

SHOUHEI KIDERA

Full Professor
Graduate School of Informatics and Engineering
The University of Electro-Communications
1-5-1 Chofugaoka Chofu-shi, Tokyo, 1828585, Japan

Phone: +81-42-443-5186
Fax: +81 42-443-5186
Email: kidera@uec.ac.jp
URL: http://www.ems.cei.uec.ac.jp/kidera/index_e.html

Curriculum Vitae

Education

Sep. 2007	Ph.D in Informatics <i>Graduate School of Informatics, Kyoto University, Kyoto, Japan</i> “High Performance 3-D Imaging Algorithm for UWB Pulse Radars” Main Advisor : Prof. Toru Sato (Kyoto University), Advisors : Prof. Takashi Matsuyama (Kyoto University) and Prof. Tetsuya Matsuda (Kyoto University)
Mar. 2005	Master degree in Informatics <i>Graduate School of Informatics, Kyoto University, Kyoto, Japan</i> “Development of High-Resolution Imaging Algorithm Based on Waveform Estimation for UWB Pulse Radar Systems” Main Advisor : Prof. Toru Sato (Kyoto University)
Mar. 2003	Bachelor degree in Electric and Electronic Engineering, <i>Faculty of Electric and Electronic Engineering, Kyoto University</i> “Development of Accurate Imaging Algorithm for UWB Pulse Radar System” Main Advisor : Prof. Toru Sato (Kyoto University)

Professional Experience

Apr. 2023 – present.	Full Professor, Graduate School of Informatics and Engineering, The University of Electro-Communications
Oct. 2017 – Mar. 2021.	JST PRESTO Researcher (Additional post), Japan Science and Technology Agency
Apr. 2016 – Sep. 2016.	Visiting Researcher, University of Wisconsin Madison (with Lab by Prof. Susan.C. Hagness)
Sep. 2014 – Mar. 2023.	Associate Professor, Graduate School of Informatics and Engineering, The University of Electro-Communications
Apr. 2010 – Aug. 2014.	Assistant Professor, Graduate School of Informatics and Engineering, The University of Electro-Communications
Apr. 2009 – Mar. 2010.	Assistant Professor, Graduate School of Electro-Communications, The University of Electro-Communications
Oct. 2007 – Mar. 2009.	JSPS Postdoctoral Fellow, Graduate School of Informatics, Kyoto University
Apr. 2007 – Sep. 2007.	JSPS Doctoral Fellow, Graduate School of Informatics, Kyoto University
Apr. 2005 – Mar. 2007.	Research Associate, Graduate School of Informatics, Kyoto University The 21th Century COE (Center Of Excellence) Program

Current Research Interests

- Microwave imaging
- Advanced radar signal or image processing
- Electromagnetic inverse scattering analysis
- Ultra-wideband or millimeter wave short range radar and remote sensing
- Super-resolution 3-D imaging theory and algorithm

- Shadow region imaging using multiple scattering waves
- Super-resolution Doppler velocity estimation
- Target recognition with machine learning approach
- Polarimetric and interferometric radar
- Moving target tracking and imaging, and automobile radar application
- Synthetic aperture radar (SAR) and remote sensing issue
- Bio-medical microwave imaging for breast tumor detection and ablation treatment
- Microwave non-destructive testing application
- Terahertz imaging with radar and tomography approach

Professional Awards & Honors

- Feb. 2023 **RIEC Award**, Awardee : S. Kidera
Tohoku University, Research Institute of Electrical Communication (RIEC)
- Sep. 2022 **KDDI Foundation Award, Contribution Award**, Awardee : S. Kidera
KDDI Foundation
- Sep. 2021 **Distinguished Service Award**, Awardee : S. Kidera
Institute of Electronics, Information and Communication Engineers Communications Society
- Mar. 2021 **TELECOM System Technology Award**, Awardee : M. Setsu, T. Hayashi, J. He, and S. Kidera,
The Telecommunications Advancement Foundation
With the paper: M. Setsu, T. Hayashi, J. He, and S. Kidera,
" Super-Resolution Doppler Velocity Estimation by Kernel-Based Range- τ Point Conversions for UWB Short-Range Radars ",
IEEE Trans. Geoscience & Remote Sensing, , vol. 58, no. 4, pp. 2430-2443, April 2020.
- Mar. 2021 **Distinguished Service Award**, Awardee : S. Kidera
Institute of Electronics, Information and Communication Engineers, Electronics Society
- Sep. 2016 **Distinguished Service Award**, Awardee : S. Kidera
Institute of Electronics, Information and Communication Engineers Communications Society
- Apr. 2014 **Funai Achievement Award**, Awardee : S. Kidera
The Funai Foundation for Information Technology
For contribution of development of an super-resolution and shadow region imaging method for UWB sensor
- Apr. 2013 **Young Scientist's Prize**, Awardee : S. Kidera
The Japanese Minister of Education, Culture, Sports, Science and Technology (MEXT).
For contribution of development of an innovative imaging method for UWB sensor
- Mar. 2013 **TELECOM System Technology Award**, Awardee : S. Kidera and T. Kirimoto
The Telecommunications Advancement Foundation
With the paper: S. Kidera and T. Kirimoto,
"Fast and Shadow Region 3-dimensional Imaging Algorithm with Range Derivative of Doubly Scattered Signals for UWB Radars",
IEEE Trans. on Antennas and Propagation, vol.60, No. 2, pp. 984–996, Feb, 2012.
- Mar. 2013 **IEEE AESS Japan Chapter 2012 Best Paper Award**, Awardee : S. Kidera
IEEE AESS Japan Chapter
With the paper: S. Kidera, H. Yamada and T. Kirimoto,
"Accurate 3-dimensional Imaging Method Based on Extended RPM for Rotating Target Model", *IEICE Trans. Commun.* vol.E95-B, no. 10, pp. 3279-3289, Oct., 2012.
- Jul. 2012 **Ando Incentive Prize for the Study of Electronics**, Awardee : S. Kidera
The Foundation of Ando Laboratory,
For contribution of development of super-resolution and shadow region imaging method for UWB radar.
- Oct. 2011 **Young Scientist Award in ISAP 2011**,
Awardee : S. Kidera and T. Kirimoto
The 2011 International Symposium on Antennas and Propagation (ISAP2011)
With the paper: S. Kidera and T. Kirimoto,
"Accurate Shadow Region Imaging Algorithm Based on Doubly Scattered Range Points Migration for UWB Radars"
- Aug. 2011 **Young Scientist Award in URSI GASS 2011**, Awardee : S. Kidera
The XXXth General Assembly and Scientific Symposium of the International Union of Radio Science (URSI) 2011
With the paper: S. Kidera and T. Kirimoto,
"Accurate 3-dimensional Image Expansion Algorithm Using Range Derivative of Double Scattered Signals for UWB Radars",
- Aug. 2010 **Young Scientist Award in URSI EMTS 2010**, Awardee : S. Kidera
URSI Commission B, 20th International Symposium on Electromagnetic Theory (EMTS) 2010
With the paper: S. Kidera, T. Sakamoto and T. Sato,
"Experimental Study on Super-Resolution 3-D Imaging Algorithm Based on Extended Capon with Reference Signal Optimization for UWB Radars"
- Mar. 2010 **IEICE Young Researcher's Award**, Awardee : S. Kidera
The Institute of Electronics, Information and Communication Engineers (IEICE)
For the papers presented in the general and the society conference in IEICE 2009.

Aug. 2008	IEEJ Excellent Presentation Award , Awardee : S. Kidera The Institute of Electrical Engineers Japan (IEEJ) With the paper: S. Kidera, T. Sakamoto, T. Sato, "An Experimental Study for High-Speed and Accurate 3-D Imaging Algorithm with Spectrum Shift Correction for UWB Pulse Radars," IEEJ 36th Electromagnetic Theory Symposium, EMT-07-116, Oct. 2007 (in Japanese).
Sep. 2007	Best Student Paper Award , Awardee : S. Kidera, T. Sakamoto and T. Sato 2007 IEEE International Conference on Ultra Wide-Band 2007, With the paper: S. Kidera, T. Sakamoto, T. Sato, "An Experimental Study for High-Resolution 3-D Imaging Algorithm with Linear Array for UWB Radars". 2007 IEEE International Conference on Ultra-WideBand (ICUWB2007), Marina Mandarin Hotel, Singapore, Sep. 2007
Sep. 2007	IEICE Communication Society Best Paper Award , Awardee : T. Sakamoto, S. Kidera, T. Sato and S. Sugino Communications Society, IEICE With the paper T. Sakamoto, S. Kidera, T. Sato, S. Sugino, "An Experimental Study on a Fast 3-D Imaging Algorithm for UWB Pulse Radars", Vol. J90-B, No. 1, pp.63-73, Jan 2007 (in Japanese).

Professional Activities

- Senior Member, *IEEE (The Institute of Electrical and Electronics, Engineers)*
- Senior Member, *IEICE (The Institute of Electronics, Information and Communication Engineers)*
- Member, *IEEJ (The Institute of Electrical Engineers Japan)*
- Member, *JSAP (The Japan Society of Applied Physics)*
- Associate Editor for *IEICE Transaction on Communications*, 2017 - 2021.
- Associate Editor for *IEICE Transaction on Electronics, Special Section on Recent Progress in Electromagnetic Theory and Its Application*, 2011 - 2014.
- Secretary of Technical Committee for *IEICE SANE (Space Aeronautical and Navigational Electronics)*, 2013 - 2016.
- Secretary of Steering Committee for *APSAR (Asia-Pacific Conference on Synthetic Aperture Radar) 2013*, 2011 - 2013.
- Chair of Special Session Committee for *IEEE International Conference on Antenna Measurements & Applications (CAMA2017)*, 2018, 2015 - 2019.
- Chair of Sponsorship Committee for *IEEE IGARSS (International Geoscience and Remote Sensing Symposium) 2019*, 2015 - 2019.
- Session Convener "B06: Inverse Scattering and Imaging", for 2019 URSI Asia-Pacific Radio Science Conference (AP-RASC 2019), 2018 - 2019.
- Session Convener for 2021 URSI General Assembly (URSI GASS 2021) , "B06: Inverse Scattering and Imaging" and " KB1 : Electromagnetic Biomedical Imaging and Inversion", 2019-2021.
- Session Convener for 2023 URSI General Assembly (URSI GASS 2023) , "B11: Inverse Scattering and Imaging" and " KB1 : Electromagnetic/optical imaging and sensing for biomedical applications", 2019-2021.
- Expert Member of Technical Committee for *IEICE EMT (Electromagnetic Theory)*, 2009 - Present.
- Reviewer for *IEEE Trans. Geoscience and Remote Sensing, IEEE Geoscience and Remote Sensing Letters, IEEE Trans. Aerospace and Electronic Systems, IEEE Trans. Antennas and Propagation, IEEE Trans. Microwave Theory and Technology, IEEE Access, IEEE Sensors Journal, IET Radar, Sonar & Navigation., Radio Science, IEICE Trans. Communications, IEICE Trans. Electronics, IEICE Trans. Fundamentals, IEICE Trans. Information & Systems,*

1. Y. Yamauchi, and **Shouhei Kidera** "Contrast Source Inversion for Objects Buried into Multi-layered Media for Subsurface Imaging Applications" , *IEICE Trans. Electron.*, Vol. E106.C, 2023 (in press).
2. T. Ando, and **Shouhei Kidera** " k - and Doppler Velocity Decomposition Based Range Points Migration for Three-dimensional Localization with Millimeter Wave Radar" , *IEEE Sensors Journal*, vol. 22, no. 23, pp. 22850-22864 1 Dec.1, 2022
3. G. Umezu, Y. Yamauchi, and **Shouhei Kidera** "Contrast Source Inversion Enhanced Confocal Imaging for Highly Heterogeneous Breast Media in Microwave Mammography" , *IEEE Journal of Electromagnetics, RF, and Microwaves in Medicine and Biology*, vol. 6, no. 4, pp. 494-500, Dec. 2022.
4. J. Okada, and **Shouhei Kidera** "Multi-frequency Contrast Source Inversion Based Permittivity Estimation for Terahertz Multi-layer Analysis" , *IEEE Transactions on Terahertz Science and Technology*, vol. 12, no. 5, pp. 535-539, Sept. 2022.
5. S. Takahashi, K. Suzuki, T. Hanabusa, and **Shouhei Kidera** "Microwave Subsurface Imaging Method by Incorporating Radar and Tomographic Approaches" , *IEEE Trans. on Antennas and Propagation*, vol. 70, no. 11, pp. 11009-11023, Nov. 2022.
6. T. Hayashi, T. Ando, and **Shouhei Kidera** "Accurate Doppler Velocity Estimation by Iterative WKD Algorithm for Pulse-Doppler Radar" , *IEICE Trans. Commun.*, Vol. E105.B (2022), No. 12 pp. 1600-1613.
7. U. Hirose, P. Zhu, and **Shouhei Kidera** "Deep Learning Enhanced Contrast Source Inversion for Microwave Breast Cancer Imaging Modality" , *IEEE Journal of Electromagnetics, RF, and Microwaves in Medicine and Biology*, vol. 6, no. 3, pp. 373-379, Sept. 2022.
8. T. Hanabusa, T. Morooka, and **Shouhei Kidera** "Deep Learning Based Calibration in Contrast Source Inversion Based Microwave Subsurface Imaging" , *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, April, 2022
9. T. Ando , and **Shouhei Kidera** "Accurate Micro-Doppler Analysis by Doppler and k -space Decomposition for Millimeter Wave Radar" , *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 15, pp. 2503-2518, March, 2022
10. T. Hayashi, T. Ando, and **Shouhei Kidera** "Three-dimensional Doppler Associated Radar Imaging Method Based on Bi-directional Data Processing" , *IET Radar, Sonar & Navigation*, vol. 16, no. 1, pp. 145-160, Jan.,2022.
11. Y. Suzuki, and **Shouhei Kidera** "Resolution Enhanced Distorted Born Iterative Method Using ROI Limiting Scheme for Microwave Breast Imaging" , *IEEE Journal of Electromagnetics, RF, and Microwaves in Medicine and Biology*, vol. 5, no. 4, pp. 379-385, Dec. 2021.
12. T. Ohmori, T. Matsui, and **Shouhei Kidera** "Doppler Velocity Enhanced Range Migration Algorithm for High Resolution and Noise-Robust Three-dimensional Radar Imaging" , *IEEE Sensors Journal*, vol. 21, no. 18, pp. 20616-20628, 15 Sept.15.
13. H. Morimoto, Y. Yamauchi, and **Shouhei Kidera** "Contrast Source Inversion Based Multi-layered Object Analysis for Terahertz Wave Imaging" , *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, Aug., 2021.
14. K. Kito, T. Matsui, and **Shouhei Kidera** "Depth Adaptive Object Identification Using Terahertz Time Domain Spectroscopic Data," , *IEEE Transactions on Terahertz Science and Technology*, vol. 11, no. 5, pp. 598-604, Sept. 2021.
15. J. He , S. Terashima, H. Yamada, and **Shouhei Kidera** "Diffraction Signal Based Human Recognition in Non-line-of-sight (NLOS) Situation for Millimeter wave Radar" , *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* , vol. 21, no. 12, pp. 13594-13602, Jun, 2021.
16. T. Ohmori, S. Takahashi, and **Shouhei Kidera** "Gaussian Mixture Model Parameter Optimization in Range Points Migration Based Three-dimensional Radar Imaging" , *IEEE Sensors Journal*, vol. 21, no. 12, pp. 13594-13602, Jun, 2021
17. H. Morimoto, and **Shouhei Kidera** ""Super-Resolution Multi-layer Structure Analysis via Depth Adaptive Compressed Sensing for Terahertz Subsurface Imaging" , *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, Dec., 2020.
18. H. Sato, and **Shouhei Kidera** "Noise-robust Microwave Breast Imaging Applied to Multi-frequency Contrast Source Inversion" , *IEEE Journal of Electromagnetics, RF, and Microwaves in Medicine and Biology*, vol. 5, no. 2, pp. 187-193, June, 2021.
19. H. Sato, and **Shouhei Kidera** "ROI Limited Unknowns Reduction based Contrast Source Inversion for Microwave Breast Imaging" , *IEEE Antennas and Wireless Propagation Letters*, vol. 19, no. 12, pp. 2285-2289, Dec. 2020.
20. Y. Akiyama, T. Omori, and **Shouhei Kidera** " k -Space Decomposition Based Three-dimensional Imaging with Range Points Migration for Millimeter Wave Radar" , *IEEE Trans. Geoscience & Remote Sensing*, vol. 59, no. 8, pp. 6637-6650, Aug. 2021
21. Y. Takaishi, and **Shouhei Kidera** "Noise-Robust Distorted Born Iterative Method with Prior Estimate for Microwave Ablation Monitoring" , *IEICE Trans. Electron.*, Vol. E104.C, No. 4 pp. 148-152, Apr., 2021.
22. T. Matsui and **Shouhei Kidera** "Virtual Source Extended Range Points Migration Method for Auto-focusing Three-dimensional Terahertz Imaging" , *IEEE Geoscience and Remote Sensing Letters*, , vol. 18, no. 6, pp. 989-993, June 2021.

¹The underlined co-authors directly supervised by Dr. S. Kidera are underlined.

23. K. Kanazawa, K. Noritake, Y. Takaishi and **Shouhei Kidera** "Microwave Imaging Algorithm Based on Waveform Reconstruction for Microwave Ablation Treatment", *IEEE Trans. Antennas & Propagation*, vol. 68, no. 7, pp. 5613-5625, July 2020.
24. M. Setsu, T. Hayashi, J. He and **Shouhei Kidera** "Super-Resolution Doppler Velocity Estimation by Kernel-Based Range- τ Point Conversions for UWB Short-Range Radars", *IEEE Trans. Geoscience & Remote Sensing*, vol. 58, no. 4, pp. 2430-2443, April 2020.
25. Takamaru Matsui and **Shouhei Kidera** "Range Points Migration Based Spectroscopic Imaging Algorithm for Wide-beam Terahertz Subsurface Sensor", *Trans. Electron.*, Vol.E103-C, no. 3, pp. 127-130, March, 2020.
26. Kazuki Noritake and **Shouhei Kidera** "Surface Clutter Suppression with FDTD Recovery Signal for Microwave UWB Mammography", *IEICE Trans. Electron.*, Vol. E103.C, No. 1 pp. 26-29, Jan., 2020.
27. Kazuki Noritake and **Shouhei Kidera** "Boundary Extraction Enhanced Distorted Born Iterative Method for Microwave Mammography", *IEEE Antenna Wireless Propagation Letters*, Vol.18, NO.4, pp.776-780, Apr., 2019.
28. Yoshiki Akiyama and **Shouhei Kidera** "Low Complexity Algorithm for Range Points Migration Based Human Body Imaging for Multi-static UWB Radars", *IEEE Geoscience and Remote Sensing Letters*, Vol.16, No.2, pp.216-220, Feb., 2019.
29. Masafumi Setsu, and **Shouhei Kidera** "Range Points Migration and Doppler Based Multi-path Exploitation Method for UWB Through-the-wall Radar", *IET Radar, Sonar & Navigation.*, Vol. 13, Iss. 1, pp. 50-57, 2018.
30. Shuto Takahashi and **Shouhei Kidera** "Acceleration of Range Points Migration Based Microwave Imaging for Non-destructive Testing", *IEEE Antenna Wireless Propagation Letters*, Vol. 17, No.4, Apr., 2018.
31. Masanari Noto, Fang Shang, **Shouhei Kidera** and Tetsuo Kirimoto, "Super-Resolution Time of Arrival Estimation Using Random Resampling in Compressed Sensing", *IEICE Trans. Commun.*, Vol. E101-B, No.6, Jun., 2018.
32. Ayumi Yamaryo, Tatsuo Takatori, **Shouhei Kidera**, and Tetsuo Kirimoto, "Range Points Migration Based Image Expansion Method Exploiting Fully Polarimetric Data for UWB Short Range Radar", *IEEE Trans. Geoscience & Remote Sensing*, Vol. 56, No.4, pp.2170-2182, Dec., 2017.
33. **Shouhei Kidera**, Luz Maria Neira, Barry D. Van Veen and Susan C. Hagness, "TDOA-Based Microwave Imaging Algorithm for Real-Time Microwave Ablation Monitoring", *International Journal of Microwave and Wireless Technologies*, Cambridge University Press., Vol. 10, pp169-178, Mar. 2018.
34. Masanari Noto, Akira Moro, Fang Shang, **Shouhei Kidera** and Tetsuo Kirimoto, "Noise-robust Compressed Sensing Method for Super-resolution TOA Estimation", *IEICE Communication Express*, Vol.E100-B, No.11, pp.2087-2093, Nov. 2017.
35. Ryo Oyama, **Shouhei Kidera** and Tetsuo Kirimoto, "Surface Height Change Estimation Method Using Band-divided Coherence Functions with Fully Polarimetric SAR images", *IEICE Trans. Commun.*, Vol.E100-B, No.11, pp.2087-2093, Nov. 2017.
36. Yuta Sasaki, Fang Shang, **Shouhei Kidera** and Tetsuo Kirimoto, "Accurate 3-dimensional Imaging Method by Multi-static RPM with Range Point Clustering for Short Range UWB Radar", *IEICE Trans. Commun.* Vol. E100-B, No. 8 pp. 1498-1506, Aug., 2017.
37. Takayuki Masuo, Fang Shang, **Shouhei Kidera**, Tetsuo Kirimoto Hiroshi SAKAMAKI and Nobuhiro SUZUKI, "Parametric Wind Velocity Vector Estimation Method for Single Doppler LIDAR Model", *IEICE Trans. Commun.*, Vol.E100-B, No.3, pp.465-472, March, 2017.
38. Yuta Sasaki, Fang Shang, **Shouhei Kidera**, Tetsuo Kirimoto, Kenshi Saho and Toru Sato, "Three-dimensional Imaging Method Incorporating Range Points Migration and Doppler Velocity Estimation for UWB Millimeter-wave Radar", *IEEE Geoscience and Remote Sensing Letters*, vol. 14, no. 1, pp. 122-126, Jan, 2017.
39. Toshiki Manaka, **Shouhei Kidera** and Tetsuo Kirimoto, "Experimental Study on Embedded Object Imaging Method with Range Point Suppression of CreepingWave for UWB Radars", *IEICE Trans. Electron.* Vol.E99-C, No.1, pp.138-142, Jan. 2016.
40. Shouhei Ohno, **Shouhei Kidera** and Tetsuo Kirimoto, "Supervised SOM Based ATR Method with Circular Polarization Basis of Full Polarimetric Data", *IEICE Trans. Commun.*, Vol.E98-B, No.12, pp. 2520-2527, Dec. 2015.
41. Takuya Niimi, **Shouhei Kidera** and Tetsuo Kirimoto, "Dielectric Constant and Boundary Extraction Method for Double-Layered Dielectric Object for UWB Radars", *IEICE Trans. Electron.* Vol.E98-C, No.12, pp.1134-1142, Dec. 2015.
42. Ryo Oyama, **Shouhei Kidera**, Tetsuo Kirimoto, "Accurate Coherent Change Detection Method Based on Pauli Decomposition for Fully Polarimetric SAR Imagery", *IEICE Trans. Commun.*, vol. E98-B, no. 7, pp. 1390-1395, July, 2015.
43. Ryo Yamaguchi, **Shouhei Kidera**, Tetsuo Kirimoto, "3-dimensional Imaging and Motion Estimation Method of Multiple Moving Targets for Multi-static UWB Radar Using Target Point and its Normal Vector", *IEICE Trans. Commun.*, vol. E97-B, no. 12, pp. 2819-2829, Dec., 2014.
44. Shuri Kondo, **Shouhei Kidera**, Tetsuo Kirimoto, "Target Detection Algorithm using Independent Component Analysis for Pulse Doppler Radar", *IEICE Communication Express*, vol. 3, No. 7, pp. 211-216, July, 2014.

45. Ayumi Yamaryo, **Shouhei Kidera**, Tetsuo Kirimoto, "Accurate Target Extrapolation Method Exploiting Double Scattered Range Points for UWB radar", *IEICE Trans. Electron.*, vol. E97-C No. 8 pp. 828–832, Aug, 2014.
46. Shouhei Ohno, **Shouhei Kidera**, Tetsuo Kirimoto, "Efficient SOM Based ATR Method for SAR Imagery with Azimuth Angular Variations", *IEEE Geoscience and Remote Sensing Letters*, vol. 11, No. 11, pp. 1901-1905, Nov., 2014.
47. Ryo Nakamata, **Shouhei Kidera and** Tetsuo Kirimoto, "Accurate Height Change Estimation Method Using Phase Interferometry of Multiple Band-Divided SAR Images", *IEICE Trans. Commun.*, vol. E97-B, No. 6, pp. 1205-1214, June, 2014.
48. Ryunosuke Souma, **Shouhei Kidera**, Tetsuo Kirimoto, "Accurate Permittivity Estimation Method for 3-dimensional Dielectric Object with FDTD-based Waveform Correction" , *IEICE Trans. Electronics*, vol. E97-C, no. 2, (in press) 2014.
49. Jing-Chao Li, Yi-Bing Li, **Shouhei Kidera** and Tetsuo Kirimoto, "A Robust Signal Recognition Method for Communication System under Time-varying SNR Environment", *IEICE Trans. Information and Sytem.*, vol. E96-D, no. 12, pp. 2814–2819, Dec., 2013.
50. **Shouhei Kidera** and Tetsuo Kirimoto, "Efficient Three-Dimensional Imaging Method Based on Enhanced Range Points Migration for UWB Radars", *IEEE Geoscience and Remote Sensing Letters*, vol. 10, no. 5, pp. 1104–1108, Sep., 2013.
51. Ryo Yamaguchi, **Shouhei Kidera** and Tetsuo Kirimoto, "Accurate Imaging Method for Moving Target with Arbitrary Shape for Multi-static UWB Radar", *IEICE Trans. Commun.*, vol. E96-B, no. 7, pp. 2014–2023, Jul., 2013.
52. Tetsuhiro Okano, **Shouhei Kidera** and Tetsuo Kirimoto, " Super Resolution TOA Estimation Algorithm with Maximum Likelihood ICA Based Pre-processing" , *IEICE Trans. Commun.*, vol. E96-B, no. 5, pp. 1194–1201, May 2013.
53. Ryunosuke Souma, **Shouhei Kidera**, Tetsuo Kirimoto, "Accurate Permittivity Estimation Method with Iterative Waveform Correction for UWB Internal Imaging Radar" , *IEICE Trans. Electronics*, vol. E96-C, no. 5, pp. 730-737, May 2013.
54. **Shouhei Kidera** and Tetsuo Kirimoto, "Robust and Accurate Image Expansion Algorithm Based on Double Scattered Range Points Migration for UWB Imaging Radars", *IEICE Trans. Commun.* vol.E96-B, no. 4, pp. 1061-1069, Apr. 2013.
55. Yoshihiro Niwa, **Shouhei Kidera**, Tetsuo Kirimoto, "Image Expansion Approach for Target Buried in Dielectric Medium with Extended RPM to Multi-static UWB Radar" , *IEICE Trans. Electronics* (Brief paper), vol. E96-B, No. 1, pp.119-123, Jan.,2013..
56. **Shouhei Kidera** and Tetsuo Kirimoto, "Accurate and Robust Automatic Target Recognition Method for SAR Imagery with SOM-Based Classification", *IEICE Trans. Commun.* vol.E95-B, no. 11, pp. 3556-3562, Nov., 2012..
57. Tetsuhiro Okano, **Shouhei Kidera** and Tetsuo Kirimoto, "MLICA-based Separation Algorithm for Complex Sinusoidal Signals with PDF Parameter Optimization" , *IEICE Trans. Commun.*,vol. E95-B,No.11 pp.3563-3571, Nov., 2012.
58. **Shouhei Kidera**, Hiroyuki Yamada and Tetsuo Kirimoto, "Accurate 3-dimensional Imaging Method Based on Extended RPM for Rotating Target Model" , *IEICE Trans. Commun.* vol.E95-B, no. 10, pp. 3279-3289, Oct., 2012.
59. Ken Akune, **Shouhei Kidera** and Tetsuo Kirimoto, "Accurate and Nonparametric Imaging Algorithm for Targets Buried in Dielectric Medium for UWB Radars" , *IEICE Trans. Electronics.*,vol. E95-C, no. 8, pp. 1389-1398, Aug., 2012.
60. Yoriaki Abe, **Shouhei Kidera** and Tetsuo Kirimoto, "Accurate Image Expansion Method Using Range Points Based Ellipse Fitting for UWB Imaging Radar" , *IEICE Trans. Commun.*,vol. E95-B, no. 7, pp. 2424-2432, July, 2012.
61. **Shouhei Kidera** and Tetsuo Kirimoto, " Fast and Shadow Region 3-dimensional Imaging Algorithm with Range Derivative of Doubly Scattered Signals for UWB Radars", *IEEE Trans. on Antennas and Propagation*, vol.60, No. 2, pp. 984–996, Feb, 2012.
62. Kenshi Saho, Tomoki Kimura, **Shouhei Kidera**, Hirofumi Taki, Takuya Sakamoto and Toru Sato, "Robust and Accurate Ultrasound 3-D Imaging Algorithm Incorporating Adaptive Smoothing Techniques" , *IEICE Trans. Commun.*,vol. E95-B, No. 2, pp. 572–580, Feb., 2012.
63. Yoriaki Abe, **Shouhei Kidera**, Tetsuo Kirimoto, "Accurate and Omni-directional UWB Radar Imaging Algorithm with RPM Method Extended to Curvilinear Scanning Model" , *IEEE Geoscience and Remote Sensing Letters*, vol. 9, No. 1, pp. 144-148, Jan., 2012.
64. Takehiro Hoshino, **Shouhei Kidera**, Tetsuo Kirimoto, "Accurate Surface Change Detection Method Using Phase of Coherence Function on SAR Imagery" , *IEICE Trans. Commun.*, vol. E95-B, No. 1, pp. 263–270, Jan, 2012.
65. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "Extended Imaging Algorithm Based on Aperture Synthesis with Double Scattered Waves for UWB Radars", *IEEE Trans. on Geoscience and Remote Sensing*, vol.49, no.12, pp. 5128–5139, Dec., 2011.
66. Waqas Muhammad, **Shouhei Kidera** and Tetsuo Kirimoto, "PCA-Based Detection Algorithm of Moving Target Buried in Clutter in Doppler Frequency Domain" , *IEICE Trans. Commun.* (Letter), vol. E94-B, No. 11, pp. 3190–3194, Nov., 2011.
67. Ken Akune, **Shouhei Kidera**, Tetsuo Kirimoto, "Acceleration for Shadow Region Imaging Algorithm with Multiple Scattered Waves for UWB Radars" , *IEICE Trans. Commun.* (Letter), vol. E94-B, No. 9, pp.2696–2699, Sep, 2011.

68. **Shouhei Kidera** and Tetsuo Kirimoto, "Multi-Static UWB Radar Approach Based on Aperture Synthesis of Double Scattered Waves for Shadow Region Imaging", *IEICE Trans. Electronics*, (Brief Paper), vol.E94-C, No. 8, pp. 1320–1323, Aug, 2011.
69. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "Super-Resolution UWB Radar Imaging Algorithm Based on Extended Capon with Reference Signal Optimization", *IEEE Trans. Antennas & Propagation*, vol.59, no. 5, pp. 1606–1615, May, 2011.
70. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "Accurate UWB Radar 3-D Imaging Algorithm for Complex Boundary without Range Points Connections", *IEEE Trans. Geoscience and Remote Sensing*, vol.48, no. 4, pp. 1993–2004, Apr., 2010.
71. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "High-Resolution 3-D Imaging Algorithm with an Envelope of Modified Spheres for UWB Through-the-Wall Radars", *IEEE Trans. Antennas & Propagation*, vol.57, no.11, pp. 3520–3529, Nov., 2009.
72. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "High-resolution and Real-Time 3-D Imaging Algorithm with Envelope of Spheres for UWB Radars", *IEEE Trans. Geoscience and Remote Sensing*, vol.46, no.11, pp.3503–3513, Nov, 2008.
73. **Shouhei Kidera**, Yusuke Kani, Takuya Sakamoto and Toru Sato, "Fast and Accurate 3-D Imaging Algorithm with Linear Array Antennas for UWB Pulse Radars", *IEICE Trans. Commun.*, vol.E91-B, no.8, pp. 2683–2691, Aug, 2008.
74. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "A robust and fast imaging algorithm with an envelope of circles for UWB pulse radars", *IEICE Trans. Commun.*, vol.E90-B, no.7, pp.1801–1809, Jul, 2007.
75. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "A high-resolution imaging algorithm without derivatives based on waveform estimation for UWB pulse radars", *IEICE Trans. Commun.*, vol.E90-B, no.6, pp.1487–1494, Jun, 2007.
76. (In Japanese) Takuya Sakamoto, **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "An experimental study on a fast 3-D imaging algorithm for UWB pulse radars", *IEICE Trans. Commun.*, Japanese Edition, vol.J90-B, no.1, pp.66-73, Jan, 2007.
77. **Shouhei Kidera**, Takuya Sakamoto, Toru Sato and Satoshi Sugino, "An accurate imaging algorithm with scattered waveform estimation for UWB pulse radars", *IEICE Trans. Commun.*, vol. E89-B, no. 9, pp. 2588-2595, Sep, 2006

Invited Presentations

1. **Shouhei Kidera**, Umita Hirose, and Peixian Zhu, "Deep Learning Based Inverse Scattering Analysis for Microwave Breast Cancer Imaging", 2022 IEEE MTT-S International Microwave Biomedical Conference (IMBioC) Hybrid, May 16-18, 2022. (invited).
2. Takahide Morooka and **Shouhei Kidera**, "Bi-directional Updating Algorithm for ROI and Dielectric Profile in CSI Framework for Microwave Subsurface Imaging" 2020 International Symposium on Antennas and Propagation (ISAP2020), Osaka, Japan, Jan., 2021. (Invited)
3. **Shouhei Kidera** and Kazuki Noritake, "Accuracy Enhanced Distorted Born Iterative Method with Envelope Based Boundary Extraction for Microwave Mammography" 2018 Progress in Electromagnetics Research Symposium (PIERS 2018), Toyama, Japan, Aug. 2018. (invited)
4. **Shouhei Kidera** and Shuto Takahashi, "Accurate Boundary Extraction Method by Range Points Migration for Microwave Non-destructive Monitoring," 2017 Asia-Pacific Conference on Antennas and Propagation (APCAP2017), Xian, China, Oct., 2017, (Invited lecture).
5. **Shouhei Kidera** and Kazuki Noritake, "Boundary Extraction Based Imaging Method by Incorporating FDTD Based Wavefront Analysis for Microwave Mammography," International Conference on Electromagnetics in Advanced Applications (ICEAA 2017), Verona, Italy, Sep., 2017, (Invited lecture).
6. **Shouhei Kidera**, Yuta Sasaki, Shang Fang, Tetsuo Kirimoto, Kenshi Saho and Toru Sato "Accuracy Enhanced RPM Method Using DopplerBased Range Points Clustering for 140GHz BandUWB Radar," 2016 International Symposium on Antennas and Propagation (ISAP2016), Okinawa, Japan, Oct., 2016. (Invited)
7. **Shouhei Kidera**, "Accurate Boundary Extraction and Dielectric Constant Estimation Method for UWB Internal Imaging Radar", URI Commission B, International Symposium on Electromagnetic Theory (EMTS 2016), Espoo, Finland, 14-18 Aug., 2016. (Invited)
8. **Shouhei Kidera**, "SUPER-RESOLUTION AND ACCURATE 3-DIMENSIONAL IMAGING METHOD BY COMBINING EM COMPUTATIONAL ANALYSIS IN SHORT RANGE UWB RADAR," URSI Atrantic Radio Science Conference (AT-RASC 2015)2015, Gran Canaria, Canary Island, Spain, May, 2015.
9. **Shouhei Kidera**, "Short range UWB radar imaging method," The 57th Automatic Control Conference, Ikaho, Gunma, Japan. Nov. 2014
10. **Shouhei Kidera**, "Near Field Imaging Method for UWB Radar System," The 4th Trans-disciplinary Federation of Science and Technology Conference, Kanazawa, Japan. Nov. 2011

11. **Shouhei Kidera** and Tetsuo Kirimoto, "Emerging Trend of Imaging Radar Techniques," Technical Lecture on Mitsubishi Advanced Technology R&D Center, Hyogo, Japan. Sep, 2010.
12. **Shouhei Kidera**, "Extended Imaging Algorithms for Super-Resolution Radar Techniques," Taiwan-Japan Joint Workshop on Inverse Problem, Institute of Mathematics, Academia Sinica, Taipei, Taiwan. Nov. 2008.
13. **Shouhei Kidera**, "Inverse Problem in Pulse Radar Imaging Techniques," Taiwan-Japan Joint Workshop on Inverse Problem, Institute of Mathematics, Academia Sinica, Taipei, Taiwan. Feb. 2007.

Refereed Proceedings of International Conference

1. Yoshihiro Yamauchi and **Shouhei Kidera**, "Inverse Scattering Enhanced Synthetic Aperture Imaging for Multi-Layered Ground Media" The 2022 International Symposium on Antennas and Propagation (ISAP), Sydney, Australia, Oct., 2022.
2. Katsuyoshi Suzuki and **Shouhei Kidera**, "Radar Enhanced Contrast Source Inversion Method for Microwave Nondestructive Evaluation" The 2022 International Symposium on Antennas and Propagation (ISAP), Sydney, Australia, Oct., 2022.
3. Yoshiki Sekigawa and **Shouhei Kidera**, "Doppler Velocity Decomposed Radar Imaging Method for 79 GHz Band Millimeter Wave Radar" The 2022 International Symposium on Antennas and Propagation (ISAP), Sydney, Australia, Oct., 2022.
4. P. Zhu and **Shouhei Kidera**, "Wavenumber Based Convolutional Auto-Encoder for Three-Dimensional Microwave Breast Imaging, " 44th IEEE International Engineering in Medicine and Biology Conference 2022 (IEEE EMBC 2022), Glasgow, United Kingdom, July, 2022.
5. G. Umezu, Y. Yamauchi, and **Shouhei Kidera**, "'Contrast Source Inversion Enhanced Confocal Imaging for Highly Heterogeneous Breast Media in Microwave Mammography, " 44th IEEE International Engineering in Medicine and Biology Conference 2022 (IEEE EMBC 2022), Glasgow, United Kingdom, July, 2022.
6. **Shouhei Kidera**, "Radar and Tomography Based Microwave Imaging for Non-destructive Subsurface Applications" 2021 IEEE Conference on Antenna Measurements & Applications (CAMA) Virtual (Invited)
7. Haiyang Ma, Shinsuke Sasada, Morihito Okada, Takamaro Kikkawa, and **Shouhei Kidera**, "Clinical Test of Surface Rejection Method for Microwave Breast Cancer Imaging" The 2021 IEEE AP-S Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (IEEE APS/URSI 2021), Singapore, Singapore, Dec., 2021.
8. Peixian Zhu, Hayatomomaru Morimoto, and **Shouhei Kidera**, "Polarimetry Effect in Three-dimensional Contrast Source Inversion for Microwave Breast imaging", The 2021 IEEE AP-S Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (IEEE APS/URSI 2021), Singapore, Singapore, Dec., 2021.
9. Yoshihiro Yamauchi and **Shouhei Kidera**, "Contrast Source Inversion Based Object Reconstruction Buried in Multi-layered Background for Microwave Subsurface Imaging" The 2021 IEEE AP-S Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (IEEE APS/URSI 2021), Singapore, Singapore, Dec., 2021.
10. Hongyang Zhang and **Shouhei Kidera**, "Polarimetric Signature CNN based Complex Permittivity Estimation for Microwave Non-destructive Testing" 2020 International Symposium on Antennas and Propagation (ISAP2020), Osaka, Japan, Jan., 2021.
11. Hayatomomaru Morimoto and **Shouhei Kidera**, "Complex Permittivity Reconstruction For Multi-layered Object By Low Complexity Contrast Source Inversion Method" 45th International Conference on Infrared, Millimeter, and Terahertz Waves 2020 (IRMMW-THz 2020), Nov., Buffalo, NY, USA, 2020.
12. Tomoki Omori, Yusuke Isono, Katsuhiko Kondo, Yusuke Akamine, and **Shouhei Kidera**, "k-Space Decomposition Based Super-resolution Three-dimensional Imaging Method for Millimeter Wave Radar" 2020 IEEE Radar Conference, Florence, Italy, Sep., 2020.
13. Takeru Ando and **Shouhei Kidera**, "Super-resolution Doppler Velocity and Range Estimator for Short-range Human Recognition Radar" 2020 IEEE Radar Conference, Florence, Italy, Sep., 2020.
14. Hiroki Sato and **Shouhei Kidera**, "Accuracy Enhanced Contrast Source Inversion Algorithm for Microwave Breast Tumor Detection" 2020 General Assembly and Scientific Symposium of the International Union of Radio Science (URSI GASS 2020), Rome, Italy, Sep, 2020.
15. Takahiro Hanabusa and **Shouhei Kidera**, "Experimental Validation for ROI prior Contrast Source Inversion Algorithm for Microwave NDT Model" 2020 General Assembly and Scientific Symposium of the International Union of Radio Science (URSI GASS 2020), Rome, Italy, Sep, 2020.
16. Takumi Hayashi and **Shouhei Kidera**, "Bi-directional Processing Algorithm with RPM and WKD Based Doppler Velocity Estimator for 3-D Doppler-Radar Imaging" 2020 IEEE Geoscience and Remote Sensing Symposium, IGARSS 2020, Hawaii, US, Aug, 2019. (Poster)
17. Jianghaomiao He, Shota Terashima, Hideyuki Yamada, and **Shouhei Kidera**, "HUMAN BODY RECOGNITION METHOD USING DIFFRACTION SIGNAL IN NLOS SCENARIO FOR MILLIMETER WAVE RADAR" 2020 IEEE Geoscience and Remote Sensing Symposium, IGARSS 2020, Hawaii, US, Aug, 2019. (Oral)

18. Tomoki Omori and **Shouhei Kidera**, "Data Driven Parameter Optimization Algorithm for RPM Based 3-D Radar Imaging" Proc. of 2019 International Symposium on Antennas and Propagation (ISAP2019), Xian, China, Oct., 2019.
19. Jianghaomiao He and **Shouhei Kidera**, "Experimental Validation on Super-resolution Doppler Velocity Estimation Method by Gauss Kernel Estimation" Proc. of 2019 International Symposium on Antennas and Propagation (ISAP2019), Xian, China, Oct., 2019.
20. Hayatomomaru Morimoto, and **Shouhei Kidera**, "Accurate Range and Spectroscopic Data Extraction Algorithm for Dispersive Object in Terahertz-Band Radar" Proc. of 2019 International Symposium on Antennas and Propagation (ISAP2019), Xian, China, Oct., 2019.
21. Umita Hirose and **Shouhei Kidera**, "Breast Tumor Characterization with Raw Data Based Machine Learning for Microwave Ultra-wideband Mammography" Proc. of 2019 International Symposium on Antennas and Propagation (ISAP2019), Xian, China, Oct., 2019.
22. Takamaru Matsui and **Shouhei Kidera**, " Accurate Terahertz Three-dimensional Subsurface Imaging by Range Points Migration Method" International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz) 2019, Paris, France, Sep. 2019.
23. Hayatomomaru Morimoto and **Shouhei Kidera**, " Compressed Sensing Based Super-Resolution Layer Structure Analysis For Terahertz Time-domain Spectroscopic Imaging System" International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz) 2019, Paris, France, Sep. 2019.
24. Masahumi Setsu and **Shouhei Kidera**, "Super-temporal Resolution Velocity Vector Estimation By Kernel Based Doppler Estimation for UWB-TWI Radars" 2019 IEEE Geoscience and Remote Sensing Symposium, IGARSS 2019, Yokohama, Japan, Aug, 2019. (Poster)
25. Yoshiki Akiyama and **Shouhei Kidera**, "k-Space Decomposition Based Range Points Migration Method for Millimeter Wave Radar" 2019 IEEE Geoscience and Remote Sensing Symposium, IGARSS 2019, Yokohama, Japan, Aug, 2019. (Oral)
26. K. Kanazawa and **Shouhei Kidera**, " Experimental Validation for Microwave Based Real-time Monitoring for Microwave Ablation Treatment" 41st IEEE International Engineering in Medicine and Biology Conference 2019 (IEEE EMBC 2019), Berlin, Germany, July, 2019.
27. K. Noritake and **Shouhei Kidera**, " Three-dimensional Distorted Born Iterative Method Enhanced by Breast Boundary Extraction for Microwave Mammography" 41st IEEE International Engineering in Medicine and Biology Conference 2019 (IEEE EMBC 2019), Berlin, Germany, July, 2019.
28. H. Sato and **Shouhei Kidera**, " Multi-frequency Integration Algorithm of Contrast Source Inversion Method for Microwave Breast Tumor Detection" 41st IEEE International Engineering in Medicine and Biology Conference 2019 (IEEE EMBC 2019), Berlin, Germany, July, 2019.
29. Takumi Hayashi and **Shouhei Kidera**, "Iterative Data Clustering Algorithm of Doppler-Associated RPM Imaging for UWB Human Body Imaging Radar" 2019 Photonics & Electromagnetics Research Symposium (PIERS 2019), Rome, Italy, June, 2019.
30. Shuto Takahashi and **Shouhei Kidera**, " Incorporation Algorithm with RPM and DBIM in Bayesian Framework for Microwave Non-destructive Testing " 2019 URSI Asia-Pacific Radio Science Conference (AP-RASC 2019), New Delhi, India from March, 2019.
31. Takumi Hayashi and **Shouhei Kidera**, " Incorporation of Super-Resolution Doppler Analysis and Compressed Sensing Filter for UWB Human Body Imaging Radar " Proc. of 2018 International Symposium on Antennas and Propagation (ISAP 2018), Busan, Korea, Oct., 2018.
32. Yoshiki Akiyama and **Shouhei Kidera**, " Acceleration Algorithm for Range Points Migration Based Human Body Imaging with UWB Multi-Static Radar " Proc. of 2018 International Symposium on Antennas and Propagation (ISAP 2018), Busan, Korea, Oct., 2018.
33. Takamaru Matsui and **Shouhei Kidera**, " Spectroscopic Range Points Migration Method for Wide-beam Terahertz Imaging " International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz) 2018, Nagoya, Japan, Sep. 2018.
34. Shuto Takahashi and **Shouhei Kidera**, " Efficient Inverse Scattering Algorithm by Incorporating RPM Method for Microwave Non-destructive Imaging " The 26th European Signal Processing Conference (EUSIPCO), Rome, Italy, Sep., 2018.
35. Kazuki Noritake and **Shouhei Kidera**, "Boundary Extraction Enhanced Inverse Scattering Method for Microwave Mammography" 2018 12th European Conference on Antennas and Propagation (EUCAP), London, United Kingdom, April, 2018.
36. Kazuki Kanazawa and **Shouhei Kidera**, "Waveform Matching Based Real-time Ablation Monitoring for Microwave Breast Cancer Ablation" 2018 12th European Conference on Antennas and Propagation (EUCAP), London, United Kingdom, April, 2018.
37. Masafumi Setsu and **Shouhei Kidera**, "Super-resolution Doppler Velocity Estimation by Gaussian-kernel Based Range-Doppler Conversion for UWB Radar" 2017 Progress in Electromagnetics Research Symposium (PIERS 2017), Singapore, Singapore, Nov. 2017.

38. Tatsuo Takatori and **Shouhei Kidera**, "Permittivity Imaging Method by Incorporating Range Points Migration and Ellipsometry for UWB Short Range Radar" 2017 Progress in Electromagnetics Research Symposium (PIERS 2017), Singapore, Singapore, Nov. 2017.
39. Kazuki Noritake and **Shouhei Kidera**, "Accurate Breast Surface Imaging Method with FDTD-Based Waveform Correction for Microwave Mammography" 2017 International Symposium on Antennas and Propagation (ISAP2017), Phuket, Thailand, Oct., 2017.
40. Shuto Takahashi and **Shouhei Kidera**, "Acceleration of RPM-Based Microwave Imaging for Non-Destructive Testing" 2017 International Symposium on Antennas and Propagation (ISAP2017), Phuket, Thailand, Oct., 2017.
41. Yoshiki Akiyama and **Shouhei Kidera**, "Acceleration for RPM-Based Three-Dimensional Imaging for 140GHz-Band Millimeter Wave Radar" 2017 International Symposium on Antennas and Propagation (ISAP2017), Phuket, Thailand, Oct., 2017.
42. **Shouhei Kidera**, Luz Maria Neira, Barry Van Veen and Susan C. Hagness "TDOA-Based Microwave Imaging Algorithm for Real-Time Monitoring of Microwave Ablation," 2017 11th European Conference on Antennas and Propagation (EUCAP), Paris, France, Mar., 2017.
43. Tatsuo Takatori and **Shouhei Kidera**, "Edge Preserved Expolution Method for Full Polarimetric RPM Image with UWB Short Range Radars," 2016 International Symposium on Antennas and Propagation (ISAP2016), Okinawa, Japan, Oct., 2016. (SPA Finalist)
44. Risako Tanaka and **Shouhei Kidera**, "Double-layered Boundary Extraction Using Extended Envelope with Multi-static UWB Radars," 2016 International Symposium on Antennas and Propagation (ISAP2016), Okinawa, Japan, Oct., 2016.
45. Fuki Endo and **Shouhei Kidera**, "Accuracy Enhanced Beamforming Method Based on Envelope Surface Extraction for Non-contact UWB Breast Cancer Radar," 2016 International Symposium on Antennas and Propagation (ISAP2016), Okinawa, Japan, Oct., 2016.
46. Taichi Nakamura, Fang Shang, **Shouhei Kidera** and Tetsuo Kirimoto, "Height Estimation Based Image Compensation Method for Layover Distorted CSAR Image," 2016 International Symposium on Antennas and Propagation (ISAP2016), Okinawa, Japan, Oct., 2016. (SPA Finalist)
47. Taro Matsuo, Guanghao Sun, **Shouhei Kidera**, Tetsuo Kirimoto, Hiroshi Sakamaki and Teruyuki Hara, "Acceleration for Wind Velocity Vector Estimation by Neural Network for Single Doppler LIDAR," 2016 International Symposium on Antennas and Propagation (ISAP2016), Okinawa, Japan, Oct., 2016.
48. Akira Moro, Fang Shang, **Shouhei Kidera** and Tetsuo Kirimoto, "Noise Robust Time of Arrival Estimation Method Using Hierarchical Bayesian Based Compressed Sensing Algorithm," 2016 International Symposium on Antennas and Propagation (ISAP2016), Okinawa, Japan, Oct., 2016.
49. Fang Shang, **Shouhei Kidera** and Tetsuo Kirimoto, "Multiple Arcs Based Image Extrapolation Method for Millimeter Wave UWB Radar," 2016 International Conference on Ubiquitous Wireless Broadband (ICUWB 2016), Nanjing, China, Oct., 2016.
50. Yuta Sasaki, **Shouhei Kidera** and Tetsuo Kirimoto, "Accurate 3-D Imaging Method Based on Range Points Migration for 140GHz-band Radar", 2015 IEEE International Conference on Ubiquitous Wireless Broadband (ICUWB2015), Montreal, Canada, 4-7 Oct., 2015.
51. Ayumi Yamaryo, **Shouhei Kidera** and Tetsuo Kirimoto, "3-dimensional Image Expansion Method by Incorporating RPM Imaging and Full Polarimetric Data for UWB Short Range Radar", 2015 IEEE International Conference on Ubiquitous Wireless Broadband (ICUWB2015), Montreal, Canada, 4-7 Oct., 2015.
52. Takuya Niimi, **Shouhei Kidera** and Tetsuo Kirimoto, "Experimental Study on Dielectric Constant and Boundary Estimation Method for Double-layered Dielectric Object for UWB Radars", 2015 IEEE International Conference on Ubiquitous Wireless Broadband (ICUWB2015), Montreal, Canada, 4-7 Oct., 2015.
53. **Shouhei Kidera**, Cheng Gao, Takaya Taniguchi, Tetsuo Kirimoto, "ELLIPSE BASED IMAGE EXTRAPOLATION METHOD WITH RPM IMAGING FOR THROUGH-THE-WALL UWB RADAR," 2015 IEEE Geoscience and Remote Sensing Symposium, IGARSS 2015, Milan, Italy, July, 2015.
54. Shouhei Ohno, **Shouhei Kidera**, Tetsuo Kirimoto, "AUTOMATIC TARGET RECOGNITION METHOD BASED ON POLSAR IMAGES WITH CIRCULAR POLARIMETRIC BASIS CONVERSION," 2015 IEEE Geoscience and Remote Sensing Symposium, IGARSS 2015, Milan, Italy, July, 2015.
55. Ryo Oyama, **Shouhei Kidera**, Tetsuo Kirimoto, "SURFACE HEIGHT CHANGE ESTIMATION METHOD USING BAND-DIVIDED COHERENCE FUNCTION WITH FULL POLARIMETRIC SAR IMAGES," 2015 IEEE Geoscience and Remote Sensing Symposium, IGARSS 2015, Milan, Italy, July, 2015.
56. **Shouhei Kidera**, Yoshihiro Niwa and Tetsuo Kirimoto, "HIGH-SPEED AND ACCURATE DIELECTRIC CONSTANT ESTIMATION METHOD USING RPM BOUNDARY EXTRACTION AND FDTD BASED ANALYSIS," URSI Atrantic Radio Science Conference (AT-RASC 2015)2015, Gran Canaria, Canary Island, Spain, May, 2015.

57. Toshiki Manaka, **Shouhei Kidera**, Tetsuo Kirimoto, "Target Detection Algorithm using Independent Component Analysis for Pulse Doppler Radar", " Experimental Study on Permittivity Estimation Method for UWB Internal Imaging Radar," 2014 International Symposium on Antennas and Propagation (ISAP2014), Kaohsiung, Taiwan, Dec., 2014.
58. Takuya Niimi, **Shouhei Kidera**, Tetsuo Kirimoto, "Accurate Permittivity Estimation Method for Double-layered Dielectric Object for UWB Radars," 2014 International Symposium on Antennas and Propagation (ISAP2014), Kaohsiung, Taiwan, Dec., 2014.
59. Shouhei Ohno, **Shouhei Kidera**, Tetsuo Kirimoto, "Novel Feature Extraction Method of Full Polarimetric SAR imagery for Automatic Target Recognition", International Conference on Space, Aeronautical and Navigation Electronics (ICSANE) 2014, Mareka, Malaysia, 22-24, October, 2014.
60. Ayumi Yamaryo, **Shouhei Kidera**, Tetsuo Kirimoto, "3-dimensional imaging method exploiting full polarimetric data for UWB short range radar", International Conference on Space, Aeronautical and Navigation Electronics (ICSANE) 2014, Mareka, Malaysia, 22-24, October, 2014.
61. Takayuki Masuo, **Shouhei Kidera**, Tetsuo Kirimoto, Hiroshi SAKAMAKI, and Nobuhiro SUZUKI "Accurate Wind Velocity Estimation Method with Single Doppler LIDAR Model", International Conference on Space, Aeronautical and Navigation Electronics (ICSANE) 2014, Mareka, Malaysia, 22-24, October, 2014.
62. Shouhei Oono, **Shouhei Kidera**, Tetsuo Kirimoto, "Efficient Automatic Target Recognition Method for SAR Image Using Supervised SOM Based Classification," 2013 Asia-Pacific Conference on Synthetic Aperture Radar (APSAR), Tsukuba, Japan, Sempember, 2013.
63. Ayumi Yamaryo, **Shouhei Kidera**, Tetsuo Kirimoto, "Extended Imaging Method Using Range Points Based Ellipse Extrapolation with Double Scattered Waves for UWB radars," 2013 Asia-Pacific Conference on Synthetic Aperture Radar (APSAR), Tsukuba, Japan, Sempember, 2013.
64. Ryunosuke Souma, **Shouhei Kidera**, Tetsuo Kirimoto, "Accurate Permittivity Estimation Method for 3-dimensional Dielectric Object with Iterative Correction of Waveform Deformation," 2013 Asia-Pacific Conference on Synthetic Aperture Radar (APSAR), Tsukuba, Japan, Sempember, 2013.
65. Ryo Nakamata, **Shouhei Kidera**, Tetsuo Kirimoto, "EXPERIMENTAL STUDY ON ACCURATE HEIGHT CHANGE ESTIMATION METHOD BASED ON PHASE INTERFEROMETRY OF BAND-DIVIDED SAR IMAGES," 2013 IEEE Geoscience and Remote Sensing Symposium, IGARSS 2013, Melbourne, Australia, September, 2013.
66. Yoshihiro Niwa, **Shouhei Kidera**, Tetsuo Kirimoto, "Accurate Image Expansion Method for Target Buried in Dielectric Medium Using Multi-static UWB Radar," 2012 International Symposium on Antennas and Propagation (ISAP2012), Japan, Oct, 2012.
67. **Shouhei Kidera** and Tetsuo Kirimoto, "Accurate and Robust Automatic Target Recognition Method for SAR Imagery with SOM-Based Classification", International Conference on Space, Aeronautical and Navigation Electronics 2012, International Symposium on Remote Sensing 2012, Incheon, Korea, 10-12, October, 2012.
68. Ryo Yamaguchi, **Shouhei Kidera** and Tetsuo Kirimoto, "NON-PARAMETRIC IMAGING METHOD FOR MULTIPLE MOVING TARGETS WITH MULTI-STATIC UWB RADAR", International Conference on Space, Aeronautical and Navigation Electronics 2012, International Symposium on Remote Sensing 2012, Korea, October, 2012.
69. Ryo Nakamata, **Shouhei Kidera** and Tetsuo Kirimoto, "Accurate Height Change Estimation Method Based on Phase Interferometry of Band-divided SAR Images", International Conference on Space, Aeronautical and Navigation Electronics 2012, International Symposium on Remote Sensing 2012, Korea, 10-12, October, 2012.
70. **Shouhei Kidera** and Tetsuo Kirimoto, "Efficient 3-Dimensional Imaging Algorithm Using PI Extraction Based RPM for Quasi-Far Field UWB Radars", 2012 IEEE International Conference on Ultra-Wideband ICUWB 2012, Syracuse, New York, U.S.A, 17-20 Sep., 2012.
71. Ryo Yamaguchi, **Shouhei Kidera** and Tetsuo Kirimoto, "Nonparametric and Accurate Imaging Algorithm for a Target with Arbitrary Motion Using Multi-static UWB Radar", 2012 IEEE International Conference on Ultra-Wideband ICUWB 2012, U.S.A, Sep., 2012.
72. Ryunosuke Souma, **Shouhei Kidera** and Tetsuo Kirimoto, "Accurate Permittivity Estimation Algorithm by Compensating Waveform Deformation for UWB Internal Imaging Radar", 2012 IEEE International Conference on Ultra-Wideband ICUWB 2012, U.S.A, Sep., 2012.
73. Yoshihiro Niwa, **Shouhei Kidera**, Tetsuo Kirimoto, "Accurate Internal Imaging Method Using Extended RPM to Multi-static UWB Radar," International Workshop on Modern Science and Technology 2012 (IWMST 2012), Tokyo, Japan, Aug, 2012.
74. Ryo Nakamata, **Shouhei Kidera**, Tetsuo Kirimoto, "Accurate Height Change Estimation Method Using Phase Interferometry of Band-divided SAR Images," International Workshop on Modern Science and Technology 2012 (IWMST 2012), Tokyo, Japan, Aug, 2012.
75. Shunsuke Koumori, **Shouhei Kidera**, Tetsuo Kirimoto, "Efficient Signal Separation Method Using Independent Component Analysis with Data Length Optimization", International Workshop on Modern Science and Technology 2012 (IWMST 2012), Tokyo, Japan, Aug, 2012.

76. **Shouhei Kidera** and Tetsuo Kirimoto, "Experimental Study on Accurate 3-Dimensional Imaging Method Based on Extended RPM for Rotating Target", 2012 IEEE Geoscience and Remote Sensing Symposium, IGARSS 2012, Munich, Germany, 22-27 Jul., 2012.
77. **Shouhei Kidera** and Tetsuo Kirimoto, "Accurate Shadow Region Imaging Algorithm Based on Doubly Scattered Range Points Migration for UWB Radars", International Symposium on Antennas and Propagation, ISAP 2011, Jeju, Korea, 25-28th, Oct., 2011.
78. **Shouhei Kidera**, Hiroyuki Yamada and Tetsuo Kirimoto, "Accurate 3-Dimensional Image Reconstruction Algorithm Extending RPM Method to ISAR Model", Asia-Pacific International Conference on Synthetic Aperture Radar (APSAR) 2011, Seoul, Korea, 26-30th, Sep., 2011.
79. Ryunosuke Souma, **Shouhei Kidera** and Tetsuo Kirimoto, "Fast and Accurate Permittivity Estimation Algorithm for UWB Internal Imaging Radar", Asia-Pacific International Conference on Synthetic Aperture Radar (APSAR) 2011, Seoul, Korea, 26-30th, Sep., 2011.
80. Ryo Yamaguchi, **Shouhei Kidera** and Tetsuo Kirimoto, "Nonparametric UWB Radar Imaging Algorithm for Moving Target Using Multi-static RPM Approach", Asia-Pacific International Conference on Synthetic Aperture Radar (APSAR) 2011, Seoul, Korea, 26-30th, Sep., 2011.
81. Tetsuhiro Okano, **Shouhei Kidera** and Tetsuo Kirimoto, "ICA-Based Super Resolution Pulse Compression Algorithm Incorporated by MUSIC Algorithm", Asia-Pacific International Conference on Synthetic Aperture Radar (APSAR) 2011, Seoul, Korea, 26-30th, Sep., 2011.
82. **Shouhei Kidera** and Tetsuo Kirimoto, "Accurate 3-dimensional Image Expansion Algorithm Using Range Derivative of Double Scattered Signals for UWB Radars", The XXX General Assembly and Scientific Symposium of the International Union of Radio Science (URSI), Istanbul, Turkey, 13-20 Aug, 2011.
83. Yoriaki Abe, **Shouhei Kidera** and Tetsuo Kirimoto, "Accurate Shadow Region Imaging Algorithm Using Ellipse Extrapolation Based on Distorted Hyperbola Fitting for UWB Radars", The XXX General Assembly and Scientific Symposium of the International Union of Radio Science (URSI), Istanbul, Turkey, 13-20 Aug, 2011.
84. Ken Akune, **Shouhei Kidera** and Tetsuo Kirimoto, "Fast and Accurate Imaging Algorithm for Targets Buried in Dielectric Medium for UWB Radars", The XXX General Assembly and Scientific Symposium of the International Union of Radio Science (URSI), Istanbul, Turkey, 13-20 Aug, 2011.
85. **Shouhei Kidera** and Tetsuo Kirimoto, "Fast and Accurate Shadow Region Imaging Algorithm using Range Derivatives of Doubly Scattered Signals for UWB Radars", 2011 IEEE Geoscience and Remote Sensing Symposium, IGARSS 2011, Sendai, Japan, 1-5 Aug, 2011.
86. **Shouhei Kidera** and Tetsuo Kirimoto, "Super-resolution UWB Radar Imaging Algorithm based on Frequency Domain Interferometer," International Workshop on Modern Science and Technology 2010 (IWMST 2010), Kitami, Japan, Sep, 2010.
87. Ken Akune, **Shouhei Kidera**, Tetsuo Kirimoto, "Acceleration for Shadow Region Imaging Algorithm with Multiple Scattered Waves for UWB Radars," International Workshop on Modern Science and Technology 2010 (IWMST 2010), Kitami, Japan, Sep, 2010.
88. Yoriaki Abe, **Shouhei Kidera**, Tetsuo Kirimoto, "Accurate UWB Radar Imaging Algorithm Using Curvilinear Scanning of Antenna," International Workshop on Modern Science and Technology 2010 (IWMST 2010), Kitami, Sep, 2010.
89. Tetsuhiro Okano, **Shouhei Kidera**, Tetsuo Kirimoto, "ICA Algorithm with Likelihood Criterion to Separate Mixtures of Complex Sinusoidal Signals," International Workshop on Modern Science and Technology 2010 (IWMST 2010), Kitami, Japan, Sep, 2010.
90. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "Experimental Study on Super-Resolution 3-D Imaging Algorithm Based on Extended Capon with Reference Signal Optimization for UWB Radars", URSI Commission B, EMTS, International Symposium on Electromagnetic Theory, EMTS 2010, Berlin, Germany, August 16-19, 2010.
91. Takehiro Hoshino, **Shouhei Kidera**, Tetsuo Kirimoto, "Coherent Change Detection with Complex Logarithm Transformation on SAR Imagery," The Society of Instrument and Control Engineers, Annual Conference 2010 (SICE 2010), Taipei, Taiwan, Aug., 2010.
92. **Shouhei Kidera**, "Shadow Region Imaging Algorithm Using Array Antenna Based on Aperture Synthesis of Multiple Scattered Waves for UWB Radars", 2010 IEEE Geoscience and Remote Sensing Symposium, IGARSS 2010, Honolulu, Hawaii, USA, 25-30 July, 2010.
93. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "Super-Resolution UWB Radar Imaging Algorithm based on Extended Capon with Reference Signal Optimization", European Conference on Antennas and Propagation 2010, EuCAP2010, Barcelona, Spain, 12-16 April, 2010.
94. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "Experimental Study of Shadow Region Imaging Algorithm with Multiple Scattered Waves for UWB Radars", Progress in Electromagnetics Research Symposium (PIERS), Moscow Technical University of Radio Engineering, Electronics and Automatics, Moscow, Russia, Aug., 2009.

95. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "Shadow Region Imaging Algorithm with Aperture Synthesis of Multiple Scattered Waves for UWB Pulse Radars," The 2009 IEEE International Symposium on Antenna and Propagation and USNC/URSI National Radio Science meeting, Charleston, South Carolina, USA, 1-5 Jun, 2009.
96. Kenshi Saho, Tomoki Kimura, **Shouhei Kidera**, Hirofumi Taki, Takuya Sakamoto and Toru Sato, "Experimental study of robust and high-resolution ultrasound imaging algorithm with adaptive smoothing techniques," Workshop for Space, Aeronautical and Navigational Electronic, Ba-Da-Guan Hotel (TBD), Qingdao, P.R. China, Nov. 23-27, 2008.
97. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "An Experimental Study of High-Resolution 3-D Imaging Algorithm with Envelope of Modified Spheres for UWB Through-the-Wall Radars," International Symposium on Antennas and Propagation 2008 (ISAP 08), Taipei International Convention Center (TICC), Taipei, Taiwan, 27-30 Oct, 2008.
98. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "High-Speed UWB Radar Imaging Algorithm for Complex Target Boundary without Wavefront Connections," The XXIX General Assembly of the International Union of Radio Science (URSI), Hyatt Regency Chicago Hotel in Chicago, Illinois, USA, 7-16 Aug, 2008.
99. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "High-Resolution 3-D Imaging Algorithm without Derivative Operations for UWB Through-the-Wall Radars," IEEE International Symposium on Antenna and Propagation and the 2008 USNC/URSI National Radio Science meeting, IF216.9, San Diego, 5-12 Jul, 2008.
100. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "High-resolution and fast 3-D imaging algorithm with spectrum shift for UWB pulse radars," 2nd European Conference on Antenna and Propagation (EuCAP2007), Edinburgh, United Kingdom, 11-16 Nov. 2007.
101. **Shouhei Kidera**, Yusuke Kani, Takuya Sakamoto and Toru Sato, "An experimental study for a high-resolution 3-D imaging algorithm with linear array for UWB radars," 2007 IEEE International Conference on Ultra-WideBand (ICUWB2007), Marina Mandarin Hotel, Singapore, Sep. 2007. (Best Student Paper Award)
102. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "A robust and fast 3-D imaging algorithm without derivative operations for UWB radars," EMTS2007, International URSI Commission B Electromagnetic Theory Symposium, paper no. EMTS084, Ottawa, ON, Canada, 26-28 Jul. 2007.
103. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "A High-resolution Imaging Algorithm without Derivatives based on Waveform Estimation for UWB Pulse Radars," IEEE AP-S International Symposium, Honolulu, Hawai'i, USA. Jun. 2007.
104. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "A Robust and Fast Imaging Algorithm without derivative operations for UWB Pulse Radars," European Conference on Antennas & Propagation (EuCAP) 2006, paper no.314368, Nice, France, Nov. 2006.
105. Takuya Sakamoto, **Shouhei Kidera**, Toru Sato, Satoshi Sugino, "An Edge-Preserving Stabilization for a Fast 3-D Imaging Algorithm with a UWB Pulse Radar" European Conference on Antennas & Propagation (EuCAP) 2006, paper no. 306687, Nice, France, Nov. 2006.
106. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "A Robust and Fast Imaging Algorithm with an Envelope of Circles for UWB Pulse Radars," Progress in Electromagnetics Research Symposium (PIERS), Chuo University, Tokyo, Aug., 2006.
107. **Shouhei Kidera**, Takuya Sakamoto, and Toru Sato, "A High-resolution 3-D Imaging Algorithm with Linear Array Antennas for UWB Pulse Radar Systems," IEEE AP-S International Symposium, USNC/URSI National Radio Science Meeting, AMEREM Meeting, pp.1057-1060, Albuquerque, New Mexico, USA, July, 2006.
108. Takuya Sakamoto, **Shouhei Kidera**, Toru Sato, Tomohiko Mitani, and Satoshi Sugino, "An Experimental Study on a Fast and Accurate 3-D Imaging Algorithm for UWB Pulse Radar Systems," XXVIIIth General Assembly of International Union of Radio Science (URSI), F05.7, New Delhi, India, Oct., 2005.
109. Takuya Sakamoto, **Shouhei Kidera**, Toru Sato, Tomohiko Mitani, Satoshi Sugino, "An experimental study on a fast imaging algorithm for UWB pulse radar systems," Proc. 2005 IEEE AP-S International Symposium and USNC/URSI National Radio Science Meeting, Washington D.C., USA, P24.5, July, 2005.
110. **Shouhei Kidera**, Takuya Sakamoto and Toru Sato, "A high-resolution imaging algorithm based on scattered waveform estimation for UWB pulse radar systems," Proc. 2005 IEEE International Geoscience and Remote Sensing Symposium, pp. 1725-1728, Seoul, Korea, July, 2005.

Scientific Research Grant

1. S. Kidera (PI 100%), **The Sumitomo Electric Group Foundation** Grant amount: 2.0 Million JPY, Oct. 2022 - Mar. 2024.
2. S. Kidera (PI 100%), **The Asahi Glass Foundation, Continouation Grants for Young Researchers**, Grant amount: 6.0 Million JPY, Apr. 2021 - Mar. 2024.
3. S. Kidera (PI 100%), **Support Center for Advanced Telecommunications Technology Research, Foundation** Grant amount: 2.5 Million JPY, Apr. 2021 - Mar. 2024.
4. S. Kidera (PI 100%), **Japan Science and Technology (JST), FOREST (Fusion Oriented REsearch for disruptive Science and Technology)** “Research for multi-functional and bi-directional electromagnetic imaging”, Grant amount: 24.8 Million JPY, Apr. 2017 - Mar. 2020.
5. S. Kidera (PI 100%), **Japan Society for the Promotion of Science (JSPS), Grants-in-Aid for Scientific Research, Scientific Research (B)**, “Research for bi-directional electromagnetic imaging analysis using radar and tomography”, Grant amount: 17.8 Million JPY, Apr. 2020 - Mar. 2023.
6. S. Kidera (PI 100%), **Ministry of Land, Infrastructure, Transportation, and Tourism (MLIT), New Committee on Advanced Road Technology, (CART)** Grant amount: 25.2 Million JPY, Apr. 2020 - Mar. 2023.
7. S. Kidera (PI 100%), **Takahashi Industrial and Economic Research Foundation** Grant amount: 4.0 Million JPY, Apr. 2019 - Mar. 2021.
8. S. Kidera (PI 100%), **The Canon Foundation, Creation of Industrial Infrastructure** Grant amount: 14.0 Million JPY, Apr. 2019 - Mar. 2021.
9. S. Kidera (PI 100%), **JST PRESTO** “Innovative microwave imaging method by incorporating super-accurate imaging and polarimetric based permittivity estimation” Grant amount: 30.0 Million JPY (About \$ 300,000), Oct. 2017 - Mar. 2021.
10. S. Kidera (PI 100%), **JST Regional Industry-Academia Value Program** Grant amount: 2.0 Million JPY (About \$ 20,000), Oct. 2017 - Sep. 2018.
11. S. Kidera (PI 100%), **The Asahi Glass Foundation** Grant amount: 2.0 Million JPY (About \$ 20,000), Apr. 2017 - Mar. 2019.
12. S. Kidera (PI 100%) **Japan Society for the Promotion of Science (JSPS), Grants-in-Aid for Scientific Research, Scientific Research (B)**, “Research for Super-resolution Non-invasive Biomedical Imaging with UWB Radar”, Grant amount: 13.5 Million JPY (About \$ 135,000), Apr. 2017 - Mar. 2020.
13. S. Kidera (PI 100%), **Research Foundation for the Electrotechnology of Chubu.**, Grant amount: 1.7 Million JPY (About \$ 17,000), Apr. 2017 - Mar. 2018.
14. S. Kidera (PI 100%), **Strategic Information and Communications R&D Promotion Programme(SCOPE) Phase II, Ministry of Internal Affairs and Communications**, “Development of Super-resolution Imaging Method for Microwave mam-mography and ablation treatment” Grant amount: 25.79 Million JPY (About \$ 257,790), Jan. 2017 - Mar 2020.
15. S. Kidera (PI 100%), **Japan Society for the Promotion of Science (JSPS), Grants-in-Aid for Scientific Research, (Fund for the Promotion of Joint International Research (Fostering Joint International Research(A))**, “Research for Super-resolution Internal Imaging for UWB sensor”, Grant amount: 8.0 Million JPY (About \$ 70,000), Apr. 2016 - Sep. 2016.
16. S. Kidera (PI 100%), **The Mazda Foundation**, Grant amount: 1.2 Million JPY (About \$ 10,000), Nov. 2015 - Oct. 2016.
17. S. Kidera (Co-PI 30%) and T. Kirimoto (PI 70 %) **Japan Society for the Promotion of Science (JSPS), Grants-in-Aid for Scientific Research, Scientific Research (B)**, “Research for Image Expansion Method using Polarimetric and Multiple Scattering Signals for UWB Short Range Radar”, Grant amount: 15.0 Million JPY (About \$ 150,000), Apr. 2015 - Mar. 2018.
18. S. Kidera (PI 100%), **Japan Society for the Promotion of Science (JSPS), Grants-in-Aid for Scientific Research, Grant-in-Aid for Young Scientists (A)**, “Research for Super-resolution Internal Imaging for UWB sensor”, Grant amount: 17.9 Million JPY (About \$ 179,000), Apr. 2014 - Mar. 2017.
19. S. Kidera (Affiliation PI 100%), **Ministry of Internal Affairs and Communications**, “Development for 140 GHz Short Range Radar” Grant amount: 22.80 Million JPY (About \$ 228,000), Sep. 2014 - Mar. 2017.
20. S. Kidera (PI 100%), **Japan Prize Foundation**, “Research for Innovative Super-resolution Internal Imaging Method for UWB Radar” Grant amount: 1.0 Million JPY (About \$ 10,000), Sep. 2013 - Mar. 2014.
21. S. Kidera (PI 100%), **Strategic Information and Communications R&D Promotion Programme(SCOPE) Phase I, Ministry of Internal Affairs and Communications**, “Development of Super-resolution Imaging Method for Non-invasive and Non-destruction UWB Radar” Grant amount: 2.89 Million JPY (About \$ 28,900), Sep. 2013 - Mar. 2014.
22. S. Kidera (PI 100%), **The Murata Science Foundation**, “Development of Super-resolution and Shadow Region Imaging for UWB Radar” Grant amount: 1.9 Million JPY (About \$ 19,000), July. 2013 - June. 2014.

23. S. Kidera (PI 100%), **The Support Center for Advanced Telecommunications Technology Research, Foundation (SCAT)**, “Development of Far Field and Shadow Region Imaging for UWB Radar” Grant amount: 2.5 Million JPY (About \$ 25,000), Apr. 2013 - Mar. 2014.
24. S. Kidera (PI 100%), **Ozawa Yoshikawa Memorial Foundation for Electronics**, “Development of Super-resolution Non-invasive Human Body Imaging Method for UWB Radar”, Grant amount: 3.0 Million JPY (About \$ 30,000), Apr. 2013 - Mar. 2014.
25. S. Kidera (PI 100%), **The KDDI Foundation**, “Research for Super-resolution Non-invasive Imaging Method Beyond Wavelength for UWB Radar”, Grant amount: 2.8 Million JPY (About \$ 28,000), Apr. 2013 - Mar. 2015.
26. S. Kidera (PI 100%), **Yazaki Memorial Foundation for Science and Technology**, “Super-resolution 3-D Imaging Method for UWB Radar”, Grant amount : 1.0 Million JPY (About \$ 10,000), Apr. 2013 - Mar. 2014.
27. S. Kidera (PI 100%), **Tateishi Science And Technology Foundation** “Research for Super-resolution UWB Sensor for Dielectric Medium Using Multiple Scattering Signals”, Grant amount: 2.1 Million JPY (About \$ 21,000), Apr. 2012 - Mar. 2013.
28. S. Kidera (PI 100%), **The Kurata Memorial Hitachi Science and Technology Foundation**, “Research for Super-resolution Imaging Method for Buried Object in Dielectric Medium Using Multiple Scattering Signal”, Grant amount: 1.2 Million JPY (About \$ 12,000), Apr. 2012 - Mar. 2013.
29. S. Kidera (PI 100%), **The Sumitomo Electric Group Basic**, “Research for Super-resolution and Quasi-Near Field UWB Radar Imaging Technique Under Narrower Observation Region”, Grant amount: 0.9 Million JPY (About \$ 9,000), Apr. 2012 - Mar. 2013.
30. S. Kidera (PI 100%), **Japan Society for the Promotion of Science (JSPS), Grants-in-Aid for Scientific Research, Grant-in-Aid for Young Scientists (B)**, “Research for Quasi-Near Field and Super-resolution Radar Sensor for Autonomous Robot”, Grant amount: 4.5 Million JPY (About \$ 45,000), Apr. 2012 - Mar. 2013.
31. S. Kidera (PI 100%), **TEPCO Memorial Foundation, Research Grant (Basic Research)** “Research for Super-resolution Internal Imaging Method for Dielectric Object for UWB Radar”,
Grant amount: 10.0 Million JPY (About \$ 100,000), Apr. 2011 - Mar. 2014.
32. S. Kidera (PI 100%), **The Nakajima Foundation**, “Research for Super-resolution Internal Radar Sensor Using Frequency Domain Interferometry of UWB Signal”, Grant amount: 3.0 Million JPY (About \$ 30,000), Apr. 2011 - Mar. 2012.
33. S. Kidera (PI 100%), **The Casio Scientific Foundation**, “Research for High-resolution Imaging Method for Indoor Measurement and Target Recognition”, Grant amount: 1.0 Million JPY (About \$ 10,000), Apr. 2011 - Mar. 2012.
34. S. Kidera (Co-PI 30%) and T. Kirimoto (PI 70 %) **Japan Society for the Promotion of Science (JSPS), Grants-in-Aid for Scientific Research, Scientific Research (B)**, “Research for Super-resolution Radar Technique Using Multiple Scattering Environment for Collision Avoidance Robot”, Grant amount: 14.4 Million JPY (About \$ 144,000), Apr. 2010 - Mar. 2013.
35. S. Kidera (PI 100%), **Japan Society for the Promotion of Science (JSPS), Grants-in-Aid for Scientific Research, Research Activity Start-up**, “Pioneering Research for Super-resolution UWB Radar Technique”, Grant amount: 2.7 Million JPY (About \$ 27,000), Apr. 2009 - Mar. 2011.
36. S. Kidera (PI 100%), **Japan Society for the Promotion of Science (JSPS), Grants-in-Aid for JSPS Fellow**, “Research for Fast and High-resolution Target Shape Estimation Method for UWB Pulse Radar”, Grant amount: 1.8 Million JPY (About \$ 18,000), Apr. 2007 - Mar. 2009.

Teaching Activity

Graduate Courses

Basic Theory for Control System Design (MATLAB Programming, Adaptive Array Signal Processing): Spring 2010, 2011, 2012, 2013, Fall 2010, 2011, 2012, 2013

Advanced Bioelectromagnetics: 2014-2022

Undergraduate Courses

Electronics Experiment (Digital Circuit): Fall 2009

Electronics Experiment (Inverted Pendulum Control): Fall 2011

Basic Scientific Experiment (Electrical Circuit, Photoelectric effect): Spring 2010, 2011, Fall 2012, 2013

Intelligent Mechanical Engineering Experiment (Logic Circuit): Spring 2012, 2013, Fall 2012, 2013

Measurement Engineering: 2014-2022

Oscillation and Wave: 2016-2022

Student Supervised

M.E. Degrees Completed

Takeru Ando, M.E., Mar. 2022

Haiyang Ma, M.E., Mar. 2022

Takahide Morooka, M.E., Mar. 2022

Peixian Zhu, M.E., Mar. 2022

Tomoki Ohmori, M.E., Mar. 2021

Umita Hirose, M.E., Mar. 2021

Takahiro Hanabusa, M.E., Mar. 2021

Hayatomomaru Morimoto, M.E., Mar. 2021

Hongyang Zhang, M.E., Mar. 2021

Jianghaomiao He, M.E., Mar. 2021

Hiroki Sato, M.E., Mar. 2020

Takamaru Matsui, M.E., Mar. 2020

Takumi Hayashi, M.E., Mar. 2020

Yoshiki Akiyama, M.E., "High-resolution Three-dimensional Radar Imaging Based on Wavenumber Space Decomposition for Short Range Radar", Mar. 2019 (Student Commendation in UEC)

Shuto Takahashi, M.E., "Incorporation Algorithm for RPM and Inverse Scattering Approaches for Microwave Non-destructive Testing", Mar. 2019 (Student Commendation in UEC)

Kazuki Kanazawa, M.E., "Accurate and Fast Zone monitoring for Microwave Ablation Breast Cancer Treatment", Mar. 2019

Kazuki Noritake, M.E., "Incorporation Algorithm for Boundary Extraction and Inverse Scattering Algorithms for Microwave Mammography", Mar. 2019

Tatsuo Takatori, M.E., "Permittivity Estimation by Incorporating RPM and Ellipsometry for Microwave Non-destructive Testing", Mar. 2018 (Student Commendation in UEC)

Masafumi Setsu, M.E., "Super-resolution Doppler Velocity Estimation and Multiple Scattering Exploitation for Microwave Through-the-wall Radar", Mar. 2018 (Student Commendation in UEC)

Yuta Sasaki, M.E., "Accurate and Fast Three-dimensional RPM Method for 140GHz-band Millimeter Wave Radar", Mar. 2016 (Student Commendation in UEC)

- Ayumi Yamaryo, M.E., “Accurate Image Extrapolation Method Using Full Polarimetric Data Learning for UWB Short Range Radar”, Mar. 2015 (Student Commendation in UEC)
- Takuya Niimi, M.E., “Accurate Dielectric Constant Estimation for Double Layered Medium with Extended Envelope Method”, Mar. 2015 (Student Commendation in UEC)
- Yoshihiro Niwa, M.E., “Experimental Study on Accurate Dielectric Constant Estimation Incorporating RPM and FDTD Method for UWB Internal Imaging Radar”, Mar. 2014
- Ryunosuke Souma, M.E., “Accurate Permittivity Estimation Method Using Waveform Compensation with FDTD for UWB Internal Imaging Technique”, Mar. 2013 (Student Commendation in UEC)
- Ryo Yamaguchi, M.E., “Moving Target Imaging Method Using Multi-static Observation Model for UWB Radars”, Mar. 2013 (Me-guro Award in UEC)
- Yoriaki Abe, M.E. “Accurate Image Expansion Method Using Range Points Based Ellipse Fitting for UWB Radars”, Mar. 2012 (Student Commendation in UEC)
- Ken Akune, M.E., “Accurate Imaging Method for Object Buried in Dielectric Medium by Advanced RPM Method”, Mar. 2012 (Student Commendation in UEC)

B.E Degrees Completed

- Gaku Umezu, B.E., Mar. 2022
- Katsuyoshi Suzuki, B.E., Mar. 2022
- Jun Okada, B.E., Mar. 2022
- Yoshiki Sekigawa, B.E., Mar. 2022
- Kanto Kito, B.E., Mar. 2021
- Yoshihiro Yamauchi, B.E., Mar. 2021
- Kenta Yamanaka, B.E., Mar. 2021
- Yutaro Suzuki, B.E., Mar. 2020
- Takeru Ando, B.E., Mar. 2020
- Takahide Morooka, B.E., Mar. 2020
- Yuriko Takaishi, B.E., Mar. 2020
- Yutaro Suzuki, B.E., Mar. 2020
- Umita Hirose, B.E., Mar. 2019
- Hayatomomaru Morimoto, B.E., Mar. 2019
- Takahiro Hanabusa, B.E., Mar. 2019
- Tomoki Oomori, B.E., Mar. 2019
- Takamaru Matsui, B.E., Mar. 2018
- Takumi Hayashi, B.E., Mar. 2018
- Yui Himeno, B.E., Mar. 2017
- Kazuki Noritake, B.E., Mar. 2017
- Shuto Takahashi, B.E., Mar. 2017
- Yoshiki Akiyama, B.E., Mar. 2017
- Sota Yamagishi, B.E., Mar. 2016
- Tatsuo Takatori, B.E., Mar. 2016
- Risako Tanaka, B.E., Mar. 2016
- Fuki Endo, B.E., Mar. 2016
- Ikki Kishida, B.E., “Parametric Dielectric Constant Estimation for UWB Internal Imaging Radar”, Mar. 2015

Takaya Taniguchi, B.E., "Ellipse Based Extrapolation Method for UWB Through The Wall Imaging Radar", Mar. 2014

Toshiki Manaka, B.E., "Experimental Study on Accurate Dielectric Constant Estimation Method for UWB Internal Imaging Radar", Mar. 2014

Takuya Niimi, B.E., "Accurate Permittivity Estimation Method Using Reflection Echo from Internal Object for UWB Radar", Mar. 2013

Ayumi Yamaryo, B.E., "Image Expansion Method Using Multiple Scattering Signal for UWB Indoor Sensing", Mar. 2013

Yoshihiro Niwa, B.E., "Accurate Image Expansion Method by Multi-static Observation Model for UWB Internal Radar", Mar. 2012

Yusuke Harano, B.E., "Accuracy Enhancement for UWB Radar Image Using Phase Discrimination of Capon Output", Mar. 2012

Ryunosuke Souma, B.E., "Permittivity Estimation Method for UWB Internal Imaging Technique", Mar. 2011

Ryo Yamaguchi, B.E., "Moving Target Estimation Method Using Multi-static Observation for UWB Indoor Sensor", Mar. 2011

Kenta Shigeno, B.E., "Super-Resolution TOA Estimation Method Using Independent Component Analysis for UWB Imaging Radar", Mar. 2011

Yoriaki Abe, B.E., "Omni-directional Imaging Method with Arbitrary Scanning Orbit for UWB Robotic Sensor", Mar. 2010

Ken Akune, B.E., "Acceleration for Shadow Region Imaging using Multiple Scattering Waves for UWB Radar", Mar. 2010

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