domain finite element method," *IEEE Trans. Adv. Packaging (TADVP),* vol. 33, no.4, pp. 769-776, Nov. 2010.

[205] S. Yan, J. M. Jin, and Z. P. Nie, "Calderon preconditioner: From EFIE and MFIE to N-Müller equations," *IEEE Trans. Antennas Propagat.,* vol. 58, no. 12, pp. 4105-4110, Dec. 2010.

[206] S. Yan, J. M. Jin, and Z. P. Nie, "Analysis of electrically large problems using the augmented EFIE with a Calderon preconditioner," *IEEE Trans. Antennas Propagat.,* vol. 59, no. 6, pp. 2303-2314, June 2011.

[207] Y. Shi and J. M. Jin, "Marching-on-in-degree solution of volume integral equation for analysis of transient electromagnetic scattering by inhomogeneous lossy dielectric bodies," *Microwave Opt. Tech. Lett.,* vol. 53, pp. 1104-1109, 2010.

[208] L. E. Sun, W. C. Chew and J. M. Jin, "Augmented equivalence principle algorithm at low frequencies," *Microwave Opt. Tech. Lett.,* vol. 52, no. 10, pp. 2274-2279, Oct. 2010.

[209] Y. Shi and J. M. Jin, "A time-domain volume integral equation and its marching-on-in-degree solution for analysis of dispersive dielectric objects," *IEEE Trans. Antennas Propagat.*, vol. 59, no. 3, pp. 969-978, March 2011.

[210] Y. Shi and J. M. Jin, "A marching-on-in-degree solution of volume integral equations for transient electromagnetic scattering by bi-isotropic objects," *Electromagnetics,* vol. 31, no. 3, pp. 159-172, April 2011.

[211] S. Yan, J. M. Jin, and Z. P. Nie, "Improving the accuracy of the second-kind Fredholm integral equations by using the rotated Buffa-Christiansen functions," *IEEE Trans. Antennas Propagat.,* vol. 59, no. 4, pp. 1299-1310, April 2011.

[212] X. L. Li and J. M. Jin, "A comparative study of three finite element–based explicit numerical schemes for solving Maxwell's equations," *IEEE Trans. Antennas Propagat.*, vol. 60, no. 3, pp. 1450-1457, March 2012.

[213] X. L. Li and J. M. Jin, "Modeling of doubly lossy and dispersive media with the time-domain finite-element dual-field domain-decomposition algorithm," *Int. J. Num. Model: Electronic Networks, Devices and Fields*, vol. 26, no. 1, pp. 28-40, Jan. 2013 (first published online: 15 Feb. 2012).

[214] Y. Shi and J. M. Jin, "A higher-order Nyström scheme for a marching-on-in-degree solution of the magnetic field integral equation," *IEEE Antennas Wireless Propagat. Lett.,* vol. 10, pp. 1059-1062, 2011.

[215] W. Yao, J. M. Jin, and P. Krein, "A dual-primal finite element tearing and interconnecting method combined with tree-cotree splitting for modeling electro-mechanical devices," *Int. J. Num. Model: Electronic Networks, Devices and Fields*, vol. 26, no. 2, pp. 151-163, March/April 2013 (first published online: 18 June 2012).

[216] M. F. Xue and J. M. Jin, "Nonconformal FETI-DP and cement FETI-DP methods for large-scale electromagnetic simulation," *IEEE Trans. Antennas Propagat.*, vol. 60, no. 9, pp. 4291-4305, Sept. 2012.

[217] Y. Shi and J. M. Jin, "OpenMP parallelized MOD solution of the time-domain EFIE accelerated by the ACA algorithm," *Microwave Opt. Tech. Lett.*, vol. 54, pp. 1206-1212, 2012.

[218] S. Yan, J. M. Jin, and Z. P. Nie, "Accuracy improvement of the second-kind integral equations for generally shaped objects," *IEEE Trans. Antennas Propagat.*, vol. 61, no. 2, pp. 788-797, Feb. 2013.

[219] W. Yao, J. M. Jin, and P. Krein, "A highly efficient domain decomposition method applied to 3-D finite element analysis of electromechanical and electric machine problems," *IEEE Trans. Energy Convers.*, vol. 27, no. 4, pp. 1078-1086, Dec. 2012.

[220] J. Ma, J. M. Jin, and Z. P. Nie, "A nonconformal FEM-DDM with tree-cotree splitting and improved transmission condition for modeling subsurface detection problems," *IEEE Trans. Geosci. Sens.*, vol. 52, no. 1, pp. 355-364, Jan. 2014.

[221] W. Yao, J. M. Jin, and P. Krein, "Application of the LU recombination method to the FETI-DP method for solving low-frequency multiscale electromagnetic problems," *IEEE Trans. Magn.*, vol. 49, no. 10, pp. 5346-5355, Oct. 2013.

[222] J. Guan, S. Yan, and J. M. Jin, "An OpenMP-CUDA implementation of multilevel fast multipole algorithm for electromagnetic simulation on multi-GPU computing systems," *IEEE Trans. Antennas Propagat.*, vol. 61, no. 7, pp. 3607-3616, July 2013.

[223] W. Yao, J. M. Jin, P. Krein, and M. P. Magill, "A finite-element based domain decomposition method for efficient simulation of nonlinear electromechanical problems," *IEEE Trans. Energy Convers.*, vol. 29, no. 2, pp. 309-319, June 2014.

[224] H.-T. Meng, B.-L. Nie, S. Wong, C. Macon, and J. M. Jin, "GPU accelerated finite element computation for electromagnetic analysis," *IEEE Antennas Propagat. Mag.*, vol. 56, no. 2, pp. 39-62, April 2014.

[225] S. Yan and J. M. Jin, "Self-dual surface integral equations for electromagnetic scattering from IBC objects," *IEEE Trans. Antennas Propagat.*, vol. 61, no. 11, pp. 5533-5546, Nov. 2013.

[226] M.-F. Xue and J. M. Jin, "A hybrid conformal/nonconformal domain decomposition method for multi-region electromagnetic modeling," *IEEE Trans. Antennas Propagat.*, vol. 62, no. 4, pp. 2009-2021, April 2014.

[227] T. J. Lu and J. M. Jin, "Electrical-thermal co-simulation for DC IR-drop analysis of large-scale power delivery," *IEEE Trans. Comp. Packag. Manuf. Tech.*, vol. 5, no. 1, pp. 323-331, Jan. 2014 (This paper is featured on the cover of the journal).

[228] B. M. Hochwald, D. J. Love, S. Yan, P. Fay, and J. M. Jin, "Incorporating specific absorption rate (SAR) constraints into wireless signal design," *IEEE Communications Magazine*, vol. 52, no. 9, pp. 126-133, Sept. 2014.

[229] M.-F. Xue and J. M. Jin, "Application of an oblique absorbing boundary condition in the finite element simulation of phased-array antennas," *Microwave Opt. Tech. Lett.*, vol. 56, no. 1, pp. 178-184, Jan. 2014.

[230] Y. M. Kang, M.-F. Xue, A. Arbabi, J.-M. Jin, and L. L. Goddard, "Modal expansion approach for accurately computing resonant modes in a high-Q optical resonator," *Microwave Opt. Tech. Lett.*, vol. 56, no. 2, pp. 278-284, Feb. 2014.

[231] M.-F. Xue and J. M. Jin, "Plane wave discontinuous Galerkin method with Lagrange multiplier for solving time-harmonic Maxwell's equations in 3D," *Electromagnetics*, vol. 34, no. 3-4, pp. 328-344, April 2014.

[232] K. D. Zhang and J. M. Jin, "Parallelized multilevel fast multipole algorithm for scattering by objects with anisotropic impedance surfaces," *Int. J. Num. Model: Electronic Networks, Devices and Fields*, vol. 28, no. 1, pp. 107-119, Jan. 2015.

[233] M.-F. Xue, Y. M. Kang, A. Arbabi, S. J. McKeown, L. L. Goddard, and J. M. Jin, "Fast and accurate finite element analysis of large-scale three-dimensional photonic devices with a robust domain decomposition method," *Optics Exp.*, vol. 22, no. 4, pp. 4437-4452, Feb. 2014.

[234] T. J. Lu and J. M. Jin, "Thermal-aware high-frequency characterization of large-scale through-silicon-via structures," *IEEE Trans. Comp. Packag. Manuf. Tech.*, vol. 4, no. 6, pp. 1015-1025, June 2014.

[235] M.-F. Xue and J. M. Jin, "A preconditioned dual-primal finite element tearing and interconnecting method for solving three-dimensional time-harmonic Maxwell's equations," *J. Comput. Physics*, vol. 274, pp. 920-935, Oct. 2014.

[236] H.-T. Meng and J. M. Jin, "Acceleration of the dual-field domain decomposition algorithm using MPI-CUDA on large-scale computing systems," *IEEE Trans. Antennas Propagat.*, vol. 62, no. 9, pp. 4706-4715, Sept. 2014.

[237] M.-F. Xue and J. M. Jin, "Finite-element domain decomposition methods for analysis of large-scale electromagnetic problems," *Appl. Comput. Electromagn. Soc. J.*, vol. 29, no. 12, pp. 990-1002, Dec. 2014.

[238] K. D. Zhang, A. R. Najafi, J. M. Jin, and P. H. Geubelle, "An interface-enriched generalized finite-element analysis for electromagnetic problems with non-conformal discretizations," *Int. J. Num. Model: Electronic Networks, Devices and Fields*, accepted for publication, April 2014.

[239] T. J. Lu and J. M. Jin, "Transient electrical-thermal analysis of 3-D power distribution network with FETI-enabled parallel computing," *IEEE Trans. Comp. Packag. Manuf. Tech.*, vol. 4, no. 10, pp. 1684-1695, Oct. 2014.

[240] J. Guan, S. Yan, and J. M. Jin, "An accurate and efficient finite element-boundary integral method with GPU acceleration for 3-D electromagnetic analysis," *IEEE Trans. Antennas Propagat.*, vol. 62, no. 12, pp. 6325-6336, Dec. 2014.

[241] W. Yao, J. M. Jin, and P. Krein, "A 3-D finite element analysis of large-scale nonlinear dynamic electromagnetic problems by harmonic balancing and domain decomposition," *Int. J. Num. Model: Electronic Networks, Devices and Fields*, accepted for publication, Nov. 2014.

[242] T. J. Lu and J. M. Jin, "Electrical-thermal co-simulation for analysis of high-power RF/microwave circuits," *IEEE Trans. Microwave Theory Tech.,* submitted for publication, March 2015.

[243] K. D. Zhang, J. M. Jin, and P. H. Geubelle, "A 3D interface-enriched generalized FEM for electromagnetic problems with non-conformal discretizations," *IEEE Trans. Antennas Propagat.*, submitted for publication, March 2015.

[244] S. Yan and J. M. Jin, "Theoretical formulation of a time-domain finite element method for nonlinear magnetic problems in three dimensions," *PIERS*, submitted for publication, August 2015.

[245] S. Yan, J. Kotulski, C.-F. Wang, and J. M. Jin, "Numerical study of a time-domain finite element method for nonlinear magnetic problems in three dimensions," *PIERS*, submitted for publication, August 2015.

[246] S. Yan and J. M. Jin, "Three-dimensional time-domain finite element simulation of dielectric breakdown based on nonlinear conductivity model," *IEEE Trans. Antennas Propagat.*, submitted for publication, August 2015.

[247] T. J. Lu and J. M. Jin, "Large-scale transient electrical-thermal co-simulation of interconnects under electromagnetic pulses," *ACES Express*, submitted for publication, Aug. 2015.

[248] H.-T. Meng and J. M. Jin, "GPU acceleration of nonlinear modeling by the discontinuous Galerkin time-domain method," *ACES Express*, submitted for publication, Sept. 2015.

[249] K. D. Zhang and J. M. Jin, "Parallel FETI-DP algorithm for efficient simulation of large-scale EM problems," *Int. J. Num. Model: Electronic Networks, Devices and Fields* submitted for publication, Sept. 2015.

[250] S. Yan and J. M. Jin, "A fully coupled nonlinear scheme for time-domain modeling of high-power microwave air breakdown," *IEEE Trans. Microwave Theory Tech.*, submitted for publication, Sept. 2015.

Conference Papers:

[1] S. Zhang and J. M. Jin, "Dyadic Green's functions for circular waveguides and coaxial lines with moving media," Proceeding of the First International Symposium on Antennas and EM Theory, Beijing, China, 1985.

[2] J. M. Jin and V. V. Liepa, "Hybrid finite element technique with application to electromagntic scattering from coated cylinders," USNC/URSI National Radio Science Meeting, Blacksburg, Virginia, June 15-19, 1987.

[3] J. M. Jin and V. V. Liepa, "An exploration of the capability of the hybrid finite element method for EM scattering by inhomogeneous cylinders," IEEE Antennas and Propagation Society International Symposium, Syracuse, New York, 1988, pp. 1122-1125.

[4] J. M. Jin, J. L. Volakis, and V. V. Liepa, "A comparison between the OSRC approach and the PO approximation for solving EM scattering," IEEE Antennas and Propagation Society International Symposium, Syracuse, New York, 1988, pp. 732-735.

[5] J. M. Jin, V. V. Liepa, and C. T. Tai, "Volume-surface integral formulation for electromagnetic scattering by inhomogeneous cylinders," IEEE Antennas and Propagation Society International Symposium, Syracuse, New York, 1988, pp. 372-375.

[6] J. M. Jin, V. V. Liepa, and J. L. Volakis, "Application of isoparametric elements in the numerical solution of electromagnetic field problems," Proceeding of the Second International Symposium on Antennas and EM Theory, Shanghai, China, 1989.

[7] J. M. Jin and J. L. Volakis, "Electromagnetic scattering by a finite array of perfectly conducting patches on a dielectric slab," IEEE Antennas and Propagation Society International Symposium, San Jose, California, 1989, pp. 215-218.

[8] J. M. Jin and J. L. Volakis, "A FEM/BEM formulation for a CG-FFT solution of 2-D scattering by grooves and thick slots," USNC/URSI National Radio Science Meeting, Dallas, Texas, 1990, p. 260.

[9] J. M. Jin and J. L. Volakis, "A FEM/BEM formulation for a CG-FFT solution of 3-D scattering by a cavity," IEEE Antennas and Propagation Society International Symposium, Dallas, Texas, 1990, pp. 1726-1729.

[10] J. M. Jin, J. L. Volakis, and J. D. Collins, "A finite element - boundary integral formulation for scattering by two and three dimensional structures," USNC/URSI National General Assembly, Session B4, Prague, Chechoslovakia, 1990.

[11] J. M. Jin and J. L. Volakis, "A finite element - boundary integral formulation for scattering by a three dimensional aperture in a thick conducting plane," 4th Biennial IEEE Conference on Electromagnetic Field Computation, Toronto, 1990.

[12] J. M. Jin and J. L. Volakis, "Scattering and radiation from microstrip patch antennas and arrays residing in a cavity," IEEE Antennas and Propagation Society International Symposium, London, Ontario, Canada, 1991, pp. 657-660.

[13] J. M. Jin, J. L. Volakis, and V. V. Liepa, "An engineer's approach for terminating finite element meshes in scattering analysis," IEEE Antennas and Propagation Society International Symposium, London, Ontario, Canada, 1991, pp. 1216-1219.

[14] J. M. Jin and J. L. Volakis, "Radiation and scattering analysis of microstrip patch antennas via a hybrid finite element method," The Second International Conference on Electromagnetics in Aerospace Applications, Torino, Italy, 1991.

[15] J. L. Volakis, A. Alexanian, and J. M. Jin, "Radar cross section analysis and control of microstrip patch antennas," IEEE Antennas and Propagation Society International Symposium, Chicago, Illinois, 1992.

[16] J. Gong, J. L. Volakis, A. Chatterjee, and J. M. Jin, "Characterization of cavity-backed conformal antennas and arrays using a hybrid finite element method with tetrahedral elements," IEEE Antennas and Propagation Society International Symposium, Chicago, Illinois, 1992.

[17] A. Chatterjee, J. M. Jin, and J. L. Volakis, "Application of edge-based finite elements and vector ABCs in 3-D scattering," IEEE Antennas and Propagation Society International Symposium, Chicago, Illinois, 1992.

[18] K. M. Mitzner, J. L. Volakis, J. M. Jin, L. C. Kempel, and D. Ross, "An integral equation in terms of charge for TE scattering by curved open surfaces," USNC/URSI National Radio Science Meeting, Chicago, Illinois, 1992.

[19] J. M. Jin and J. L. Volakis, "Radiation and scattering analysis of three-dimensional cavity arrays via a hybrid finite element method," USNC/URSI National Radio Science Meeting, Chicago, Illinois, 1992.

[20] J. D. Collins, J. M. Jin, and J. L. Volakis, "Eliminating of interior resonances in the finite element - boundary integral solution of scattering problems," 5th Biennial IEEE Conference on Electromagnetic Field Computation, Claremont, California, 1992.

[21] J. M. Jin, "Variational formulation of electromagnetics for field computation," USNC/URSI National Radio Science Meeting, Ann Arbor, Michigan, 1993.

[22] J. M. Jin, G. Shen, and T. Perkins, "On the field inhomogeneity of a birdcage coil," 12th Annual Scientific Meeting of the Society of Magnetic Resonance in Medicine, New York, Aug. 14-20, 1993.

[23] J. M. Jin, G. Shen, and T. Perkins, "Analysis of open coils including shielding effects for MRI applications," 12th Annual Scientific Meeting of the Society of Magnetic Resonance in Medicine, New York, Aug. 14-20, 1993.

[24] S. K. Jeng, J. M. Jin, S. Ni, and S. W. Lee, "Combination of PO/SBR and the finite element method for scattering from a large PEC target with a small cavity," IEEE Antennas and Propagation Society International Symposium, Seattle, WA, 1994.

[25] J. M. Jin and W. C. Chew, "Variational formulation of electromagnetic boundary-value problems involving anisotropic media," IEEE Antennas and Propagation Society International Symposium, Seattle, WA, 1994.

[26] J. M. Jin, "A simple method to incorporate the effects of an RF shield into MRI antenna analysis," USNC/URSI National Radio Science Meeting, Seattle, WA, 1994.

[27] J. M. Jin, "3D hybrid finite element analysis of scattering and radiation by a class of waveguide-fed structures," USNC/URSI National Radio Science Meeting, Seattle, WA, 1994.

[28] J. M. Jin and T. Perkins, "An innovative design of combined transmit/receive RF coils for MR imaging," The Second Meeting of the Society of Magnetic Resonance, San Francisco, CA, 1994.

[29] J. M. Jin, S. Ni, and S. W. Lee, "Hybridization of SBR and FEM for scattering by large bodies with cracks and cavities," IEEE Antennas and Propagation Society International Symposium, Newport Beach, CA, 1995.

[30] J. M. Jin and N. Lu, "Investigation of adaptive absorbing boundary condition for finite element solution of three-dimensional scattering," IEEE Antennas and Propagation Society International Symposium, Newport Beach, CA, 1995.

[31] S. Ni, J. M. Jin, and S. W. Lee, "Computation of radiation pattern of microstrip patch antennas on complex bodies," USNC/URSI National Radio Science Meeting, Newport Beach, CA, 1995.

[32] W. C. Chew and J. M. Jin, "Analysis of perfectly-matched layers using lattice EM theory in a discretized world," USNC/URSI National Radio Science Meeting, Newport Beach, CA, 1995.

[33] J. M. Jin, N. Lu, and S. Ni, "Hybrid finite element methods for electromagnetic scattering and radiation," 1995 International Conference on Radio Science, Beijing, China, 1995.

[34] N. Lu, J. M. Jin, E. Michielssen, and R. L. Magin, "Optimization of RF coil design using genetic algorithm and simulated annealing method," The third Meeting of the Society of Magnetic Resonance, Nice France, 1995.

[35] J. M. Jin, N. Lu, and S. Ni, "New developments of hybrid finite element methods for scattering and radiation by complex targets," (invited) National Radio Science Meeting, Boulder, CO, Jan. 9-13, 1996, p. 148.

[36] N. Lu and J. M. Jin, "Application of fast multipole method to finite element–boundary integral solution of scattering problems," 12th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, 1996, pp. 1182-1189.

[37] J. M. Jin and W. C. Chew, "Combined PML and ABC for finite element analysis of scattering problems," (invited) 12th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, 1996, pp. 962-971.

[38] G. Fan and J. M. Jin, "Scattering from a cylindrically conformal slotted-waveguide array antenna," IEEE Antennas and Propagation Society International Symposium, Baltimore, MD, 1996, pp. 1394-1397. This paper was also presented at the 1996 Antenna Applications Symposium, Monticello, IL, Sept. 1996.

[39] N. Lu and J. M. Jin, "Finite element analysis of RF field in human body for MRI application," USNC/URSI National Radio Science Meeting, Baltimore, MD, 1996, p. 124.

[40] J. Chen, J. M. Jin, H. Gan, and W. C. Chew, "Analysis of electromagnetic wave interaction with biological tissue using CG-FFT method," IEEE Antennas and Propagation Society International Symposium, Baltimore, MD, 1996.

[41] A. D. Greenwood, S. Ni, and J. M. Jin, "Computation of the radiation pattern of a microstrip patch antenna in a complex geometry," IEEE Antennas and Propagation Society International Symposium, Baltimore, MD, 1996, pp. 256-259. This paper was also presented under the title "Hybrid FEM/SBR method to compute the radiation pattern from a microstrip patch antenna in a complex geometry" at the 1996 Antenna Applications Symposium, Monticello, IL, Sept. 1996.

[42] J. M. Jin and N. Lu, "Finite element solution of scattering using coupled pair of basis functions on elliptic enclosure," USNC/URSI National Radio Science Meeting, Baltimore, MD, 1996, p. 49.

[43] J. M. Jin, J. Chen, H. Gan, W. C. Chew, R. L. Magin, and P. J. Dimbylow, "Computation of electromagnetic fields for high-frequency magnetic resonance imaging applications," Workshop on Advances in MR Safety and Compatibility: Implications for Interventional and Functional MRI, McLean, VA, June 9-11, 1996.

[44] J. M. Jin, X. Q. Sheng, and W. C. Chew, "Complementary perfectly matched layers for use as an absorbing boundary condition," Progress in Electromagnetic Research Symposium, Hong Kong, Jan. 1997.

[44] M. Zunoubi, J. M. Jin, and W. C. Chew, "The spectral Lanczos decomposition method for solving low-frequency electromagnetic diffusion by the finite elements method," 13th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, 1997, vol. 1, pp. 598-603.

[45] A. D. Greenwood and J. M. Jin, "Hybrid MoM/SBR method to compute scattering from a slot array antenna in a complex geometry," 13th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, 1997, vol. 1, pp. 696-704.

[46] J. M. Jin, J. Chen, W. C. Chew, R. L. Magin, and P. J. Dimbylow, "3D electromagnetic modeling for high-frequency MRI applications," International Society for Magnetic Resonance in Medicine Fifth Scientific Meeting, Vancouver, Canada, April 1997.

[47] F. Ling, X. Q. Sheng, and J. M. Jin, "Hybrid MoM/SBR and FEM/SBR methods for scattering by large bodies with inhomogeneous protrusions," IEEE Antennas and Propagation Society International Symposium, Montreal, Canada, 1997, vol. 2, pp. 644-647.

[48] C. F. Wang and J. M. Jin, "Efficient computation of electromagnetic fields in arbitrarily-shaped, inhomogeneous dielectric bodies using transpose-free QMR and FFT," IEEE Antennas and Propagation Society International Symposium, Montreal, Canada, 1997, vol. 1, pp. 72-75.

[49] J. Chen and J. M. Jin, "Calculation of SAR and B1-Field within human head excited by MRI birdcage coils," IEEE Antennas and Propagation Society International Symposium, Montreal, Canada, 1997, vol. 2, pp. 1210-1213.

[50] J. M. Song, X. Q. Sheng, C. C. Lu, W. C. Chew, and J. M. Jin, "Fast multipole method for large penetrable scatterers," USNC/URSI National Radio Science Meeting, Montreal, Canada, 1997, p. 66.

[51] M. Zunoubi, J. M. Jin, and W. C. Chew, "The spectral Lanczos decomposition method for solving 3-D low-frequency electromagnetic diffusion by the finite elements method," USNC/URSI National Radio Science Meeting, Montreal, Canada, 1997, p. 39.

[52] A. D. Greenwood and J. M. Jin, "Hybrid MoM/SBR method to compute scattering from a slot array in a complex geometry," USNC/URSI National Radio Science Meeting, Montreal, Canada, 1997, p. 178.

[53] E. A. Forgy, J. Chen, W. C. Chew, and J. M. Jin, "A comparison of the BCG-FFT and FD-TD methods for the 3-D human head absorption problem," IEEE Antennas and Propagation Society International Symposium, Montreal, Canada, 1997, vol. 2, pp. 1202-1205.

[54] W. C. Chew, J. M. Jin, and E. Michielssen, "Complex coordinate stretching as a generalized absorbing boundary condition," 13th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, 1997, vol. 2, pp. 909-914.

[55] J. M. Jin, G. X. Fan, F. Ling, C. C. Lu, J. M. Song, and W. C. Chew, "A hybrid SBR/MoM technique for analysis of scattering from small protrusions on a large conducting surface," Progress in Electromagnetic Research Symposium, Ridgefield, CT, July 1997.

[56] W. C. Chew, J. M. Jin, and E. Michielssen, "Complex coordinate system as a generalized absorbing boundary condition," IEEE Antennas and Propagation Society International Symposium, Montreal, Canada, 1997, vol. 3, pp. 2060-2063.

[57] J. Chen, Z. Feng, R. L. Magin, and J. M. Jin, "Numerical analysis of SAR and B1-field inhomogeneity of shielded RF birdcage coils loaded with the human head," International Scientific Meeting on Electromagnetics in Medicine, Chicago, IL, Nov. 1997, p. 60.

[58] A. D. Greenwood and J. M. Jin, "A novel, efficient algorithm for scattering from a complex BOR using vector FEM and PML," 14th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 1998.

[59] X. Q. Sheng, J. M. Jin, J. M. Song, W. C. Chew, and C. C. Lu, "Solution of combined-field integral equation using multi-level fast multipole algorithm for scattering by homogeneous bodies," 14th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 1998.

[60] C. F. Wang, F. Ling, and J. M. Jin, "A BCG-FFT solution of scattering and radiation by large finite arrays of microstrip antennas," 14th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 1998.

[61] M. Zunoubi, J. M. Jin, K. Donepudi, and W. C. Chew, "The spectral Lanczos decomposition method for efficient time-domain and frequency-domain finite-element

solution of Maxwell's equations," 14th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 1998.

[62] Z. M. Feng and J. M. Jin, "Accurate analysis of arbitrary RF Coils for MRI," International Society for Magnetic Resonance in Medicine Sixth Scientific Meeting, Sydney, Australia, April 1998.

[63] J. Chen, Z. Feng, and J. M. Jin, "Three-dimensional full-wave analysis of shielded and end-capped birdcage coils loaded with the human head," International Society for Magnetic Resonance in Medicine Sixth Scientific Meeting, Sydney, Australia, April 1998.

[64] J. Chen, J. M. Jin, and L. L. Latour, "Accurate characterization of eddy current for MRI system," International Society for Magnetic Resonance in Medicine Sixth Scientific Meeting, Sydney, Australia, April 1998.

[65] J. M. Jin, F. Ling, S. Carolan, J. M. Song, W. C. Gibson, W. C. Chew, C. C. Lu, and R. Kipp, "A hybrid SBR/MoM technique for analysis of scattering from small protrusions on a large conducting body," IEEE Antennas and Propagation Society International Symposium, Atlanta, Georgia, June 1998.

[66] F. Ling, C. F. Wang, and J. M. Jin, "Application of adaptive integral method to scattering and radiation analysis of arbitrarily shaped planar structures," IEEE Antennas and Propagation Society International Symposium, Atlanta, Georgia, June 1998.

[67] X. Q. Sheng, J. M. Jin, J. M. Song, C. C. Lu, and W. C. Chew, "On the formulation of hybrid finite-element and boundary-integral methods for 3D scattering using multilevel fast multipole algorithm," IEEE Antennas and Propagation Society International Symposium, Atlanta, Georgia, June 1998.

[68] J. M. Jin and K. Donepudi, "Electromagnetic scattering from large, deep, and arbitrarily-shaped open cavities," IEEE Antennas and Propagation Society International Symposium, Atlanta, Georgia, June 1998.

[69] M. Zunoubi, J. M. Jin, and W. C. Chew, "A combined finite-element and spectral Lanzos decomposition method for efficient analysis of Maxwell's equations in frequency and time domains," USNC/URSI National Radio Science Meeting, Atlanta, Georgia, June 1998.

[70] A. D. Greenwood and J. M. Jin, "A hybrid technique for axisymmetric scatterers with appendages," USNC/URSI National Radio Science Meeting, Atlanta, Georgia, June 1998.

[71] G. X. Fan and J. M. Jin, "A hybrid frontal-FEM/BIE/PO formulation for analyzing scattering from large and complex jet engine inlets," USNC/URSI National Radio Science Meeting, Atlanta, Georgia, June 1998.

[72] G. X. Fan and J. M. Jin, "A hybrid method for analyzing scattering from a large planar slotted waveguide array antenna in a real environment," IEEE Antennas and Propagation Society International Symposium, Atlanta, Georgia, June 1998.

[73] W. C. Chew, A. Ergin, V. Jandhyala, J. M. Jin, C. C. Lu, E. Michielssen, B. Shanker, X. Sheng, J. M. Song, and J. S. Zhao, "Fast electromagnetic scattering algorithm using multilevel and hybrid techniques," Proc. SIAM 4th Int. Conf. Math. Numer. Aspects Wave Propag., Golden, CO, June 1998, pp. 118-122.

[74] E. A. Forgy, W. C. Chew, and J. M. Jin, "A hybrid MoM/FDTD technique for studying human head/antenna interactions," IEEE-APS Conference on Antennas and Propagation for Wireless Communications, Waltham, MA, Nov. 1998.

[75] A. C. Wright, J. Chen, T. A. Neideen, J. M. Jin, and R. L. Magin, "Scaleable ladder RF probes for thin layer MR spectroscopy and imaging," Workshop on Computational Electromagnetics in Magnetic Resonance, College Station, TX, June 1998.

[76] J. M. Jin, "The finite element method for electromagnetic field computation," (invited) Workshop on Computational Electromagnetics in Magnetic Resonance, College Station, TX, June 1998.

[77] J. M. Jin, "Hybridization in Computational Electromagnetics" (invited plenary talk), International Conference on Microwave and Millimeter Wave Technology, Beijing, China, Aug. 1998.

[78] F. Ling, C. F. Wang, and J. M. Jin, "An efficient algorithm for analyzing large-scale microstrip structures using adaptive integral method combined with discrete complex image method," International Conference on Microwave and Millimeter Wave Technology, Beijing, China, Aug. 1998.

[79] A. D. Greenwood and J. M. Jin, "A hybrid MoM/FEM method for scattering from a complex BOR with appendages," (invited) 15th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 1999.

[80] F. Ling, J. M. Jin, D. G. Fang, and N. N. Feng, "Electromagnetic modeling of microstrip structures in multilayer media," (invited) 15th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 1999.

[81] K. Donepudi, G. Kang, J. M. Song, J. M. Jin, and W. C. Chew, "Higher-order MoM implementation to solve integral equations," IEEE Antennas and Propagation Society International Symposium, Orlando, Florida, July 1999.

[82] X. Y. Zhu and J. M. Jin, "Approximate calculation of scattered field from three-dimensional narrow cracks," IEEE Antennas and Propagation Society International Symposium, Orlando, Florida, July 1999.

[83] X. Y. Zhu, H. Y. Chao, J. M. Jin, E. Michielssen, and W. C. Chew, "Characterization of mutual coupling in a multi-function antenna system," IEEE Antennas and Propagation Society International Symposium, Orlando, Florida, July 1999.

[84] F. Ling, D. Jiao, and J. M. Jin, "Efficient electromagnetic modeling of microstrip structures in multilayer media," IEEE Antennas and Propagation Society International Symposium, Orlando, Florida, July 1999.

[85] C. F. Wang, F. Ling, and J. M. Jin, "A fast algorithm for solving CFIE of EM scattering," IEEE Antennas and Propagation Society International Symposium, Orlando, Florida, July 1999.

[86] A. D. Greenwood and J. M. Jin, "Finite element analysis of complex axisymmetric radiating structures," IEEE Antennas and Propagation Society International Symposium, Orlando, Florida, July 1999.

[87] A. D. Greenwood and J. M. Jin, "A field picture of wave propagation in inhomogeneous dielectric lenses," USNC/URSI National Radio Science Meeting, Orlando, Florida, July 1999.

[88] M. Zunoubi, J. Liu, K. Donepudi, and J. M. Jin, "Higher-order finite element-boundary integral method for scattering by large cavities," USNC/URSI National Radio Science Meeting, Orlando, Florida, July 1999.

[89] M. Kowalski and J. M. Jin, "A numerical study of control algorithms for MR-monitored microwave hyperthermia systems," USNC/URSI National Radio Science Meeting, Orlando, Florida, July 1999.

[90] M. Kowalski and J. M. Jin, "A numerical study of the signal-to-noise ratio of magnetic resonanc surface coils," USNC/URSI National Radio Science Meeting, Orlando, Florida, July 1999.

[91] D. Jiao and J. M. Jin, "Fast and accurate frequency response calculation using asymptotic waveform evaluation and combined field integral equation," XXVI-th General Assembly of the International Union of Radio Science, Toronto, Canada, Aug. 1999.

[92] X. Q. Sheng, X. T. Yin, J. M. Song, J. M. Jin, and W. C. Chew, "Further development of the hybrid finite-element and multi-level fast multipole algorithm for electromagnetic scattering analysis," (invited) XXVI-th General Assembly of the International Union of Radio Science, Toronto, Canada, Aug. 1999.

[93] F. L. Teixeira, K. P. Hwang, W. C. Chew, and J. M. Jin, "On dynamic stability of conformal PML-FDTD for electromagnetic field computations," International Microwave and Optoelectronics Conference (IMOC'99), Rio de Janeiro, Brazil, Aug. 1999.

[94] D. Jiao, F. Ling, and J. M. Jin, "Fast electromagnetic analysis using the asymptotic waveform evaluation method," International Conference on Electromagnetics in Advanced Applications (ICEAA99), Torino, Italy, Sept. 1999.

[95] J. Liu, K. Donepudi, and J. M. Jin, "A special finite element method for scattering by deep cavities," International Conference on Electromagnetics in Advanced Applications (ICEAA99), Torino, Italy, Sept. 1999.

[96] A. D. Greenwood and J. M. Jin, "Finite element analysis of complex axisymmetric radiating structures," Progress in Electromagnetics Research Symposium (PIERS 1999), Taipei, Taiwan, March 1999.

[97] X. Q. Sheng, E. K. N. Yung, J. M. Jin, and W. C. Chew, "Scattering from complex targets by fast and accurate FE-BI method," Progress in Electromagnetics Research Symposium (PIERS 1999), Taipei, Taiwan, March 1999.

[98] M. Kowalski, J. Chen, J. M. Jin, and L. L. Latour, "Numerical evaluation of the signal-to-noise ratio of MR surface coils using FDTD and reciprocity," International Society for Magnetic Resonance in Medicine Seventh Scientific Meeting, Philadelphia, PA, May 1999.

[99] W. C. Chew, J. M. Song, S. Velamparambil, J. S. Zhao, A. Ergin, B. Hu, E. Michielssen, and J. M. Jin, "Fast solvers for integral equations," XXVI-th General Assembly of the International Union of Radio Science, Toronto, Canada, Aug. 1999.

[100] X. Q. Sheng, E. K. N. Yung, C. H. Chan, J. M. Jin, and W. C. Chew, "Scattering from large bodies with cracks and cavities by the fast and accurate finite-element boundary-integral method," XXVI-th General Assembly of the International Union of Radio Science, Toronto, Canada, Aug. 1999.

[101] J. M. Song, K. Donepudi, S. Velamparambil, G. Kang, W. C. Chew, J. M. Jin, "Point-based MLFMA for Galerkin's method," 36-th Annual Technical Meeting for Society of Engineering Science, Austin, TX, Oct. 25-27, 1999, p. WA6-5.

[102] D. Jiao, J. M. Jin, and J. Shang, "Characteristic-based time-domain method for antenna analysis," 16th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2000.

[103] D. Jiao and J. M. Jin, "Fast electromagnetic analysis using the asymptotic waveform evaluation method," 16th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2000.

[104] F. Ling, K. Donepudi, and J. M. Jin, "Higher-order electromagnetic modeling of multilayer microstrip structures," 16th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2000.

[105] F. Ling, J. M. Song, and J. M. Jin, "Multilevel fast multipole algorithm for analysis of large-scale microstrip structures," 16th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2000.

[106] G. Kang, J. M. Song, W. C. Chew, K. Donepudi, and J. M. Jin, "A novel grid-robust higher-order vector basis function for the method of moments," 16th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2000.

[107] K. C. Donepudi, J. M. Song, J. M. Jin, G. Kang, and W. C. Chew, "A novel implementation of multilevel fast multipole algorithm for higher-order Galerkin's method," 16th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2000.

[108] K. C. Donepudi, J. M. Jin, S. Velamoarambil, J. M. Song, and W. C. Chew, "Parallelized higher-order multilevel fast multipole algorithm for 3D scattering," Progress in Electromagnetics Research Symposium (PIERS 2000), Cambridge, MA, July 5-14, 2000.

[109] M. E. Kowalski, B. Singh, K. D. Trott, L. C. Kempel, K. C. Hill, and J. M. Jin, "On the integral equation-asymptotic Phase (IE-AP) method for three-dimensional scattering," Progress in Electromagnetics Research Symposium (PIERS 2000), Cambridge, MA, July 5-14, 2000.

[110] J. Liu and J. M. Jin, "Parallel computation of scattering by deep cavities," Progress in Electromagnetics Research Symposium (PIERS 2000), Cambridge, MA, July 5-14, 2000.

[111] G. Kang, J. M. Song, W. C. Chew, K. Donepudi, and J. M. Jin, "Grid-robust higher-order vector basis functions for solving integral equations," IEEE Antennas and Propagation Society International Symposium, Salt Lake City, Utah, July 2000.

[112] K. C. Donepudi, J. M. Jin, S. Velamoarambil, J. M. Song, and W. C. Chew, "A higher-order multilevel fast multipole algorithm for 3D scattering," IEEE Antennas and Propagation Society International Symposium, Salt Lake City, Utah, July 2000.

[113] K. C. Donepudi, J. M. Song, J. M. Jin, G. Kang, and W. C. Chew, "Point-based implementation of multilevel fast multipole algorithm for higher-order Galerkin's method," IEEE Antennas and Propagation Society International Symposium, Salt Lake City, Utah, July 2000.

[114] J. Liu and J. M. Jin, "A special higher-order finite element method for scattering by deep cavities," IEEE Antennas and Propagation Society International Symposium, Salt Lake City, Utah, July 2000.

[115] D. Jiao, M. Lu, E. Michielssen, and J. M. Jin, "A time-domain finite-element—boundary-integral method for 2D electromagnetic transient analysis," IEEE Antennas and Propagation Society International Symposium, Salt Lake City, Utah, July 2000.

[116] D. Jiao, J. M. Jin, and J. Shang, "Characteristic-based time-domain method for electromagnetic analysis," IEEE Antennas and Propagation Society International Symposium, Salt Lake City, Utah, July 2000.

[117] E. Branch and J. M. Jin, "A higher-order FEM for calculating the RCS of BORs," USNC/URSI National Radio Science Meeting, Salt Lake City, Utah, July 2000.

[118] X. T. Yin, J. M. Jin, J. M. Song, and W. C. Chew, "New development of the hybrid FEM/MLFMA for electromagnetic analysis," USNC/URSI National Radio Science Meeting, Salt Lake City, Utah, July 2000.

[119] D. Jiao, M. Lu, E. Michielssen, and J. M. Jin, "A fast time-domain finite-element—boundary-integral method for electromagnetic transient analysis," 5th International Workshop on Finite Elements for Microwave Engineering, Boston, MA, June 2000.

[120] F. Ling and J. M. Jin, "Fast electromagnetic modeling of multilayer microstrip antennas and circuits,'' 5th International Symposium on Antennas, Propagation, and EM theory, Beijing, China, Aug. 2000.

[121] M. E. Kowalski and J. M. Jin, "Dynamic optimization of radiofrequency hyperthermia treatments," WC2000, World Congress on Medical Physics and Biomedical Engineering, Chicago, IL, July 23-28, 2000.

[122] M. E. Kowalski and J. M. Jin, "A numerically efficient method for evaluation of transient temperature fields in biological media," WC2000, World Congress on Medical Physics and Biomedical Engineering, Chicago, IL, July 23-28, 2000.

[123] A. E. Yilmaz, D. S. Weile, J. M. Jin, and E. Michielssen, "FFT-based acceleration of marching-on-in-time method (FFT-MOT)," 17th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2001.

[124] J. M. Jin, F. Ling, and D. Jiao, "Fast analysis of microstrip antennas and arrays," 17th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2001.

[125] D. Jiao, A. Ergin, B. Shanker, E. Michielssen, and J. M. Jin, "A fast time-domain finite element-boundary integral method for 3-D scattering," 17th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2001.

[126] D. Jiao, A. Ergin, B. Shanker, E. Michielssen, and J. M. Jin, "A higher-order time-domain finite element-boundary integral method for 3-D scattering analysis," 17th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2001.

[127] M. E. Kowalski and J. M. Jin, "A numerical study of the field dependence of signal-to-noise ratio in high-field MRI," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

[128] M. E. Kowalski and J. M. Jin, "Prediction and optimization of transient temperature fields in electromagnetic hyperthermia," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

[129] D. Jiao and J. M. Jin, "Time-domain finite element modeling of dispersive media," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

[130] D. Jiao and J. M. Jin, "Three-dimensional orthogonal vector basis functions for time-domain finite element solution of vector wave equations," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

[131] D. Jiao, A. Ergin, B. Shanker, E. Michielssen, and J. M. Jin, "A fast higher-order time-domain finite element-boundary integral method for 3-D electromagnetic scattering analysis," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

[132] D. Jiao and J. M. Jin, "A general approach for the stability analysis of time-domain finite element method," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

[133] J. Liu and J. M. Jin, "A novel hybridization of higher order finite element and boundary integral methods for electromagnetic scattering and radiation problems," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

[134] M. E. Kowalski and J. M. Jin, "Control of electromagnetic phased-arrays for hyperthermia using tomographic temperature feedback," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

[135] P. Baldensperger, J. Liu, and J. M. Jin, "A hybrid SBR/FE-BI technique for computing the RCS of electrically large objects with deep cavities," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

[136] K. C. Donepudi, J. M. Jin, and W. C. Chew, "A grid-robust, higher-order multilevel fast multipole algorithm for 3-D electromagnetic scattering analysis," USNC/URSI National Radio Science Meeting, Boston, MA, July 2001.

[137] J. Liu and J. M. Jin, "A novel, highly effective preconditioner for solving the finite element--boundary integral matrix equation of 3-D scattering," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

[138] A. E. Yilmaz, D. S. Weile, J. M. Jin, and E. Michielssen, "A hierarchical FFT algorithm (HIL-FFT) for accelerating marching-on-in-time methods," IEEE Antennas and Propagation Society International Symposium, Boston, MA, July 2001.

[139] A. E. Yilmaz, J. M. Jin, and E. Michielssen, "An FFT-accelerated MOT scheme for the analysis of scattering in lossy media," USNC/URSI National Radio Science Meeting, Boston, MA, July 2001.

[140] D. Jiao, J. M. Jin, and E. Michielssen, "Time-domain finite element simulation of electromagnetic transient scattering," International Conference on Electromagnetics in Advanced Applications (ICEAA01), Torino, Italy, Sept. 2001.

[141] J. Liu, J. M. Jin, E. K. N. Yung, and R. S. Chen, "A fast three-dimensional finite element analysis of microwave waveguide devices," 18th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2002.

[142] J. Liu, E. Dunn, P. Baldensperger, and J. M. Jin, "Computation of radar cross section of jet engine inlets," 18th Annual Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2002.

[143] J. Liu and J. M. Jin, "A highly efficient higher-order finite element–boundary integral method for electromagnetic scattering and radiation problems," 6th International Workshop on Finite Elements for Microwave Engineering--Antennas, Circuits and Devices, Chios, Greece, May 30-June 1, 2002.

[144] D. Jiao, J. M. Jin, and E. Michielssen, "Time-domain finite element analysis of electromagnetic scattering and radiation," 6th International Workshop on Finite Elements for Microwave Engineering--Antennas, Circuits and Devices, Chios, Greece, May 30-June 1, 2002.

[145] J. Liu, J. M. Jin, E. K. N. Yung, and R. S. Chen, "A robust 3-D higher-order finite element analysis of microwave devices," IEEE Antennas and Propagation Society International Symposium, San Antonio, TX, June 2002.

[146] D. Jiao, J. M. Jin, E. Michielssen, and D. Riley, "Time-domain finite-element simulation of three-dimensional scattering and radiation problems using perfectly matched layers," IEEE Antennas and Propagation Society International Symposium, San Antonio, TX, June 2002.

[147] K. Donepudi, J. M. Jin, and W. C. Chew, "A higher-order multilevel fast multipole algorithms for scattering from mixed conducting/dielectric bodies," IEEE Antennas and Propagation Society International Symposium, San Antonio, TX, June 2002.

[148] J. Liu and J. M. Jin, "Scattering analysis of a large body with deep cavities," IEEE Antennas and Propagation Society International Symposium, San Antonio, TX, June 2002.

[149] J. M. Jin and J. Liu, "A highly efficient higher-order hybrid finite element–boundary integral method for large-scale scattering analysis," XXVII-th General Assembly of the International Union of Radio Science, Maastricht, Netherlands, Aug. 2002.

[150] A. E. Yilmaz, S. Q. Li. J. M. Jin and E. Michielssen, "A parallel framework for FFT-accelerated time-marching algorithms," USNC/URSI National Radio Science Meeting, San Antonio, TX, June 2002.

[151] M. E. Kowalski and J. M. Jin, "An efficient, temperature-based algorithm for feedback control of electromagnetic phased-array hyperthermia," IEEE Antennas and Propagation Society International Symposium, San Antonio, TX, June 2002.

[152] M. E. Kowalski and J. M. Jin, "Karhunen-Loeve based model order reduction of nonlinear systems," IEEE Antennas and Propagation Society International Symposium, San Antonio, TX, June 2002.

[153] A. E. Yilmaz, K. Aygun, J. M. Jin, and E. Michielssen, "Fast analysis of heatsink emissions with time-domain AIM," IEEE Int. Symp. Electromagn. Compat., Istanbul, Turkey, May 2003.

[154] Z. Lou and J. M. Jin, "High-order finite-element analysis of electromagnetic scattering from periodic structures," IEEE Antennas and Propagation Society International Symposium, Columbus, OH, June 2003.

[155] J. Liu and J. M. Jin, "Analysis of conformal antennas on a complex platform," IEEE Antennas and Propagation Society International Symposium, Columbus, OH, June 2003.

[156] J. M. Jin, J. Liu, Z. Lou, and C. S. Liang, "A fully high-order finite-element simulation of scattering by deep cavities," IEEE Antennas and Propagation Society International Symposium, Columbus, OH, June 2003.

[157] A. Yilmaz, J. M. Jin, and E. Michielssen, "Time-domain adaptive integral method for the combined field integral equation," IEEE Antennas and Propagation Society International Symposium, Columbus, OH, June 2003.

[158] T. Rylander and J. M. Jin, "Stable waveguide ports for the time-domain finite element method," IEEE Antennas and Propagation Society International Symposium, Columbus, OH, June 2003.

[159] T. Rylander and J. M. Jin, "Conformal perfectly matched layers for the time-domain finite element method," IEEE Antennas and Propagation Society International Symposium, Columbus, OH, June 2003.

[160] K. C. Donepudi, X. Wang, W. C. Chew, and J. M. Jin, "Fast high-order solutions for electromagnetic scattering from three-dimensional bodies," USNC/URSI National Radio Science Meeting, Columbus, OH, June 2003.

[161] A. Yilmaz, J. M. Jin, and E. Michielssen, "Discrete wavelet transform compression for time domain integral equations," USNC/URSI National Radio Science Meeting, Columbus, OH, June 2003.

[162] A. Yilmaz, J. M. Jin, and E. Michielssen, "Efficient solution of time domain volume integral equations using the adaptive integral method," USNC/URSI National Radio Science Meeting, Columbus, OH, June 2003.

[163] T. Rylander and J. M. Jin, "Stability of the time-domain finite element method," USNC/URSI National Radio Science Meeting, Columbus, OH, June 2003.

[164] K. C. Donepudi, X. Wang, W. C. Chew, and J. M. Jin, "Higher-order solutions of integral equations of wave scattering," PIERS 2003, Hawaii, Oct. 13-16, 2003.

[165] W. C. Chew and J. M. Jin, "Study of metamaterials and their applications," PIERS 2003, Hawaii, Oct. 13-16, 2003.

[166] M. E. Kowalski and J. M. Jin, "Optimization of electromagnetic phased-arrays for hyperthermia," URSI 2004, National Radio Science Meeting, Boulder, CO, Jan. 5-8, 2004.

[167] A. Yilmaz, J. M. Jin, and E. Michielssen, "A parallel FFT-accelerated transient field-circuit simulator," PIERS 2004, Pisa, Italy, March 28-31, 2004.

[168] D. Correia and J. M. Jin, "Time-domain split-field formulation for both periodic boundary condition and PML," USNC/URSI National Radio Science Meeting, Monterey, CA, June 2004.

[169] L. E. R. Petersson and J. M. Jin, "A time-domain finite element formulation for periodic structures," USNC/URSI National Radio Science Meeting, Monterey, CA, June 2004.

[170] J. K. Byun and J. M. Jin, "A comparative study of infinite elements for two-dimensional electromagnetic scattering analysis," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

[171] M. M. Botha and J. M. Jin, "A stationary FE-BI formulation for 3D electromagnetic analysis," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

[172] M. M. Botha and J. M. Jin, "A posteriori error indicators for 3D electromagnetic FE-BI analysis," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

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[173] Z. Lou and J. M. Jin, "Higher-order finite element analysis of finite-by-infinite arrays," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

[174] X. Wang, M. M. Botha, and J. M. Jin, "A simple error estimator for the moment method in electromagnetic scattering," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

[175] M. M. Botha and J. M. Jin, "A numerical investigation into the accuracy of FE-BI and MoM for canonical structures," USNC/URSI National Radio Science Meeting, Monterey, CA, June 2004.

[176] A. Yilmaz, A. C. Cangellaris, J. M. Jin, and E. Michielssen, "Time domain adaptive integral method for EMI/EMC applications," USNC/URSI National Radio Science Meeting, Monterey, CA, June 2004.

[177] A. Yilmaz, J. M. Jin, and E. Michielssen, "A parallel time-domain adaptive integral method based hybrid field-circuit simulator," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

[178] T. Rylander and J. M. Jin, "Perfectly matched layers in three dimensions for the time-domain finite element method," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

[179] T. Rylander and J. M. Jin, "Stability and accuracy of coaxial waveguide port algorithm for the time-domain finite element method," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

[180] T. Rylander, M. M. Botha, and J. M. Jin, "Application of preconditioned iterative solvers to the time-domain finite element method," USNC/URSI National Radio Science Meeting, Monterey, CA, June 2004.

[181] A. Yilmaz, J. M. Jin, and E. Michielssen, "Broadband analysis of electromagnetic scattering from dielectric coated conductors with parallel TD-AIM," IEEE Antennas and Propagation Society International Symposium, Monterey, CA, June 2004.

[182] Z. Lou, K. Mao, and J. M. Jin, "Finite element analysis of conformal array antennas," 2004 International Symposium on Antennas and Propagation, Sendai, Japan, Aug. 2004.

[183] J. M. Jin, M. Botha, D. Jiao, Y. J. Li, J. Liu, Z. Lou, and T. Rylander, "Higher-order finite element solutions of 3D wave scattering," PIERS 2004, Nanjing, China, Aug. 2004.

[184] J. M. Jin, "A highly robust and versatile finite element-boundary integral hybrid code for scattering by BOR objects," 21th Annual Review of Progress in Applied Computational Electromagnetics, Hawaii, April 2005.

[185] Z. Lou and J. M. Jin, "An accurate waveguide port boundary condition for the time-domain finite element method," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

[186] L. E. R. Petersson and J. M. Jin, "A 3-D time-domain finite element formulation for periodic structures," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

[187] E. A. Dunn, J. K. Byun, and J. M. Jin, "A higher-order finite element-boundary integral method for electromagnetic scattering from bodies of revolution," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

[188] C. S. Liang, D. A. Streater, J. M. Jin, E. Dunn, and T. Rozendal, "A quantitative study of Luneberg lens reflectors," USNC/URSI National Radio Science Meeting, Washington, DC, July 2005.

[189] D. Correia and J. M. Jin, "Efficient absorption of evanescent waves in the FDTD simulations," USNC/URSI National Radio Science Meeting, Washington, DC, July 2005.

[190] D. Riley, J. M. Jin, Z. Lou, and R. Petersson, "Total- and scattered-field decomposition technique for the finite-element time-domain method," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

[191] A. E. Yilmaz, J. M. Jin, and E. Michielssen, "A dual/variable time stepping framework for TDIE-based hybrid field-circuit simulators," USNC/URSI National Radio Science Meeting, Washington, DC, July 2005.

[192] K. Mao, J. K. Byun, and J. M. Jin, "Simulation of finite cavity-backed antenna arrays using an accelerated FE-BI method," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

[193] L. E. R. Petersson and J. M. Jin, "An efficient procedure for the projection of a given field onto hierarachal vector basis functions of arbitrary order," USNC/URSI National Radio Science Meeting, Washington, DC, July 2005.

[194] L. E. R. Petersson, Z. Lou, and J. M. Jin, "A 2-D Floquet boundary condition for time-domain finite element analysis of periodic geometries," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

[195] J. K. Byun and J. M. Jin, "Finite-element analysis of scattering from a BOR using spherical infinite elements," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

[196] A. E. Yilmaz, M. J. Choi, A. C. Cangellaris, J. M. Jin, and E. Michielssen, "Incorporation of frequency dependent multiport macromodels into a fast time-domain integral equation solver," IEEE Antennas and Propagation Society International Symposium, Washington, DC, July 2005.

[197] A. E. Yilmaz, J. M. Jin, and E. Michielssen, "Hybrid time-domain integral equation/circuit solvers for nonlinearly loaded antennas on complex platforms," USNC/URSI National Radio Science Meeting, Washington, DC, July 2005.

[198] A. E. Yilmaz, J. M. Jin, and E. Michielssen, "A dual/variable time stepping framework for TDIE-based hybrid field-circuit simulators," USNC/URSI National Radio Science Meeting, Washington, DC, July 2005.

[199] L. E. R. Petersson and J. M. Jin, "Analysis of infinite phased arrays using a FEM-TD formulation with an accurate Floquet ABC," Antenna Applications Symposium, Monticello, IL, Sept. 2005.

[200] A. E. Yilmaz, J. M. Jin, and E. Michielssen, "A low-frequency extension of the time-domain adaptive integral method," 14th Topical Meeting on Electrical Performance of Electronic Packaging (EPEP 2005), Austin, TX, Oct. 2005.

[201] L. E. R. Petersson and J. M. Jin, "Time-domain finite element simulation of periodic structures," 8th International Workshop on Finite Elements for Microwave Engineering, Stellenbosch, South Africa, May 2006.

[202] Z. Lou and J. M. Jin, "Development of time-domain finite element method for analysis of broadband antennas and arrays," 8th International Workshop on Finite Elements for Microwave Engineering, Stellenbosch, South Africa, May 2006.

[203] Z. Lou and J. M. Jin, "Time-domain finite element modeling and simulation of broadband antennas," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

[204] Z. Lou and J. M. Jin, "A novel domain-decomposition method for time-domain finite-element simulation of electromagnetic fields," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

[205] A. E. Yilmaz, J. M. Jin, and E. Michielssen, "A stable time-domain integral equation formulation for composite structures," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

[206] L. E. R. Petersson and J. M. Jin, "A 3-D Floquet boundary condition for time-domain finite element analysis of periodic geometries," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

[207] Z. Lou, L. E. R. Petersson, and J. M. Jin, "Recent Advances of the time-domain finite element method for computational electromagnetics," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

[208] Y. Li and J. M. Jin, "A vector dual-primal finite element tearing and interconnecting method for solving 3-D large-scale electromagnetic problems," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

[209] D. Correia and J. M. Jin, "Second-order PML for the analysis of waveguide problems," USNC/URSI National Radio Science Meeting, NM, July 2006.

[210] R. Wang and J. M. Jin, "An efficient finite element-boundary integral formulation for numerical modeling of scattering by discrete body-of-revolution," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

[211] A. E. Yilmaz, J. M. Jin, E. Michielssen, and J. Kotulski, "A leapfrogging time-domain integral equation solver for dielectric bodies," IEEE Antennas and Propagation Society International Symposium, Albuquerque, NM, July 2006.

[212] A. E. Yilmaz, Z. Lou, E. Michielssen, and J. M. Jin, "A parallel time-domain adaptive integral method-accelerated single-boundary finite element-boundary integral solver," USNC/URSI National Radio Science Meeting, NM, July 2006.

[213] C. S. Liang, D. A. Streater, J. M. Jin, E. Dunn, and T. Rozendal, "Ground-plane backed hemispheric Luneberg lens reflector," USNC/URSI National Radio Science Meeting, NM, July 2006.

[214] Y. Li and J. M. Jin, "A highly efficient finite element domain decomposition method for analysis of large-scale photonic crystal problems," PIERS 2007, Beijing, China, March 2007.

[215] Z. Lou and J. M. Jin, "A new explicit higher-order time-domain finite-element scheme for solving Maxwell's equations," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

[216] Z. Lou, D. Correia, and J. M. Jin, "Implementation of second-order perfectly matched layers in the time-domain finite element method," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

[217] Y. Li and J. M. Jin, "An improved dual-primal domain decomposition method for 3D electromagnetic problems," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

[218] Y. Li and J. M. Jin, "A fast full-wave analysis of electromagnetic wave propagation in large 3D photonic bandgap structures," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

[219] R. Wang, H. Wu, A. Cangellaris, and J. M. Jin, "Incorporation of feed-network modeling into the time-domain finite element analysis of antennas," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

[220] A. E. Yilmaz, Z. Lou, E. Michielssen, and J. M. Jin, "A fast, iterative, implicit, single-boundary time-domain finite element-boundary integral solver," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

[221] X. Lin, L. Olson, and J. M. Jin, "An interpolatory spectral element method using curl-conforming vector basis functions on tetrahedra," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

[222] Z. Y. Zeng and J. M. Jin, "An efficient quantification of scattering variation due to uncertain geometrical deviation," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

[223] S. H. Lee and J. M. Jin, "Adaptive solution space projection in conjunction with finite-element eigenfunction expansion for fast and robust wideband simulation of microwave devices," IEEE Antennas and Propagation Society International Symposium, Hawaii, HI, June 2007.

[224] Z. Lou and J. M. Jin, "A novel domain decomposition method for parallel time-domain finite element computation of electromagnetic fields," International Symposium on Electromagnetic Theory (EMTS), Ottawa, Canada, July 2007.

[225] S. H. Lee and J. M. Jin, "Efficient full-wave analysis of multilayer interconnection structures using a novel domain decomposition–model order reduction method," IEEE 16th Topical Meeting on Electrical Performance of Electronic Packaging (EPEP), Atlanta, GA, 2007.

[226] K. Mao, J. Tan, and J. M. Jin, "A domain decomposition method for the finite element simulation of circuit board interconnects," IEEE 16th Topical Meeting on Electrical Performance of Electronic Packaging (EPEP), Atlanta, GA, 2007.

[227] Y. Li and J. M. Jin, "A highly efficient domain decomposition method for the finite element computation of electromagnetic fields," 9th International Workshop on Finite Elements for Microwave Engineering, Bonn, Germany, May 2008.

[228] J. M. Jin, X. Li, and D. Riley, "Modeling of electrically and magnetically dispersive media in the time-domain finite element method," 9th International Workshop on Finite Elements for Microwave Engineering, Bonn, Germany, May 2008.

[229] Y. Li and J. M. Jin, "The FETI-DPEM method for the parallel solution of 3D EM problems," IEEE Antennas and Propagation Society International Symposium, San Diego, CA, July 2008.

[230] Y. Li and J. M. Jin, "Implementation of the 2nd-order ABC with auxiliary variables in the FETI-DPEM method for 3D EM problems," IEEE Antennas and Propagation Society International Symposium, San Diego, CA, July 2008.

[231] S. H. Lee and J. M. Jin, "The approximate modal interface–solution space projection method for efficient broadband full-wave analysis of multilayer interconnection structures," IEEE Antennas and Propagation Society International Symposium, San Diego, CA, July 2008.

[232] S. H. Lee and J. M. Jin, "Application of the tree-cotree splitting for improved matrix conditioning in the full-wave finite-element analysis of high-speed circuits," IEEE Antennas and Propagation Society International Symposium, San Diego, CA, July 2008.

[233] R. Wang, H. Wu, A. C. Cangellaris, and J. M. Jin, "Time-domain finite-element modeling of antenna arrays with distributed feed network," IEEE Antennas and Propagation Society International Symposium, San Diego, CA, July 2008.

[234] X. Li and J. M. Jin, "Application of the recursive FFT algorithm in the time-domain finite-element method," USNC/URSI National Radio Science Meeting, San Diego, CA, July 2008.

[235] Y. Li and J. M. Jin, "Analysis of antenna array mutual coupling effects using the parallelized FETI-DPEM method," USNC/URSI National Radio Science Meeting, San Diego, CA, July 2008.

[236] R. Wang and J. M. Jin, "A transient electromagnetic-circuit simulator based on extended time-domain finite element method," USNC/URSI National Radio Science Meeting, San Diego, CA, July 2008.

[237] D. Riley and J. M. Jin, "Finite-element time-domain analysis of electrically and magnetically dispersive periodic structures," USNC/URSI National Radio Science Meeting, San Diego, CA, July 2008.

[238] Y. Li and J. M. Jin, "An accelerated FETI-DPEM method for modeling photonic crystal nanocavities," XXIX-th General Assembly of the International Union of Radio Science, Chicago, IL, August 2008.

[239] R. Wang, H. Wu, A. C. Cangellaris, and J. M. Jin, "Analysis of antenna arrays with distributed feed network using the time-domain finite element method," XXIX-th General Assembly of the International Union of Radio Science, Chicago, IL, August 2008.

[240] S. H. Lee and J. M. Jin, "Enhanced domain decomposition–model order reduction method for efficient broadband full-wave analysis of multilayer printed circuit boards," XXIX-th General Assembly of the International Union of Radio Science, Chicago, IL, August 2008.

[241] J. M. Jin, E. Michielssen, and D. Riley, "Fast time-domain computational techniques and their application in EMC," 2008 Asia-Pacific Symposium on EMC & 19th International Zurich Symposium on Electromagnetic Compatibility, Singapore, May 2008.

[242] S. H. Lee and J. M. Jin, "Fast reduced-order finite-element modeling of lossy coupled wires using lumped impedance elements," IEEE 17th Topical Meeting on Electrical Performance of Electronic Packaging (EPEP), San Jose, CA, Oct. 2008.

[243] S. H. Lee and J. M. Jin, "Finite element electromagnetic simulation for high-frequency/high-speed circuits," Asia Pacific Microwave Conference (APMC2008), Hong Kong, Dec. 16-20, 2008.

[244] Y. J. Li and J. M. Jin, "The parallel FETI-DPEM eigensolver for analysis of 3D electromagnetic cavities," 25th Annual Review of Progress in Applied Computational Electromagnetics (ACES 2009), Monterey, California, March 8-12, 2009.

[245] R. Wang and J. M. Jin, "A symmetric hybrid time-domain finite element method for transient field-circuit simulation," 25th Annual Review of Progress in Applied Computational Electromagnetics (ACES 2009), Monterey, California, March 8-12, 2009.

[246] J. M. Jin, "25 years of progress and future challenges in finite element methodologies and applications," 25th Annual Review of Progress in Applied Computational Electromagnetics (ACES 2009), Monterey, California, March 8-12, 2009.

[247] R. Wang and J. M. Jin, "A multiple time-stepping scheme for hybrid field-circuit simulation based on the extended time-domain finite element method," USNC/URSI National Radio Science Meeting, Charleston, SC, June 2009.

[248] Y. J. Li and J. M. Jin, "Parallel eigen-analysis of 3D electromagnetic cavities using the FETI-DPEM method," USNC/URSI National Radio Science Meeting, Charleston, SC, June 2009.

[249] Y. J. Li and J. M. Jin, "Full-wave analysis of antenna-array mutual coupling using the FETI-DPEM algorithm," IEEE Antennas and Propagation Society International Symposium, Charleston, SC, June 2009.

[250] S.-H. Lee and J. M. Jin, "Tree-cotree splitting enhanced broadband finite-element simulation including lumped circuit elements," IEEE Antennas and Propagation Society International Symposium, Charleston, SC, June 2009.

[251] R. Wang and J. M. Jin, "Incorporation of frequency-dependent multiport lumped networks into a hybrid time-domain finite-element solver," IEEE Antennas and Propagation Society International Symposium, Charleston, SC, June 2009.

[252] S.-H. Lee and J. M. Jin, "The approximate modal interface–solution space projection method including internal ports for efficient finite-element analysis of

multilayer printed circuits," IEEE Antennas and Propagation Society International Symposium, Charleston, SC, June 2009.

[253] S. Yan, J. M. Jin, and Z. Nie, "Implementation of the Calderón multiplicative preconditioner for the EFIE solution with curvilinear triangular patches," IEEE Antennas and Propagation Society International Symposium, Charleston, SC, June 2009.

[254] S. Yan, J. M. Jin, and Z. Nie, "Analysis of low-frequency electromagnetic problems using the EFIE with a Calderón multiplicative preconditioner and loop-star decomposition," USNC/URSI National Radio Science Meeting, Charleston, SC, June 2009.

[255] X. Li and J. M. Jin, "Modeling of doubly dispersive materials in the time-domain finite-element dual-field domain-decomposition algorithm," USNC/URSI National Radio Science Meeting, Charleston, SC, June 2009.

[256] R. Wang and J. M. Jin, "Hybrid field-circuit simulation based on the extended time-domain finite element method," 2010 Asia-Pacific Symposium on Electromagnetic Compatibility, Beijing, China, May 2010.

[257] R. Wang, D. Riley, and J. M. Jin, "Application of tree-cotree splitting technique to the transient full-wave analysis based on the time-domain finite-element method," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

[258] R. Wang and J. M. Jin, "An enhanced flexible time-stepping scheme for the hybrid time-domain finite element method," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

[259] S. Yan, J. M. Jin, and Z. Nie, "Derivation of N-Muller equations using Calderon identities," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

[260] S. Yan, J. M. Jin, and Z. Nie, "A comparative study of different Calderon preconditioned PMCHWT formulations," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

[261] S. Yan, J. M. Jin, and Z. Nie, "A study of the augmented EFIE with a Calderon preconditioner," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

[262] M. F. Xue and J. M. Jin, Acceleration and accuracy improvement of FEM computation by using FETI-DP and BI hybrid algorithm," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

[263] M. S. Tong, W. C. Chew, and J. M. Jin, "Inversion of electromagnetic scattering by Nyström forward solution and Gauss-Newton minimization approach," USNC/URSI National Radio Science Meeting, Toronto, Canada, June 2010.

[264] Y. Shi and J. M. Jin, "Scattering analysis of mixed metallic/uniaxial objects using surface integral equations accelerated by adaptive cross approximation algorithm," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

[265] L. E. Sun, W. C. Chew, and J. M. Jin, "Suppression of field projection error in EPA at low frequencies by augmentation method," IEEE Antennas and Propagation Society International Symposium, Toronto, Canada, June 2010.

[265+] S. Yan, J. M. Jin, and Z. Nie, "Calderón preconditioning techniques for integral equation based methods," URSI International Symposium on Electromagnetic Theory, Berlin, Germany, Aug. 2010.

[266] J.-M. Jin, Z. Lou, R. Petersson, Y.-J. Li, R. Wang, D. Riley, and N. Riley, "Finite element analysis of phased-array antennas," IEEE International Symposium on Phased Array Systems & Technology, Waltham, MA, Oct. 2010.

[267] N. Riley, D. Riley, and J.-M. Jin, "Design and modeling of finite and low-profile, ultra-wideband phased-array antennas," IEEE International Symposium on Phased Array Systems & Technology, Waltham, MA, Oct. 2010.

[268] R. Wang and J. M. Jin, "A hybrid field-circuit simulator based on the extended time-domain finite element method," 10th International Workshop on Finite Elements for Microwave Engineering, Meredith, NH, Oct. 2010.

[269] D. Riley, J. M. Jin, and N. Riley, "Efficient analysis of finite periodic structures based on ultra-wideband metamaterials," 10th International Workshop on Finite Elements for Microwave Engineering, Meredith, NH, Oct. 2010.

[270] S. Yan, J. M. Jin, and Z. Nie, "Accuracy improvement of the numerical solutions to the second-kind integral equations for electromagnetic scattering analysis," 27th International Review of Progress in Applied Computational Electromagnetics, Williamsburg, VA, March 27-31, 2011.

[271] J.-M. Jin, "Time-domain finite element analysis of electromagnetic radiation and scattering and microwave circuits," IEEE International Workshop on Antenna Technology, Hong Kong, March 7-9, 2011.

[272] S. Yan, J. M. Jin, and Z. Nie, "On the testing of the identity operator and the accuracy improvement of the second-kind SIEs," IEEE Antennas and Propagation Society International Symposium, Spokane, WA, July 2011.

[273] X. L. Li and J. M. Jin, "A comparative study of three finite element-based explicit numerical schemes for solving Maxwell's equations," IEEE Antennas and Propagation Society International Symposium, Spokane, WA, July 2011.

[274] M. F. Xue, J. M. Jin, S. Wong, C. Macon, and M. Kragalott, "Experimental validation of the FETI-DPEM algorithm for simulating phased-array antennas," IEEE Antennas and Propagation Society International Symposium, Spokane, WA, July 2011.

[275] S. Yan, J. M. Jin, and Z. Nie, "A higher-order Calderón preconditioner for the electric-field integral equation using the Nyström scheme," USNC/URSI National Radio Science Meeting, Spokane, WA, July 2011.

[276] J.-M. Jin, "On the challenges of numerical computation of electromagnetic scattering from a large, deep, and perfectly conducting open cavity," USNC/URSI National Radio Science Meeting, Spokane, WA, July 2011.

[277] X. L. Li, J. M. Jin, and J. L. Tan, "Three finite-element time-domain–based numerical algorithms for high-frequency broadband PCB simulations," 20th Conference on Electrical Performance of Electronic Packaging and Systems (EPEPS), San Jose, CA, Oct. 2011.

[278] J.-M. Jin, "On the development of hybrid finite element-boundary integral methods for electromagnetic analysis," 28th International Review of Progress in Applied Computational Electromagnetics, Columbus, OH, April 10-14, 2012.

[279] M. F. Xue and J. M. Jin, "FETI-DP methods for analysis of phased-array antennas," 28th International Review of Progress in Applied Computational Electromagnetics, Columbus, OH, April 10-14, 2012.

[280] W. Yao, J. M. Jin, and P. Krein, "Analysis of electromechanical problems using the dual-primal finite element tearing and interconnecting method," Power and Energy Conference in Illinois, Champaign, IL, February 24-25, 2012.

[281] X. L. Li and J. M. Jin, "On the physics, accuracy, and efficiency of the dual-field domain-decomposition method for time-domain electromagnetic simulation," 11th International Workshop on Finite Elements for Microwave Engineering, Estes Park, CO, June 2012.

[282] M. F. Xue and J. M. Jin, "Analysis of three-dimensional array structures using nonconformal and cement FETI-DP methods," 11th International Workshop on Finite Elements for Microwave Engineering, Estes Park, CO, June 2012.

[283] M. F. Xue and J. M. Jin, "Preliminary research on the discontinuous enrichment method based domain decomposition scheme for solving the three-dimensional vector curl-curl equation," 11th International Workshop on Finite Elements for Microwave Engineering, Estes Park, CO, June 2012.

[284] W. Yao and J. M. Jin, "Analysis of electromechanical devices using the dual-primal finite element tearing and interconnecting method incorporated with the LU recombination method," 11th International Workshop on Finite Elements for Microwave Engineering, Estes Park, CO, June 2012.

[285] W. Yao and J. M. Jin, "Application of tree-cotree splitting to the dual-primal finite element tearing and interconnecting method for solving low-frequency breakdown problems," 11th International Workshop on Finite Elements for Microwave Engineering, Estes Park, CO, June 2012.

[286] D. Nagle, J. Tan, and J. M. Jin, "Layout-Integrated Electromagnetic Interconnect Characterization and Simulation," 11th International Workshop on Finite Elements for Microwave Engineering, Estes Park, CO, June 2012.

[287] W. Yao and J. M. Jin, "Simulation of LWD tool response using the dual-primal finite element tearing and interconnecting method incorporated with tree-cotree splitting," IEEE Antennas and Propagation Society International Symposium, Chicago, IL, July 2012.

[288] W. Yao and J. M. Jin, "Application of the LU recombination method to the dual-primal finite element tearing and interconnecting method for solving low-frequency breakdown problems," USNC/URSI National Radio Science Meeting, Chicago, IL, July 2012.

[289] S. Yan, J. M. Jin, and Z. Nie, "Improve the accuracy of the second-kind integral equations for generally shaped objects," IEEE Antennas and Propagation Society International Symposium, Chicago, IL, July 2012.

[290] J. Guan, S. Yan, and J. M. Jin, "OpenMP-CUDA implementations of the moment method and multilevel fast multipole algorithm on multi-GPU computing systems," USNC/URSI National Radio Science Meeting, Chicago, IL, July 2012.

[291] M. F. Xue and J. M. Jin, "Application of a nonconformal FETI-DP method in antenna array simulations," IEEE Antennas and Propagation Society International Symposium, Chicago, IL, July 2012.

[292] M. F. Xue and J. M. Jin, "A discontinuous Galerkin method with Lagrange multipliers to solve vector electromagnetic problems in two dimensions," IEEE Antennas and Propagation Society International Symposium, Chicago, IL, July 2012.

[293] J. M. Jin, "Finite element analysis of antennas and phased arrays in the time domain," International Conference on Electromagnetics in Advanced Applications (ICEAA), Cape Town, South Africa, Sept. 2012.

[294] M. F. Xue and J. M. Jin, "Nonconformal FETI-DP methods for numerical analysis of large-scale electromagnetic problems," International Conference on Electromagnetics in Advanced Applications (ICEAA), Cape Town, South Africa, Sept. 2012.

[295] H. T. Meng, B. L. Nie, J. M. Jin, S. Wong, and C. Macon, "Application of the graphics processing unit to computational electromagnetics using the finite element method," DoD High Performance Computing Modernization Program 22nd Users Group Conference, New Orleans, LA, June 2012.

[296] X. Li and J. M. Jin, "An unconditionally stable finite-element time-domain layered domain-decomposition algorithm for simulating 3D high-speed circuits," 21th Conference on Electrical Performance of Electronic Packaging and Systems (EPEPS), Tempe, AZ, Oct. 2012.

[297] W. Yao, J. M. Jin, and P. Krein, "An efficient domain decomposition method for 3-D finite-element analysis of nonlinear electric machine problems," IEEE International Electric Machines and Drives Conference (IEMDC), Chicago, IL, May 2013.

[298] S. Yan and J. M. Jin, "A self-dual integral equation for solving EM scattering from PEC, PMC, and IBC objects," IEEE Antennas and Propagation Society International Symposium, Orlando, FL, July 2013.

[299] S. Yan, J. M. Jin, and Z. P. Nie, "Multilevel fast multipole algorithm for mixed combined-field integral equations," IEEE Antennas and Propagation Society International Symposium, Orlando, FL, July 2013.

[300] J. Ma, Z. P. Nie, and J. M. Jin, "A novel second-order transmission condition for a fast convergent non-conformal FEM-DDM at any frequencies," IEEE Antennas and Propagation Society International Symposium, Orlando, FL, July 2013.

[301] J. Ma, Z. P. Nie, and J. M. Jin, "A fast 3-D full-wave inverse method implemented within a domain decomposition framework," IEEE Antennas and Propagation Society International Symposium, Orlando, FL, July 2013.

[302] M. F. Xue and J. M. Jin, "A hybrid nonconformal FETI/conformal FETI-DP method for arbitrary nonoverlapping domain decomposition modeling," IEEE Antennas and Propagation Society International Symposium, Orlando, FL, July 2013.

[303] M. F. Xue and J. M. Jin, "A two-level nested FETI/FETI-DP domain decomposition method," USNC/URSI National Radio Science Meeting, Orlando, FL, July 2013.

[304] J. Guan, S. Yan, and J. M. Jin, "A CUDA implementation of the finite element-boundary integral method for electromagnetic scattering simulation," USNC/URSI National Radio Science Meeting, Orlando, FL, July 2013.

[305] S. Yan and J. M. Jin, "Analysis of nonlinear electromagnetic problems using time-domain finite element method," USNC/URSI National Radio Science Meeting, Orlando, FL, July 2013.

[306] B. M. Hochwald, D. J. Love, S. Yan, and J.-M. Jin, "SAR codes," Information Theory and Applications Workshop (ITA), San Diego, CA, Feb. 2013.

[307] T. J. Lu and J. M. Jin, "Electrical-thermal co-simulation for DC IR-drop analysis of large-scale integrated circuits," 22th Conference on Electrical Performance of Electronic Packaging and Systems (EPEPS), San Jose, CA, Oct. 2013.

[308] M. F. Xue and J. M. Jin, "Combining second-order transmission condition with Lagrange multiplier-based FETI-DP method," 30th International Review of Progress in Applied Computational Electromagnetics, Jacksonville, FL, March 2014.

[309] H. T. Meng and J. M. Jin, "Hybrid MPI-CUDA accelerated dual-field domain decomposition algorithm," 30th International Review of Progress in Applied Computational Electromagnetics, Jacksonville, FL, March 2014.

[310] K. D. Zhang and J. M. Jin, "Scattering analysis of large, complex objects with anisotropic impedance surfaces," 12th International Workshop on Finite Elements for Microwave Engineering, Chengdu, China, May 2014.

[311] M. F. Xue and J. M. Jin, "Nonconformal FETI-DP method combined with second-order transmission condition for large-scale electromagnetic analysis," 12th International Workshop on Finite Elements for Microwave Engineering, Chengdu, China, May 2014.

[312] J. Guan, S. Yan, and J. M. Jin, "A GPU-accelerated FE-BI-MLFMA for electromagnetic scattering simulation," 12th International Workshop on Finite Elements for Microwave Engineering, Chengdu, China, May 2014.

[313] S. Yan and J. M. Jin, "Nonlinear magnetic analysis using time-domain finite element method with a nonuniform time stepping," 12th International Workshop on Finite Elements for Microwave Engineering, Chengdu, China, May 2014.

[314] S. Yan and J. M. Jin, "Ferromagnetic hysteresis analysis using time-domain finite element method in three dimensions," 12th International Workshop on Finite Elements for Microwave Engineering, Chengdu, China, May 2014.

[315] Y. J. Zeng, Z. N. Chen, J. M. Jin, "Discontinuous Galerkin time-domain method for simulating the scattering from periodic metallic nanostructures," USNC/URSI National Radio Science Meeting, Memphis, TN, July 2014.

[316] S. Yan, J. Kotulski, C.-F. Wang, and J.-M. Jin, "A nonuniform time-stepping scheme for nonlinear electromagnetic analysis using time-domain finite element method," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

[317] S. Yan, C.-F. Wang, J. Kotulski, and J.-M. Jin, "Time-domain finite element analysis of ferromagnetic hysteresis in three dimensions," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

[318] H.-T. Meng, B.-L. Nie, S. Wong, C. Macon, and J. M. Jin, "Acceleration of the finite element method using hybrid OpenMP-CUDA," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

[319] J. Guan, S. Yan, and J. M. Jin, "A GPU-accelerated integral-equation solution for large-scale electromagnetic problems," USNC/URSI National Radio Science Meeting, Memphis, TN, July 2014.

[320] K. D. Zhang and J. M. Jin, "Fast and accurate analysis of scattering from anisotropic surface impedance objects," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

[321] K. D. Zhang, J. M. Jin, and P. H. Geubelle, "Multi-scale modeling of an aircraft coated with complex composite materials," USNC/URSI National Radio Science Meeting, Memphis, TN, July 2014.

[322] H.-T. Meng and J. M. Jin, "Acceleration of the dual-field domain decomposition algorithm using GPU clusters," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

[323] M. F. Xue and J. M. Jin, "A FETI-DP method enhanced with second-order transmission condition for antenna array analysis," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

[324] J. Guan, S. Yan, and J. M. Jin, "An FE-BI-MLFMA with GPU acceleration for electromagnetic scattering analysis," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

[325] M. F. Xue and J. M. Jin, "A Nonconformal FETI method with a reduced global interface system," IEEE International Symposium on Antennas and Propagation, Memphis, TN, July 2014.

[326] K. D. Zhang, S. Yan, and J. M. Jin, "Accurate and efficient simulation of scattering by large objects with anisotropic impedance surfaces," International Conference on Electromagnetics in Advanced Applications (ICEAA), Palm Beach, Aruba, Aug. 2014.

[327] M. F. Xue and J. M. Jin, "A preconditioned dual-primal finite element tearing and interconnecting method for solving 3D time-harmonic Maxwell's equations," International Conference on Electromagnetics in Advanced Applications (ICEAA), Palm Beach, Aruba, Aug. 2014.

[328] K. D. Zhang, A. R. Najafi, J.-M. Jin, and P. H. Geubelle, "An interface-enriched generalized finite-element method for efficient electromagnetic analysis of composite materials," 51st SES (Society of Engineering Science) Annual Technical Meeting, West Lafayette, Oct. 2014.

[329] K. D. Zhang, J.-M. Jin, and P. H. Geubelle, "Multiscale modeling of the radar signature of a composite aircraft," AIAA Science and Technology (SciTech) Forum 2015, Kissimmee, FL, Jan. 2015.

[330] T. J. Lu, J. M. Jin, and E. P. Li, "Multiphysics characterization of large-scale through-silicon-via structures," 31th International Review of Progress in Applied Computational Electromagnetics, Williamsburg, VA, March 2015.

[331] T. J. Lu and J. M. Jin, "Transient electrical-thermal co-simulation in the design of on-chip and 3-D interconnects," 31th International Review of Progress in Applied Computational Electromagnetics, Williamsburg, VA, March 2015.

[332] M. F. Xue and J. M. Jin, "Robust domain decomposition methods for modeling of large phased arrays," 31th International Review of Progress in Applied Computational Electromagnetics, Williamsburg, VA, March 2015.

[333] K. D. Zhang, A. R. Najafi, P. H. Geubelle, and J.-M. Jin, "A 2D interface-enriched generalized FEM for EM analysis of composite materials," IEEE International Symposium on Antennas and Propagation, Vancouver, Canada, July 2015.

[334] S. Yan and J. M. Jin, "Time-domain nonlinear finite element analysis of air breakdown using a simplified plasma model," IEEE International Symposium on Antennas and Propagation, Vancouver, Canada, July 2015.

[335] S. Yan and J. M. Jin, "Time-domain finite element modeling of nonlinear conductivity using Newton's method," IEEE International Symposium on Antennas and Propagation, Vancouver, Canada, July 2015.

[336] K. D. Zhang and J.-M. Jin, "Efficient parallelization of the FETI-DP algorithm for large-scale electromagnetic simulation," USNC/URSI National Radio Science Meeting, Vancouver, Canada, July 2015.

[337] K. D. Zhang, P. H. Geubelle, and J.-M. Jin, "A 3D interface-enriched generalized FEM for EM analysis of composite materials," IEEE International Symposium on Antennas and Propagation, Vancouver, Canada, July 2015.

[338] S. Yan and J. M. Jin, "A hybrid finite element-discontinuous Galerkin solver for analyzing electromagnetics-plasma interaction in four dimensions," USNC/URSI National Radio Science Meeting, Vancouver, Canada, July 2015.

[339] K. D. Zhang and J. M. Jin, "Parallel FETI-DP for efficient analysis of general objects and antenna arrays," International Conference on Electromagnetics in Advanced Applications (ICEAA), Torino, Italy, Sept. 2015.

[340] S. Yan and J. M. Jin, "Nonlinear finite element formulation and analysis of high-power air/dielectric breakdown in time domain," International Conference on Electromagnetics in Advanced Applications (ICEAA), Torino, Italy, Sept. 2015.

[341] T. J. Lu and J. M. Jin, "Electrical-thermal co-simulation for large-scale analysis of integrated circuits," IEEE MTT-S International Conference on Numerical Electromagnetic and Multiphysics Modeling and Optimization for RF, Microwave, and Terahertz Applications, Ottawa, Canada, Aug. 2015.

INVITED TALKS

1. "RF Coil/Field Analysis for Magnetic Resonance Imaging (MRI)," The 6th Annual Little Rock Workshop on Advances in MR Engineering, Robert Allerton Conference Center, University of Illinois, Urbana, IL, June 2, 1997.

2. "New Developments of Hybrid Finite Element Methods for Scattering and Radiation by Complex Targets," National Radio Science Meeting, Boulder, CO, Jan. 9-13, 1996.

3. "Hybridization in Computational Electromagnetics," Annual Conference of Electro-magnetic Code Consortium (EMCC), May 1998.

4. "Hybridization in Computational Electromagnetics," H-Infinity Meeting of the Defense Research Initiative Program, San Diego, CA, June 1998.

5. "Hybridization in Computational Electromagnetics," Southwest Jiaotong University, China, Aug. 1998.

6. "Hybridization in Computational Electromagnetics," (Plenary talk) International Conference on Microwave and Millimeter Wave Technology, Beijing, China, Aug. 1998.

7. "The Finite Element Method for Electromagnetic Field Computation," Workshop on Computational Electromagnetics in Magnetic Resonance, College Station, TX, June 1998.

8. "Finite Element Method and FFT Based Methods in CEM," 1998 Antenna Applications Symposium, Allerton Park, Monticello, IL, Sept. 1998.

9. "On the IE-AP Method," Mission Research Corporation, Dayton, OH, April 1999.

10. "Computational Electromagnetics for Antenna Modeling," Second H-Infinity Workshop of the Defense Research Initiative Program, Arlington, VA, June 1999.

11. "Computational Electromagnetics: A Brief Overview," Air Force Research Laboratory, Dayton, OH, Sept. 8, 1999.

12. "Higher-Order Methods for Computational Electromagnetics," Annual Conference of Electromagnetic Code Consortium (EMCC), St. Louis, MO, May 2000.

13. "Electromagnetic Analysis and Design in Magnetic Resonance Imaging,'' Medtronic, Minneapolis, Minnesota, May 2000.

14. "Fast Algorithms for Electromagnetic Modeling of Microstrip Problems," International Microwave Conference, Boston, June 2000.

15. "Fast Electromagnetic Modeling of Multilayer Microstrip Antennas and Circuits,'' (Plenary talk) 5th International Symposium on Antennas, Propagation, and EM Theory, Beijing, China, Aug. 2000.

16. "Fast Electromagnetic Modeling of Multilayer Microstrip Antennas and Circuits," Department of Electronic Engineering, City University of Hong Kong & MTT/AP/LEO Chapter, IEEE HK Section, Oct. 2000.

17. "Fast Algorithms for Electromagnetic Modeling of Microstrip Problems," Third H-Infinity Workshop of the Defense Research Initiative Program, Annapolis, VA, Oct. 2000.

18. "Higher-Order Methods for Computational Electromagnetics," Department of Electronic Engineering, City University of Hong Kong & MTT/AP/LEO Chapter, IEEE HK Section, March 28, 2001.

19. "Fast Electromagnetic Modeling of Multilayer Microstrip Antennas and Circuits," Department of Electronic Engineering, Chinese University of Hong Kong, May 2, 2001.

20. "Higher-Order Methods for Computational Electromagnetics," Anhui University, Hefei, China, May 10, 2001.

21. "Fast Electromagnetic Modeling of Multilayer Microstrip Antennas and Circuits," University of Science and Technology of China, May 11, 2001.

22. "A Novel Hybridization of Higher-Order Finite Element and Boundary Integral Methods for Electromagnetic Scattering and Radiation Problems," Annual Conference of Electromagnetic Code Consortium (EMCC), Kauai, Hawaii, May 28 – June 1, 2001.

23. "A Novel Hybridization of Higher-Order Finite Element and Boundary Integral Methods for Electromagnetic Scattering Problems," Air Force Institute of Technology, Dayton, Ohio, November 8, 2001.

24. "A Novel Hybridization of Higher-Order Finite Element and Boundary Integral Methods for Electromagnetic Scattering Problems," AFOSR Electromagnetics Workshop, San Antonio, TX, January 2002.

25. "Prediction of Radar Cross Section of Jet Engine Inlets," Annual Conference of Electromagnetic Code Consortium (EMCC), Albuquerque, New Mexico, May 2002.

26. "Finite Element Analysis of Electromagnetic Scattering and Radiation Problems in the Time Domain," Annual Conference of Electromagnetic Code Consortium (EMCC), Albuquerque, New Mexico, May 2002.

27. "The Fascinating World of Computational Electromagnetics," ECE Undergraduate seminar, University of Illinois, October 2002.

28. "The Finite Element Method for Computational Electromagnetics: Recent Progress, Current Status, and Future Directions," SIP/CEA/CEN Joint Forum--Use of High Performance Computing in Interdisciplinary Engineering, College Park, MD, November 6, 2002.

29. "Recent Advances in the Finite Element Method for Computational Electromagnetics," Institute of Mathematical Science, National University of Singapore, February 25, 2003.

30. "The Finite Element Method for Computational Electromagnetics: Recent Progress, Current Status, and Future Directions," Institute of Mathematical Science, National University of Singapore, February 27, 2003.

31. "Scattering Analysis of a Large Body with Deep Cavities," Annual Conference of Electromagnetic Code Consortium (EMCC), Hampton, Virginia, May 2003.

32. "A Fully High-Order Finite-Element Simulation of Scattering by Deep Cavities," Annual Conference of Electromagnetic Code Consortium (EMCC), Hampton, Virginia, May 2003.

33. "The Finite Element Method for Computational Electromagnetics: Recent Progress, Current Status, and Future Directions," Stanford University, September 2003.

34. "Finite Element Analysis of Electromagnetic Scattering and Radiation Problems in the Time Domain," AFRL, Kirtland AFB, Albuquerque, New Mexico, Feb. 2004.

35. "Computational Electromagnetics and Acoustics," PET Annual Tech Review, Austin, TX, March 2004.

36. "The Finite Element Method for Computational Electromagnetics: Recent Progress, Current Status, and Future Directions," Michigan State University, April 8, 2004.

37. "The Finite Element Method for Computational Electromagnetics: Recent Progress, Current Status, and Future Directions," Ohio State University, April 22, 2004.

38. "CEA PET Annual Technical Review: Accomplishments and Future Vision," Annual Conference of Electromagnetic Code Consortium (EMCC), Seattle, WA, May 2004.

39. "The Finite Element Method for Computational Electromagnetics: Recent Progress, Current Status, and Future Directions," Southeast University, August 27, 2004.

40. "The Fascinating World of Computational Electromagnetics," Nanjing University, August 31, 2004.

41. "The Fascinating World of Computational Electromagnetics," Peking University, November 23, 2004.

42. "The Finite Element Method for Computational Electromagnetics: Recent Progress, Current Status, and Future Directions," Peking University, November 24, 2004.

43. "Higher-Order Accurate Solutions of 3D Wave Scattering," Peking University, November 25, 2004.

44. "A Quantitative Study of Luneberg Lens Reflectors," UIUC ECE 590 Electromagnetics, Optics and Remote Sensing Seminar Series, January 2005.

45. "Computational Electromagnetics and Acoustics (CEA): KY4 Accomplishments and Future Vision," PET Annual Tech Review, Columbus, OH, March 2005.

46. "Electromagnetic Simulation of Antennas and Arrays with Accurate Modeling of Antenna Feeds and Feed Networks," Annual Conference of Electromagnetic Code Consortium (EMCC), Cincinnati, OH, May 2005.

47. "CEA PET Annual Technical Review: Serving DOD Users in Computational Electromagnetics and Acoustics," Annual Conference of Electromagnetic Code Consortium (EMCC), Cincinnati, OH, May 2005.

48. "The Finite Element Method for Computational Electromagnetics," Lockheed Martin Corporation, Sunnyvale, CA, November 2005.

49. "Development of Time-Domain Electromagnetic Simulation Techniques for Analysis of Broadband Antennas and Arrays," AFOSR Electromagnetics Workshop, San Antonio, TX, January 10-13, 2006.

50. "CEA PET Annual Technical Review: Serving DOD Users in Computational Electromagnetics and Acoustics," Annual Conference of Electromagnetic Code Consortium (EMCC), Tucson, AZ, May 2006.

51. "A Systematic Numerical Convergence Study of Typical Computational Electromagnetics Schemes," Annual Conference of Electromagnetic Code Consortium (EMCC), Tucson, AZ, May 2006.

52. "Time-Domain Finite Element Method for Analysis of Broadband Antennas and Arrays," Annual Conference of Electromagnetic Code Consortium (EMCC), Tucson, AZ, May 2006.

53. "Back to Reality: Solving Maxwell's Equations in the Time Domain Using the Finite Element Method," UIUC ECE 590 Electromagnetics, Optics and Remote Sensing Seminar Series, September 2006.

54. "A Fast Full-Wave Analysis of Large-Scale 3-D Photonic Crystal Problems Using the FETI-EM Method," SPAWAR, San Diego, November 30, 2006.

55. "A Fast Full-Wave Analysis of Large-Scale 3-D Photonic Crystal Problems Using the FETI-EM Method," University of New Mexico, December 1, 2006.

56. "A Fast Full-Wave Analysis of Large-Scale Phased-Array Antenna and Photonic Crystal Problems Using the FETI-EM Method," AFOSR Electromagnetics Workshop, San Antonio, TX, January 9-11, 2007.

57. "CEA PET Annual Technical Review: Serving DOD Users in Computational Electromagnetics and Acoustics," Annual Conference of Electromagnetic Code Consortium (EMCC), San Diego, CA, May 2007.

58. "A Fast Full-Wave Analysis of Large-Scale Phased-Array Antenna and Photonic Band-Gap Problems Using the FETI-EM Method," Annual Conference of Electromagnetic Code Consortium (EMCC), San Diego, CA, May 2007.

59. "A Highly Efficient Domain Decomposition Method for the Finite Element Computation of Electromagnetic Fields: Application to Large-Scale Phased-Array Antennas and Photonic Crystal Problems," IEEE AP/MTT Hong Kong Joint Chapter, City University of Hong Kong, January 18, 2008.

60. "Fast Time-Domain Computational Techniques and Their Applications in EMC," 2008 International Symposium on Electromagnetic Compatibility Technology, Wuhan, China, January 2008.

61. "Back to Reality: Solving Maxwell's Equations in the Time Domain Using the Finite Element Method," IEEE AP/MTT Hong Kong Joint Chapter, City University of Hong Kong, February 26, 2008.

62. "The Fascinating World of Computational Electromagnetics," University of Macau/IEEE Macau CAS/COM Joint-Chapter, February 28, 2008.

63. "Fast Time-Domain Computational Techniques and Their Applications in EMC," IEEE AP/MTT Hong Kong Joint Chapter, City University of Hong Kong, March 4, 2008.

64. "The Fascinating World of Computational Electromagnetics," University of Hong Kong, April 2, 2008.

65. "Electromagnetic Simulation of Large-Scale Photonic Crystal Problems," University of Hong Kong, April 16, 2008.

66. "A Highly Efficient Domain Decomposition Method for the Finite Element Computation of Electromagnetic Fields: Application to Large-Scale Phased-Array Antennas and Photonic Crystal Problems," Institute of High Performance Computing, Singapore, May 23, 2008.

67. "The Fascinating World of Computational Electromagnetics," Shanghai Jiao Tong University, Shanghai, China, June 6, 2008.

68. "Back to Reality: Solving Maxwell's Equations in the Time Domain Using the Finite Element Method," Shanghai Jiao Tong University, Shanghai, China, June 7, 2008.

69. "A Highly Efficient Domain Decomposition Method for the Finite Element Computation of Electromagnetic Fields: Application to Large-Scale Phased-Array Antennas and Photonic Crystal Problems," Zhejiang University, Hangzhou, China, June 7, 2008.

70. "The Fascinating World of Computational Electromagnetics," Beijing Institute of Technology, Beijing, June 12, 2008.

71. "Back to Reality: Solving Maxwell's Equations in the Time Domain Using the Finite Element Method," Beijing Institute of Technology, Beijing, June 18, 2008.

72. "Fast Time-Domain Computational Techniques and Their Applications in EMC," Beijing Institute of Technology, Beijing, June 19, 2008.

73. "A Highly Efficient Domain Decomposition Method for the Finite Element Computation of Electromagnetic Fields: Application to Large-Scale Phased-Array Antennas and Photonic Crystal Problems," Beijing Institute of Technology, Beijing, June 20, 2008.

74. "Finite Element Domain Decomposition Analysis of Large-Scale Electromagnetic Problems," Northrop Grumman, Los Angles, CA, November 11, 2008.

75. "Finite Element Analysis of Phased-Array Antennas," Global Chinese Microwave Summit, Hefei, China, November 16, 2008.

76. "Finite Element Analysis of Phased-Array Antennas," Southeast University, Nanjing, November 19, 2008.

77. "Incorporation of Feed-Network and Circuit Modeling into the Time-Domain Finite Element Analysis of Antennas and Phased Arrays," AFOSR Electromagnetics Workshop, San Antonio, TX, January 6-8, 2009.

78. "A Highly Efficient Domain Decomposition Method for the Finite Element Computation of Electromagnetic Fields: Application to Large-Scale Phased-Array Antennas and Photonic Crystal Problems," Michigan State University, East Lansing, MI, March 18, 2009.

79. "A Novel, Highly Efficient Domain Decomposition Technique for the Finite Element Computation of Electromagnetic Fields: Application to Large-Scale Phased-Array Antennas and Photonic Crystal Problems," University of Michigan, Ann Arbor, MI, April 22, 2009.

80. "Incorporation of Circuit and Lumped-Network Modeling into the Time-Domain Finite Element Analysis," Annual Conference of Electromagnetic Code Consortium (EMCC), Oklahoma City, OK, May 2009.

81. "25 Years of Progress and Future Challenges in Finite Element Methodologies and Applications," University of Electronic Science and Technology in China, Chengdu, China, August 11, 2009.

82. "A Dual-field Domain Decomposition Method for Time-Domain Finite Element Computation of Electromagnetic Fields," 19th International Conference on Domain Decomposition Methods, Zhanjiajie, Hunan, August 18, 2009.

83. "Novel, Highly Efficient Domain Decomposition Techniques for Solving Large-Scale Electromagnetic Problems," University of North Carolina, Charlotte, NC, Sept. 23, 2009.

84. "The Fascinating World of Computational Electromagnetics," North China Electric Power University, Beijing, April 17, 2010.

85. "Fast Time-Domain Computational Techniques and Their Applications in EMC," North China Electric Power University, Beijing, April 17, 2010.

86. "Recent Progress in Computational Electromagnetics with a Focus on the Finite Element and Boundary Element Methods," ECE 590I-CEME Tele-Seminar, University of Illinois, May 3 & 10, 2010.

87. "Novel, Highly Efficient Domain Decomposition Techniques for Finite Element Computation of Electromagnetic Fields," University of Texas, Austin, TX, May 14, 2010.

88. "25 Years of Progress and Future Challenges in Finite Element Methodologies and Applications," A-Star Institute of High Performance Computing/IEEE AP/MTT Singapore Chapter, Singapore, June 29, 2010.

89. "Fast Time-Domain Computational Techniques and Their Applications in EMC," A-Star Institute of High Performance Computing, Singapore, July 1, 2010.

90. "25 Years of Progress and Future Challenges in Finite Element Methodologies and Applications," Nanyang Technological University/IEEE AP/MTT Singapore Chapter, Singapore, July 2, 2010.

91. "Finite Element Analysis of Antennas and Phased Arrays in the Time Domain," 34th Annual Antenna Applications Symposium, Allerton Conference Center, Monticello, IL, September 22, 2010.

92. "Novel, Highly Efficient Domain Decomposition Techniques for Finite Element Computation of Electromagnetic Fields," University of Houston, Houston, TX, November 12, 2010.

93. "Prediction of Radar Cross Section of Jet Engine Inlets," LibertyWorks, Rolls-Royce North American Technologies Inc., Indianapolis, IN, December 7, 2010.

94. "Time-Domain Finite Element Analysis of Electromagnetic Radiation and Scattering and Microwave Circuits," 2011 IEEE International Workshop on Antenna Technology, Hong Kong, March 7-9, 2011.

95. "Finite Element Analysis of Antennas and Phased Arrays in the Time Domain," City University of Hong Kong, March 10, 2011.

96. "On the V&V of the FETI-EM for Simulating the NRL Dual-Polarized Vivaldi Phased Array," Annual Conference of Electromagnetic Code Consortium (EMCC), San Diego, CA, May 2011.

97. "Finite Element Analysis of Antennas and Phased Arrays in the Time Domain," International Workshop on Computational Electromagnetics, Chengdu, June 5, 2011.

98. "Novel, Highly Efficient Domain Decomposition Techniques for Finite Element Computation of Electromagnetic Fields," Nanjing University of Science and Technology, Nanjing, China, June 15, 2011.

99. "On the Challenges of Numerical Computation of Electromagnetic Scattering from a Large, Deep, and Perfectly Conducting Open Cavity," USNC/URSI National Radio Science Meeting, Spokane, WA, July 4, 2011.

100. "Fundamentals and Advances in Full-Wave Characterization of Interconnects for PCB Signal Integrity Applications," 20th Conference on Electrical Performance of Electronic Packaging and Systems (EPEPS), San Jose, CA, Oct. 2011 (Embedded Tutorial with D. Nagle and J. Tan).

101.   "Finite Element Analysis of Antennas and Phased Arrays in the Time Domain," A-Star Institute of High Performance Computing/IEEE AP/MTT Singapore Chapter, Singapore, January 13, 2012.

102.   "Time-Domain Finite Element Method for Electromagnetic Analysis" (Plenary talk), 28th International Review of Progress in Applied Computational Electromagnetics, Columbus, OH, April 10-14, 2012.

103.   "Recent Progress and Future Challenges in the Finite Element Method for Electromagnetic Analysis," Department of Information Science and Electronic Engineering, Zhejiang University, June 29, 2012.

104.   "Computational Electromagnetics: The Past, Present, and Future," Department of Information Science and Electronic Engineering, Zhejiang University, July 2, 2012.

105.   "Finite Element Analysis of Antennas and Phased Arrays in the Time Domain," Advanced Communication Center, Tel-Aviv University, Israel, July 30, 2012.

106.   "Domain Decomposition Methods for FEM Modeling of Large-Scale Phased Arrays," Advanced Communication Center, Tel-Aviv University, Israel, July 30, 2012.

107.   "Computational Electromagnetics: The Past, Present, and Future," Department of School of Computer Science and Technology, Zhejiang University, December 14, 2012.

108.   "From the Finite Element Method to the Discontinuous Galerkin Method," International Workshop on Electromagnetic Theory, Modeling and Simulations, Chengdu, June 8, 2013.

109.   "From the Finite Element Method to the Discontinuous Galerkin Method," International Forum on New-Wave of Computational Electromagnetics and Application to Advanced Microelectronics, Zhejiang University, Hangzhou, June 14, 2013.

110.   "Domain Decomposition Methods for the Finite Element Analysis of Large-Scale Electromagnetic Problems," 2013 ACES International Workshop on Computational Electromagnetics Methods and Applications, Harbin, China, November 19, 2013.

111.   "Computational Electromagnetics: The Past, Present, and Future," Institute of Electronics, Chinese Academy of Science, Beijing, China, November 22, 2013.

112.   "Domain Decomposition Methods for the Finite Element Analysis of Large-Scale Electromagnetic Problems," 30th International Review of Progress in Applied Computational Electromagnetics, Jacksonville, FL, March 2014.

113.   "Domain Decomposition Methods for the Finite Element Analysis of Large-Scale Electromagnetic Problems," International Forum on New-Wave of Computational Electromagnetics and Application to Advanced Microelectronics, Zhejiang University, Hangzhou, May 2014.

114.   "Domain Decomposition Methods for the Finite Element Analysis of Large-Scale Electromagnetic Problems," International Workshop on Electromechanical Coupling, Xidian University, Xi'an, May 2014.

115.   "Computational Electromagnetics: The Past, Present, and Future," Hunan University, Changsha, China, November 25, 2014.

116.   "Computational Electromagnetics: The Past, Present, and Future," Jiangsu Normal University, Xuzhou, China, January 14, 2015.

117.   "From FETD to DGTD for Computational Electromagnetics," 31st International Review of Progress in Applied Computational Electromagnetics, Williamsburg, VA, March 2015.

118.   "From FETD to DGTD for Computational Electromagnetics," Southeast University, Nanjing, China, May 12, 2015.

119.   "Domain Decomposition Methods for the Finite Element Analysis of Large-Scale Electromagnetic Problems," Nanjing University of Science and Technology, Nanjing, China, May 13, 2015.

120.   "Multi-Physics Modeling in Computational Electromagnetics: Challenges and Opportunities," International Workshop on Electromagnetic Theory, Modeling and Simulations, Chengdu, June 4, 2015.

121.   "Multi-Physics Modeling in Computational Electromagnetics: Challenges and Opportunities," Zhejiang University, Hangzhou, June 11, 2015.

122.   "The Finite Element Time-Domain Method for Computational Electromagnetics," International Workshop on Electromechanical Coupling, Xidian University, Xi'an, June 15, 2015.

123.   "Multi-Physics Modeling in Computational Electromagnetics: Challenges and Opportunities," (invited Speaker) IEEE MTT-S International Conference on Numerical Electromagnetic and Multiphysics Modeling and Optimization for RF, Microwave, and Terahertz Applications, Ottawa, Canada, August 11, 2015.

124.   "Multi-Physics Modeling in Computational Electromagnetics: Challenges and Opportunities," Computational Science and Engineering Seminar, University of Illinois at Urbana-Champaign, September 23, 2015.

Jian-Ming Jin Edit

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