

KYUNG-YOUNG JUNG

Associate Professor
Department of Electronic Engineering
College of Engineering
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RESEARCH TOPICS

- Research and development of wave propagation modeling for communication, sensing, and device applications in microwave and THz wave.
- Research on computational electromagnetics, plasmonic solar cells, nano electromagnetics, bio electromagnetics, high-power electromagnetics, antennas, and electromagnetic compatibility.

DEGREES

- **Doctor of Philosophy** The Ohio State University, Columbus, Ohio, USA Aug. 2008
Major: Electrical and Computer Engineering (**with the perfect GPA**)
Dissertation: Full-wave modeling and analysis of dispersion-engineered materials and plasmon waveguides.
Advisors: Dr. Fernando L. Teixeira / Dr. Ronald M. Reano
- **Master of Science** Hanyang University, Seoul, Korea Feb. 1998
Major: Electronic Communication Engineering (**with the perfect GPA**)
Thesis: Novel absorbing boundary conditions for the analysis of waveguide discontinuities using the finite-difference time-domain method.
Advisor: Dr. Hyeongdong Kim
- **Bachelor of Science** Hanyang University, Seoul, Korea Feb. 1996
Major: Radio Science and Engineering (**with the highest GPA**)
Thesis: Mode matching method for analysis of rectangular waveguide discontinuities.
Advisor: Dr. Hyeongdong Kim

POSITIONS

- **Associate Professor** Mar. 2016 – Present
Department of Electronic Engineering, Hanyang University, Seoul, Korea
- **Assistant Professor** Mar. 2011 – Feb. 2016
Department of Electronic Engineering, Hanyang University, Seoul, Korea
- **Tenure-Track Full-Time Lecturer** Mar. 2009 – Feb. 2011
Division of Electrical and Computer Engineering, Ajou University, Suwon, Korea
- **Post Doctoral Researcher** Oct. 2008 – Feb. 2009
ElectroScience Lab., The Ohio State University, Columbus, Ohio, USA

- **Graduate Presidential Fellow** Jan. 2008 – Aug. 2008
The Ohio State University, Columbus, Ohio, USA
- **Graduate Research Associate** Jan. 2006 – Dec. 2007
ElectroScience Lab., The Ohio State University, Columbus, Ohio, USA
- **Senior Member of Technical Staff** May 2001 – May 2004
R&D Lab., Pantech, Seoul, Korea
- **Member of Technical Staff** Jan. 1998 – Apr. 2001
R&D Lab., Hynix, Seoul, Korea
- **Graduate Research Assistant** Mar. 1995 – Dec. 1997
Microwave Engineering Lab., Hanyang University, Seoul, Korea

SELECTED HONORS & AWARDS

- **‘IEEE MTT Seoul Chapter’ Award**, FDTD Analysis of the Human Body in 5G mmWave band,
Winter Conf. of KIEES, Seoul, Korea Nov. 23, 2017
- **‘Excellence Paper’ Award**, EM Analysis of Ionosphere,
Winter Conf. of KIEES, Seoul, Korea Nov. 23, 2017
- **‘Excellence Paper’ Award**, Non-Foster Matching Circuit for Compact Patch GNSS Antennas,
Summer Conf. of KIEES, Seoul, Korea Aug. 25, 2017
- **‘Excellence Paper’ Award**, Micro-Doppler of Humans Using PO and FDTD Methods,
Winter Conf. of KIEES, Seoul, Korea Dec. 15, 2016
- **‘Excellence Paper’ Award**, EM Analysis of Collapsed Buildings,
Winter Conf. of KIEES, Seoul, Korea Dec. 15, 2016
- **‘Excellence Paper’ Award**, GNSS Antennas using Non-Foster Circuit,
Winter Conf. of KIEES, Seoul, Korea Dec. 15, 2016
- **‘Appreciation Plaque’ Award**, KIEES, Seoul, Korea Dec. 2, 2016
- **‘Excellence Paper’ Award, EM Paper Contest**, New FDTD dispersive algorithm,
Korea Communications Agency & KIEES, Seoul, Korea Nov. 27, 2015
- **‘Excellence Paper’ Award**, FDTD Modeling of Graphene,
Summer Conf. of KIEES, Seoul, Korea Aug. 20, 2015
- **‘Outstanding Researcher’ Award**, KIEES, Seoul, Korea Nov. 21, 2014
- **‘Best Paper’ Award**, Dispersive ADI-FDTD for Solar Cells,
Winter Conf. of KIEES, Seoul, Korea Nov. 21, 2014
- **‘Best Teacher’ Award**, Hanyang University, Seoul, Korea Nov. 7, 2014
- **‘Outstanding Teaching Professor’ Award**, Hanyang University, Seoul, Korea Jun. 21, 2013
- **Presidential Fellowship Award**, The Ohio State University, Columbus, Ohio, USA Dec. 14, 2007
- **URSI (International Union of Radio Science) Student Fellowship Grant Award**,
U.S. National Science Foundation (NSF) Nov. 15, 2007
- **URSI (International Union of Radio Science) Student Fellowship Grant Award**,
U.S. National Science Foundation (NSF) Apr. 9, 2007
- **Graduate Study Abroad Scholarship**, Korea Science and Engineering Foundation, Daejeon, Korea 2004

- **Graduate Student Fellowship**, Hynix, Seoul, Korea 1996 – 1997
- **Academic Excellence Award**, Hanyang University, Seoul, Korea Feb. 23, 1996
- **Academic Excellence Scholarship**, Hanyang University & SK Telecom, Seoul, Korea 1992 – 1995

PROFESSIONAL AFFILIATIONS

- **Life Member**, Korean Institute of Electromagnetic Engineering Society (KIEES)
Institute of Electronics and Information Engineering (IEIE)
- **Senior Member**, Institute of Electrical and Electronics Engineers (IEEE)
- **Member**, Institute of Electronics, Information, and Communication Engineers (IEICE), Phi Kappa Phi

SELECTED PROFESSIONAL ACTIVITIES (SERVICES)

- **President**, ECE Korean Graduate Student Association, The Ohio State University (2006 – 2007)
- **Member of board of directors**, Public Relations, IEIE (2012)
General Affairs, KIEES (2013)
Planning, KIEES (2014)
Academy, KIEES (2015-2016)
International Journal, KIEES (2017)
Academy, KIEES (2018)
International Affairs, Korea Institute of Electronic Communication Society (KIECS), (2016-present)
- **Associate editor**, IEICE Trans. Communications (2015-present)
- **Editorial member**, Journal of Korean Institute of Electromagnetic Engineering Society (2012-present)
Journal of Electromagnetic Engineering and Science (2012-present)
Journal of Korea Institute of Electronic Communication Society (2016-present)
- **Treasurer**, IEEE AP-S Seoul Chapter (2014,2018)
- **Secretary**, Antenna and Propagation Research Association, KIEES (2011-present)
IEEE AP-S Seoul Chapter (2015-present)
- **Technical program committee chair**, Summer Conference, KIEES (2015)
Winter Conference, KIEES (2015)
Summer Conference, KIEES (2016)
- **Technical program committee vice- chair**, 2018 International Symposium on Antennas and Propagation
- **Technical program committee member**, Workshops on Computational Electromagnetics, KIEES (2011-present)
Antenna Technology Workshop, KIEES (2011-present)
Winter Conference, KIEES (2012)
- **Local arrangement chair**, 2015 International Workshop on Antenna Technology (iWAT)
- **Review committee chair**, 2013 Asia-Pacific Microwave Conference (APMC)
- **Journal paper reviewer**,
Indian Journal of Physics
Electronics Letters (EL)

Energies
 ETRI Journal
 IEEE Trans. Antennas and Propagation (AP)
 IEEE Trans. Components, Packaging and Manufacturing Technology (CPMT)
 IEEE Microwave Wireless Components Letters (MWCL)
 IEEE Antennas and Wireless Propagation Letters (AWPL)
 IEEE Photonics Technology Letters (PTL)
 IET Microwaves, Antennas & Propagation (MAP)
 IEICE Trans. Communications
 IEICE Trans. Communications Express (ComEX)
 Indian Journal of Physics
 International Journal of Concrete Structures and Materials (IJCS)
 International Journal of Electronics Letters (IJEL)
 International Journal of Numerical Modeling (IJNM)
 International Journal of RF and Microwave Computer-Aided Engineering
 Journal of Computational Physics (JCP)
 Journal of Electromagnetic Waves and Applications (JEMWA)
 Journal of Electromagnetic Engineering and Science (JEES)
 Journal of Lightwave Technology (JLT)
 Journal of Microwaves, Optoelectronics and Electromagnetic Applications
 Journal of Modern Optics (JMO)
 Journal of Electrical Engineering & Technology (JEET)
 Journal of Electromagnetic Engineering & Science (JEES)
 Journal of KIEES
 Journal of IEIE
 Journal of Korea Army Academy
 Optica Applicata (OA)
 Optics Express (OE)
 Optics Letters (OL)
 Progress in Electromagnetic Research (PIER)
 Scientific Reports
 Textile Research Journal

▪ **Conference paper reviewer,**

2006 International Conference on Ground Penetrating Radar (ICGPR)
 2010 International Conference on Ultra-Wideband (ICUWB)
 2011 International Symposium on Antennas and Propagation (ISAP)
 2012 International Symposium on Antennas and Propagation (ISAP)
 2013 Asia-Pacific Microwave Conference (APMC)
 2015 International Workshop on Antenna Technology (IWAT)
 2015 European Conference on Antennas and Propagation (EuCap)
 2016 International Workshop on Antenna Technology (iWAT)
 2016 URSI Asia-Pacific Radio Science Conference (AP-RASC)
 2017 European Conference on Antennas and Propagation (EuCAP)
 2017 International Conference on Green and Human Information Technology (ICGHIT)
 2017 International Workshop on Antenna Technology (IWAT)
 2018 International Workshop on Environment and Geoscience (IWEG)
 2018 International Applied Computational Electromagnetics Society (ACES) Symposium

GRANTS

- **New Faculty Research Fund, Ajou University**, *Time domain electromagnetic analysis of metamaterials*, Apr. 2009 – Mar. 2011 (PI).
- **Basic Science Research Program, National Research Foundation of Korea**, *A research on design of plasmonic structures for the enhancement in the efficiency of solar cells*, May 2010 – Apr. 2012 (PI).
- **Undergraduate Research Program, Radio Education and Research Center**, *Applied electromagnetic technologies*, Jul. 2010 – Aug. 2010 (PI).
- **New Faculty Research Fund, Hanyang University**, *Development of a fast algorithm for the analysis of plasmonic structures*, Apr. 2011 – Mar. 2012 (PI).
- **Communication Technology Research Program, Korea Communications Agency (KCA)**, *Research on key technologies of antennas for medical applications*, Mar. 2011 – Feb. 2014.
- **Contract Research, National Security Research Institute**, *Research on electromagnetic analysis of radiated and conduced coupling into a building on ground*, Mar. 2012 – Oct. 2012 (PI).
- **Basic Science Research Program, National Research Foundation of Korea**, *Development of high-performance plasmonic organic solar cells using the numerical modeling of electromagnetic wave and carrier transport*, May 2012 – Apr. 2015 (PI).
- **Outstanding New Faculty Research Fund, Hanyang University**, *Electromagnetic modeling of building structures*, Jun. 2012 – May 2013 (PI).
- **Contract Research, National Security Research Institute**, *Research on fast computational electromagnetics based on parallel processing*, Mar. 2013 – Oct. 2013 (PI).
- **HPC Research Support Program, KISTI Supercomputing Center**, *Electromagnetic analysis of electrically large structures using parallel-processing FDTD algorithms*, Apr. 2014 – Mar. 2015 (PI).
- **BK21 Plus, National Research Foundation of Korea**, *Fusion IT Education Program for Future Innovation Leaders*, Mar. 2014 – Feb. 2018.
- **Contract Research, Agency for Defense Development (ADD)**, *Analysis of electromagnetic coupling signals of cables exposed to external pulses*, Aug. 2014 – Dec. 2016 (PI).
- **Basic Science Research Program, National Research Foundation of Korea**, *Electromagnetic analysis of humans in the THz band and its application to high-resolution imaging of humans*, Nov. 2014 – Apr. 2017 (PI).
- **Innovative and Challenging Basic Research Program, Civil Military Technology Cooperation Center**, *Development of the miniaturization technique for anti-jamming GPS antenna array using dielectric/magnetic materials and meta structure/active matching*, Dec. 2014 – Dec. 2017.
- **Defense Specialized University Research Center, Agency for Defense Development (ADD)**, *Study on technique for collecting signal intelligence in satellite*, Oct. 2015 – Sep. 2020.
- **Contract Research, Hyundai Heavy Industries**, *Research on the localization of partial discharge inside a transformer using electromagnetic analysis*, Feb. 2016 – Nov. 2016.
- **Contract Research, Electronics and Telecommunications Research Institute (ETRI)**, *Development of a tool kit for dynamic electromagnetic model of vehicle drivers*, Apr. 2016 (PI).
- **Radio Research Center, Institute for Information & Communications Technology Promotions (IITP)**, *Development of clouding-computing-based SW platform for the RF design and EM analysis*, Apr. 2016 – Dec. 2018.
- **Contract Research, Electronics and Telecommunications Research Institute (ETRI)**, *Basic research on electromagnetic wave propagation of collapsed building debris*, May 2016 – Nov. 2016 (PI).

- **Contract Research, Electronics and Telecommunications Research Institute (ETRI),** *Analysis and database development of electromagnetic wave characteristics of collapsed building debris*, May 2017 – Nov. 2017 (PI).
- **Basic Science Research Program, National Research Foundation of Korea,** *Electromagnetic modeling of graphene and its application*, Jun. 2017 – May 2020 (PI).
- **Contract Research, Electronics and Telecommunications Research Institute (ETRI),** *Compact micro-Doppler antennas for nearfield sensing*, Apr. 2018 – Nov. 2018 (PI).
- **Contract Research, LG Electronics,** *Basic research on two-way coupling modeling of electromagnetic wave analysis and thermal analysis*, Jun. 2018 – Nov. 2018 (PI).
- **Industry-University Cooperation Technology Development Program, Ministry of SMEs and Startups,** *Development of an ultrasensitive candid-camera detector using sensing horizontal frequencies of video signals*, Jun. 2018 – May 2019.

PUBLICATIONS

International Journal Articles

1. J. Lee, J. Cho, S.-G. Ha, H. Choo, and K.-Y. Jung, “Design of a compact antenna array for satellite navigation system using hybrid matching network,” *Journal of Electrical Engineering and Technology*, vol. 13, no. 5, pp. 2033-2037, Sep. 2018.
2. K. Kyeol, D. Kim, Y. Choi, J. Cho, and K.-Y. Jung, Numerical study of electromagnetic wave propagation in a collapsed building for rescue radar applications,” *ETRI Journal*, vol. 40, no. 4, pp. 546-553, Aug. 2018.
3. J.-H. Kweon, J. Cho, M.-S. Park, and K.-Y. Jung, “FDTD analysis of electromagnetic wave propagation in inhomogeneous ionosphere,” *Journal of Electromagnetic Engineering and Science*, vol. 18, no. 3, pp. 212-214, Jul. 2018.
4. S.-G. Ha, J. Cho, J. Lee, B.-W. Min, J. Choi, and K.-Y. Jung, “Numerical study of estimating the arrival time of UHF signals for partial discharge localization in a power transformer,” *Journal of Electromagnetic Engineering and Science*, vol. 18, no. 2, pp. 94-100, Apr. 2018.
5. K. Kang, K.-Y. Jung, and S. W. Nam, “Passive-filter-configuration-based reduction of up-to-several-hundred-MHz EMI noises in H-bridge PWM micro-stepping driver circuits,” *IEICE Trans. Electronics*, vol. E101-C, no. 2, pp. 104-111, Feb. 2018.
6. J. Lee, J. Cho, J. Choi, H. Choo, and K.-Y. Jung, “Design of a miniaturized spiral antenna for partial discharge detection system,” *Microwave and Optical Technology Letters*, vol. 60, no. 1, pp. 75-78, Jan. 2018.
7. S.-G. Ha, J. Cho, and K.-Y. Jung, “Transient analysis of anisotropic dielectrics and ferromagnetic materials based on unconditionally stable perfectly-matched-layer (PML) complex-envelope (CE) finite-difference time-domain (FDTD) method,” *IEICE Trans. Communications*, vol. E100-B, no. 10, pp. 1879-1883, Oct. 2017.
8. T. G. Kim, D. S. Shin, K.-Y. Jung, A. Kadam, and J. Park, “Improving light extraction in light-emitting diodes using zinc-tin-oxide layers,” *Journal of Alloys and Compounds*, vol. 710, no. 5, pp. 399-402, Jul. 2017.

9. S.-G. Ha, J. Cho, and K.-Y. Jung, "Design of miniaturized microstrip patch antennas using non-Foster circuits for compact controlled reception pattern antenna (CRPA) array," *Journal of Electromagnetic Engineering and Science*, vol. 17, no. 2, pp. 108-110, Apr. 2017.
10. H. Chung, C. Zhou, X. T. Lee, K.-Y. Jung, and P. Bermel, "Hybrid dielectric light trapping designs for thin-film CdZnTe/Si tandem cells," *Optics Express*, vol. 24, no. 14, pp. A1008-A1020, Jul. 2016.
11. J. Cho, H. Kim, and K.-Y. Jung, "Simple transmission line model suitable for the electromagnetic pulse coupling analysis of twisted-wire pairs above ground," *IEICE Electronics Express*, vol. 13, no. 7, pp. 1-6, Apr. 2016.
12. S.-M. Park, E.-K. Kim, Y. B. Park, S. Ju, and K.-Y. Jung, "Parallel dispersive FDTD method based on the quadratic complex rational function," *IEEE Antennas and Wireless Propagation Letters*, vol. 15, pp. 425-428, Feb. 2016.
13. H. H. Park, C. Hwang, K.-Y. Jung, and Y. B. Park, "Mode matching analysis of via-plate capacitance in multilayer structures with finite plate thickness," *IEEE Trans. Electromagnetic Compatibility*, vol. 57, no. 5, pp. 1188-1196, Oct. 2015.
14. S.-G. Ha, J. Cho, E.-K. Kim, Y. B. Park, and K.-Y. Jung, "FDTD dispersive modeling with high-order rational constitutive parameters," *IEEE Trans. Antennas and Propagation*, vol. 63, no. 9, pp. 4233-4238, Sep. 2015.
15. H. Chung, K.-Y. Jung, and P. Bermel, "Flexible flux plane simulations of parasitic absorption in nanoplasmonic thin-film silicon solar cells," *Optical Materials Express*, vol. 5, no. 9, pp. 2054-2068, Sep. 2015.
16. S. Yeon, T. Son, D. S. Shin, K.-Y. Jung, and J. Park, "Enhancement of device performances in GaN-based light-emitting diodes using nano-sized surface pit," *Journal of Nanoscience and Nanotechnology*, vol. 15, no. 7, pp. 5211-5214, Jul. 2015.
17. H. Chung, S.-G. Ha, J. Choi, and K.-Y. Jung, "Accurate FDTD modelling for dispersive media using rational function and particle swarm optimization," *International Journal of Electronics*, vol. 102, no. 7, pp. 1218-1228, Jul. 2015.
18. D. Y. Na, K.-Y. Jung, and Y. B. Park, "Transmission through an annular aperture surrounded with corrugations in a PEC plane" *IEEE Antennas and Wireless Propagation Letters*, vol. 14, pp. 179-182, Feb. 2015.
19. E.-K. Kim, S.-G. Ha, J. Lee, Y. B. Park, and K.-Y. Jung, "Three-dimensional efficient dispersive alternating-direction-implicit finite-difference time-domain algorithm using a quadratic complex rational function," *Optics Express*, vol. 23, no. 2, pp. 873-881, Jan. 2015.
20. J. Cho, S.-G. Ha, Y. B. Park, H. Kim, and K.-Y. Jung, "On the numerical stability of finite-difference time-domain for wave propagation in dispersive media using quadratic complex rational function," *Electromagnetics*, vol. 34, no. 8, pp. 625-632, Oct. 2014.
21. K.-Y. Jung, W.-J. Woon, Y. B. Park, P. Berger, and F. L. Teixeira, "Broadband finite-difference time-domain modeling of plasmonic organic photovoltaics," *ETRI Journal*, vol. 36, no. 4, pp. 654-661, Aug. 2014.
22. K.-Y. Jung, "On the numerical accuracy of finite-difference time-domain dispersive modeling based on a complex quadratic rational function," *Electromagnetics*, vol. 34, no. 5, pp. 380-391, Jun. 2014.
23. H. Chung, K.-Y. Jung, X. T. Tee, and P. Bermel, "Time domain simulation of tandem silicon solar cells with optimal textured light trapping enabled by the quadratic complex rational function," *Optics Express*, vol. 22, no. S3, pp. A818-A832, Apr. 2014.

24. D. Y. Na, J. H. Kim, K.-Y. Jung, and Y. B. Park, "Mode-matching analysis of a coaxially fed annular slot surrounded with corrugations," *Electromagnetics*, vol. 34, no. 2, pp. 92-110, Feb. 2014.
25. D. Y. Na, J. H. Kim, Y. B. Park, and K.-Y. Jung, "Extraordinary electromagnetic transmission through a circular aperture surrounded by surface corrugations," *IET Microwaves, Antennas and Propagation*, vol. 8, no. 3, pp. 145-157, Feb. 2014.
26. D. Y. Na, J. H. Kim, Y. B. Park, and K.-Y. Jung, "Enhanced electromagnetic transmission through a slit surrounded by rectangular grooves," *International Journal of Electronics*, vol. 101, no. 2, pp. 174-181, Jan. 2014.
27. H. Chung, J. Cho, S.-G. Ha, S. Ju, and K.-Y. Jung, "Accurate FDTD dispersive modeling for concrete materials," *ETRI Journal*, vol. 35, no. 5, pp. 915-918, Oct. 2013.
28. D. Y. Na, J. H. Kim, Y. B. Park, and K.-Y. Jung, "Enhanced transmission through a circular aperture surrounded by concentric surface corrugations in a conducting plane," *Electromagnetics*, vol. 33, no. 7, pp. 526-542, Sept. 2013.
29. T. Son, K.-Y. Jung, and J. Park, "Enhancement of the light extraction of GaN-based green light emitting diodes via nanohybrid structures," *Current Applied Physics*, vol. 13, no. 6, pp. 1042-1045, Aug. 2013.
30. D. Y. Na, J. H. Kim, Y. B. Park, and K.-Y. Jung, "Enhanced and directional transmission through a slit surrounded with grooves in a conducting planes," *IET Microwaves, Antennas and Propagation*, vol. 7, no. 10, pp. 843-850, Jul. 2013.
31. H. Choi, K.-Y. Jung, and H. Kim, "Ground antenna for GPS using lumped elements," *International Journal of Electronics Letters*, vol. 1, no. 1, pp. 1-8, Jul. 2013.
32. Y. Liu, J. Lee, S. Jeon, K.-Y. Jung, H. Kim, and H. Kim, "Miniaturization of dual-band PIFA for wireless LAN communication," *ETRI Journal*, vol. 35, no. 3, pp. 530-533, Jun. 2013.
33. D. Y. Na, J. H. Kim, Y. B. Park, and K.-Y. Jung, "Directional emission from a slit surrounded by rectangular grooves on the exit surface in a conducting plane," *Electromagnetics*, vol. 33, no. 4, pp. 271-280, May 2013.
34. S.-G. Ha, J. Cho, J. Choi, H. Kim, and K.-Y. Jung, "FDTD dispersive modeling of human tissues based on quadratic complex rational function," *IEEE Trans. Antennas and Propagation*, vol. 61, no. 2, pp. 996-999, Feb. 2013.
35. H. Choi, K.-Y. Jung, and H. Kim, "Miniaturized antenna with high efficiency using ground and chip capacitors," *IEICE Trans. Communications*, vol. E95-B, no. 10, pp. 3328-3331, Oct. 2012.
36. X. Zhao, Y. Lee, K.-Y. Jung, and J. Choi, "Design of a metamaterial-inspired size-reduced wideband loop antenna with frequency scanning characteristic," *IET Microwave, Antenna and Propagation*, vol. 6, no. 11, pp.1227-1235, Aug. 2012.
37. Y. B. Park, G. H. Park, H. Y. Park, and K.-Y. Jung, "Capacitance of coplanar waveguides in multilayer dielectric substrates," *Microwave and Optical Technology Letters*, vol. 54, no. 8, pp.1886-1889, Aug. 2012.
38. Y. Liu, J. Lee, K.-Y. Jung, and H. Kim, "Dual-band PIFA using resonated loop feed structure," *Electronics Letters*, vol. 48, no. 6, pp. 309-310, Mar. 2012.
39. K.-Y. Jung, S. Ju, and F. L. Teixeira, "Application of the modal CFS-PML-FDTD to the analysis of magnetic photonic crystal waveguides," *IEEE Microwave and Wireless Components Letters*, vol. 21, no. 4, pp. 179-181, Apr. 2011.
40. Y. Liu, X. Lu, H. Jang, H. Choi, K.-Y. Jung, and H. Kim, "Loop-type ground antenna using resonated loop feeding, intended for mobile devices," *Electronics Letters*, vol. 47, no. 7, pp. 426-427, Mar. 2011.

41. K.-Y. Jung, S. Ju, and F. L. Teixeira, "Two-stage perfectly matched layer for the analysis of plasmonic structures," *IEICE Trans. Electronics*, vol. E93-C, no. 8, pp. 1371-1374, Aug. 2010.
42. W.-J. Yoon, K.-Y. Jung, J. Liu, T. Duraisamy, R. Revur, F. L. Teixeira, S. Sengupta, and P. R. Berger, "Plasmon-enhanced optical absorption and photocurrent in organic bulk heterojunction photovoltaic devices using self-assembled layer of silver nanoparticles," *Solar Energy Materials and Solar Cells*, vol. 94, no. 2, pp. 128-132, Feb. 2010.
43. V. E. do Nascimento, K.-Y. Jung, B.-H. V. Borges, and F. L. Teixeira, "A study of unconditionally stable FDTD methods for the modeling of metamaterials," *Journal of Lightwave Technology*, vol. 27, no. 19, pp. 4241-4249, Oct. 2009.
44. K.-Y. Jung, F. L. Teixeira, and R. M. Reano, "Surface plasmon coplanar waveguides: Mode characteristics and mode conversion losses," *IEEE Photonics Technology Letters*, vol. 21, no. 10, pp. 630-632, May 2009.
45. K.-Y. Jung, F. L. Teixeira, S. G. Garcia, and R. Lee, "On numerical artifacts of the complex envelope ADI-FDTD method," *IEEE Trans. Antennas and Propagation*, vol. 57, no. 2, pp. 491-498, Feb. 2009.
46. K.-Y. Jung and F. L. Teixeira, "Numerical study of photonic crystals with a split band edge: Polarization dependence and sensitivity analysis," *Physical Review A*, vol. 78, pp. 043826(1)-043826(7), Oct. 2008.
47. K.-Y. Jung and F. L. Teixeira, "Photonic crystals with a degenerate band edge: Field enhancement effects and sensitivity analysis," *Physical Review B*, vol. 77, pp. 125108(1)-125108(9), Mar. 2008.
48. K.-Y. Jung and F. L. Teixeira, "An iterative unconditionally stable LOD-FDTD method," *IEEE Microwave and Wireless Components Letters*, vol. 18, no. 2, pp. 76-78, Feb. 2008.
49. K.-Y. Jung, F. L. Teixeira, and R. Lee, "Complex envelope PML-ADI-FDTD method for lossy anisotropic dielectrics," *IEEE Antennas and Wireless Propagation Letters*, vol. 6, pp. 643-646, 2007.
50. R. Chilton, K.-Y. Jung, R. Lee, and F. L. Teixeira, "Frozen modes in parallel-plate waveguides loaded with magnetic photonic crystals," *IEEE Trans. Microwave Theory and Techniques*, vol. 55, no. 12, pp. 2631-2641, Dec. 2007.
51. K.-Y. Jung, F. L. Teixeira, and R. M. Reano, "Au/SiO₂ nanoring plasmon waveguides at optical communication band," *Journal of Lightwave Technology*, vol. 25, no. 9, pp. 2757-2765, Sep. 2007.
52. K.-Y. Jung and F. L. Teixeira, "Multispecies ADI-FDTD algorithm for nanoscale three-dimensional photonic metallic structures," *IEEE Photonics Technology Letters*, vol. 19, no. 8, pp. 586-588, Apr. 2007.
53. K.-Y. Jung, B. Donderici, and F. L. Teixeira, "Transient analysis of spectrally asymmetric magnetic photonic crystals with ferromagnetic losses," *Physical Review B*, vol. 74, pp. 165207(1)-165207(11), Oct. 2006.
54. S. Ju, K.-Y. Jung, and H. Kim, "Investigation on the characteristics of the envelope FDTD based on the alternating direction implicit scheme," *IEEE Microwave and Wireless Components Letters*, vol. 13, no. 9, pp. 414-416, Sep. 2003.
55. K.-Y. Jung, S. Ju, and H. Kim, "A finite-difference time-domain approach to waveguide discontinuities using one-dimensional modal PML based on diagonally anisotropic material," *International Journal of RF and Microwave Computer-Aided Engineering*, vol. 10, no. 4, pp. 264-270, Jul. 2000.
56. K.-Y. Jung and H. Kim, "An efficient formulation of a 1-D modal PML for waveguide structures," *Microwave and Optical Technology Letters*, vol. 21, no. 1, pp. 48-51, Apr. 1999.
57. K.-Y. Jung, H. Kim, and K. Ko, "Modified perfectly matched layer (PML) for waveguide problems," *Microwave and Optical Technology Letters*, vol. 18, no. 5, pp. 360-362, Aug. 1998.

58. K.-Y. Jung, H. Kim, and K. Ko, "An improved unimodal absorbing boundary condition for waveguide problems," *IEEE Microwave and Guided Wave Letters*, vol. 7, no. 11, pp. 368-370, Nov. 1997.

Domestic Journal Articles

1. J. Cho and K.-Y. Jung, "FDTD-based electromagnetic analysis method," *Proceeding of Korean Institute of Electromagnetic Engineering and Science*, vol. 26, no. 6, pp. 20-33, Nov. 2017.
2. I. Koh, E. Lee, Y. B. Park, K.-Y. Jung, J. Yook, Y. Chung, J. Chung, T. Ha, H. Choo, "Systematic construction of collective intelligence for EM design," *Proceeding of Korean Institute of Electromagnetic Engineering and Science*, vol. 26, no. 6, pp. 40-47, Nov. 2017.
3. S.-G. Ha and K.-Y. Jung, "Non-Foster matching circuit for wideband anti-jamming small GPS antennas," *Journal of Korean Institute of Electromagnetic Engineering and Science*, vol. 27, no. 12, pp. 1112-1115, Dec. 2016.
4. J. Cho, J. Lee, H.-S. Tae, and K.-Y. Jung, "Research on the electromagnetic analysis method of indirect effects on a high-conductive structure exposed by lightning," *Journal of Korean Institute of Electromagnetic Engineering and Science*, vol. 27, no. 11, pp. 1012-1018, Nov. 2016.
5. D. Park, S. Ahn, S.-G. Ha, and K.-Y. Jung, "Electromagnetic wave analysis for human body in 0.1 THz band," *Transaction of The Research Institute of Electrical and Computer Engineering*, vol. 15, no. 31, pp. 91-95, Dec. 2015.
6. S. Park, K.-U. Chu, S. Ju, Y.-M. Park, K.-B. Kim, and K.-Y. Jung, "Construction of a CPU cluster and implementation of a 3-D domain decomposition parallel FDTD algorithm," *Journal of Korean Institute of Electromagnetic Engineering and Science*, vol. 25, no. 3, pp. 357-364, Mar. 2014.
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