

# **List of Publications**

## List of publications

### (1) Papers

1. K.Horikawa, T.Mochizuki, S.Miyamoto, S.Amano, T. Watanabe, D.Li, K.Imasaki, Y.Izawa  
“Photonic reaction of Iodine-129 with laser-Compton scattering gamma-rays using Nd:YVO<sub>4</sub>laser and electron storage ring”  
Rev. Laser Eng., Vol.39, 445-447(2011)
2. T.Inoue, T.Mochizuki, S.Miyamoto, S.Amano, T.Watanabe, K.Kanda  
“Soft X-Ray Conversion Efficiencies in Laser-Produced Xenon and Tin Plasmas in a 5-17nm Wavelength Range”  
Jpn. J. Appl. Phys., Vol. 50, 098001 (2011)
3. Hiroki Nose, Tsukasa Azeta, Masatoshi Kataoka, Yuichi Utsumi,  
“Propose a Preparation Chip for Integration to 3D Lab-on-a-CD”  
to be published in Microsystem Technologies, (2012).
4. Tsukasa Azeta, Yoshiaki Ukita, Yuichi Utsumi,  
“Propose 3D micro microfluidic device with capillary bundle structure”  
to be published in Microsystem Technologies, (2012).
5. Hideki Kido, Tomoyuki Kuroki, Masaaki Okubo, Yuichi Utsumi,  
“Application of photo-etching of polytetrafluoroethylene induced by high energy synchrotron radiation to LIGA”  
to be published in Microsystem Technologies, (2012).
6. Tsunemasa Saiki, and Yuichi Utsumi,  
“High Efficiency Mixing Chip with Liquid Flow Actuators Operated by Surface Acoustic Waves”,  
to be published in Electronics and Communications in Japan (2012).
7. Hiroo Kinoshita, Tetsuo Harada, Masato nakasuji, Yutaka Nagata, and Takeo Watanabe,  
“Development of coherent scatterometry microscope”,  
Microelectronic Engineering **88**, pp. 2000-2003, 2011.
8. Yuya Yamaguchi, Yasuyuki Fukushima, Tetsuo Harada, Takeo Watanabe, and Hiroo Kinoshita,  
“Transmission Grating Fabrication for Replicating Resist Patterns of 20nm and Below”,  
Jpn. J. Appl. Phys. **50**, 06GB10, 2011
9. Yasuyuki Fukushima, Naoki Sakagami, Teruhiko Kimura, Yoshito Kamaji, Takafumi Iguchi, Yuya Yamaguchi, Masaki Tada, Tetsuo Harada, Takeo Watanabe, and Hiroo Kinoshita,  
“Development of Extreme Ultraviolet Interference Lithography System”, Jpn. J. Appl. Phys. **49**, 06GD06, 2010.
10. Tetsuo Harada, Masato Nakasuji, Teruhiko Kimura, Yutaka Nagata, Takeo Watanabe, and Hiroo Kinoshita,  
“The coherent EUV scatterometry microscope for actinic mask inspection and metrology”,  
Proc. SPIE **8081** (2011) 80810K, DOI: 10.1117/12.896576.
11. Tetsuo Harada, Masato Nakasuji, Masaki Tada, Yutaka Nagata, Takeo Watanabe, and Hiroo Kinoshita,  
“Critical Dimension Measurement of an Extreme-Ultraviolet Mask Utilizing Coherent Extreme-Ultraviolet Scatterometry Microscope at NewSUBARU”,  
Jpn. J. Appl. Phys. **50** (2011) 06GB03, DOI: 10.1143/JJAP.50.06GB03.
12. Tetsuo Harada, Masato Nakasuji, Teruhiko Kimura, Takeo Watanabe, Hiroo Kinoshita, Yutaka Nagata,

“Imaging of extreme-ultraviolet mask patterns using coherent extreme-ultraviolet scatterometry microscope based on coherent diffraction imaging,”  
J. Vac. Sci. Technol. B **29** (2011) 06F503, DOI: 10.1116/1.3657525.

13. H. Yoshida, K. Tsubakimoto, Y. Fujimoto, K. Mikami, H. Fujita, N. Miyanaga, H. Nozawa, H. Yagi, T. Yanagitani, Y. Nagata, and H. Kinoshita,  
“Optical properties and Faraday effect of ceramic terbium gallium garnet for a room temperature Faraday rotator”,  
Opt. Exp. Vol. **19**, No. 16 (2011) pp15181-15187, DOI: 10.1109/CLEOE.2011.5942840.
14. Yuriy Platonov, Jim Rodriguez, Michael Kriese, Eric Gullikson, Tetsuo Harada, Takeo Watanabe, and Hiroo Kinoshita,  
“Multilayers for next generation EUVL at 6.x nm”,  
SPIE Proc. **8076**, 80760N, 2011.
15. Hiroaki Oizumi, Kazuyuki Matsumaro, Satoshi Nomura, Julius Joseph Santillan, Toshiro Itani, Takeo Watanabe, Naohiro Matsuda, Tetsuo Harada, and Hiroo Kinoshita,  
“Relationships between EUV resist outgassing and contamination deposition at Selete”,  
SPIE Proc. **7969**, 796921, 2011.
16. Naohiro Matsuda, Takeo Watanabe, Tetsuo Harada, Hiroo Kinoshita, Hiroaki Oizumi, Toshiro Itani,  
“In-situ Contamination Thickness Measurement by Novel Resist Evaluation System at NewSUBARU”,  
Jpn. J. Appl. Phys. **50**, 06GB02, 2011.
17. Takuro Urayama, Takeo Watanabe, Yuya Yamaguchi, Naohiro Matsuda, Yasuyuki Fukushima, Takafumi Iguchi, Tetsuo Harada, and Hiroo Kinoshita,  
“EUV Interference Lithography for 1X nm”,  
J. Photopolym. Sci. Technol, **24**, pp. 153-157, 2011.
18. Takuya Goto, Tomoyuki Yasukawa, Kazuhiro Kanda, Shinji Matsui, Fumio Mizutani.  
“Inhibition of Electrochemical Fouling against Biomolecules on a Diamond-Like Carbon Electrode”  
Analytical Sciences 27 (2011) 91-94.
19. Akira Wada, Takeshi Ogaki, Masahito Niibe, Masahito Tagawa, Hidetoshi Saitoh, Kazuhiro Kanda and Haruhiko Ito  
“Local structural analysis of a-SiCx:H films formed by decomposition of tetramethylsilane in microwave discharge flow of Ar”  
Diamond and Related Materials 20 (2011) 364-367.
20. Kazuhiro Kanda, Noriko Yamada, Kumiko Yokota, Masahito Tagawa, Masahito Niibe, Mokoto Okada, Yuichi Haruyama, and Shinji Matsui  
“Fabrication of Fluorine-terminated Diamond-Like Carbon Thin Film Using a Hyperthermal Atomic Fluorine Beam”  
Diamond and Related Materials 20 (2011) 703-706.
21. Kazuhiro Kanda, Kumiko Yokota, Masahito Tagawa, Mayumi Tode, Yuden Teraoka, and Shinji Matsui  
“Effect of the Soft X-rays on Highly Hydrogenated Diamond-Like Carbon Films”  
Japanese Journal of Applied Physics 50 (2011) 055801-1-3.
22. Kazuhiro Kanda, Makoto Okada, Yuji Kang, Tsuneo Suzuki, and Shinji Matsui  
“Departure Process of Ga from DLC Films Fabricated Using Ga Focused Ion Beam Assisted Deposition by Heat Treatment”  
Transactions of Materials Research Society of Japan 36 (2011) 71-73.
23. Tomoyuki Inoue, Takayasu Mochizuki, Shuji Miyamoto, Takeo Watanabe, and Kazuhiro Kanda

“Soft X-ray Conversion Efficiencies in Laser-Produced Xenon and Tin Plasmas in a 5-17 nm Wavelength Range”  
Japanese Journal of Applied Physics 50 (2011) 098001

24. Akira Wada, Tsuneo Suzuki, Masahito Niibe, Haruhiko Ito, and Kazuhiro Kanda  
“Annealing Effect of W Incorporated Diamond-Like Carbon Fabricated by Ga Focused Ion Beam Chemical Vapor Deposition”  
Japanese Journal of Applied Physics 50 (2011) 06GG05.
25. M. Chinen, Y. Sawada, Y. Haruyama, S. Matsui, M. Okada, and H. Hiroshima  
“Characterization of pentafluoropropane dissolved UV-nanoimprint resin”,  
J. Vac. Sci. Technol. **B 29**, 06FC18-5, 2011
26. Y. Kang, M. Okada, Y. Nakai, Y. Haruyama, K. Kanda, and S. Matsui  
“Mechanical characteristics of imprinted nanostructures fabricated with a poly(dimethylsiloxane) mold”,  
J. Vac. Sci. Technol. **B 29**, 06FC10-6, 2011
27. M. Okada, Y. Haruyama, K. Kanda, and S. Matsui  
“Suitability of thin poly(dimethylsiloxane) as an antisticking layer for UV nanoimprinting”,  
J. Vac. Sci. Technol. **B 29**, 06FC09-5, 2011
28. M. Okada, Y. Haruyama, S. Matsui, H. Miyake, S. Iyoshi, T. Yukawa, and H. Takeuchi  
”Evaluation of fluorine additive effect on cationic UV-nanoimprint resin”,  
J. Vac. Sci. Technol. **B 29**, 06FC04-4, 2011
29. Y. Sawada, Y. Haruyama, K. Kanda, S. Matsui, M. Okada, H. Miyake, T. Ohsaki, Y. Hirai, and H. Hiroshima  
“Evaluation of the curing process of UV resins in a 1,1,1,3,3-pentafluoropropane gas environment by photo differential scanning calorimetry and Fourier transform infrared spectroscopy”,  
J. Vac. Sci. Technol. **B 29**, 06FC05-4, 2011
30. Y. Kang, M. Okada, S. Omoto, Y. Haruyama, K. Kanda, and S. Matsui  
“Room temperature nanoimprinting using spin-coated hydrogen silsesquioxane with high boiling point solvent”, J. Vac. Sci. Technol. **B 29**, 06FC03-3, 2011
31. M. Okada, M. Iwasa, H. Hiroshima, Y. Haruyama, K. Kanda, and S. Matsui  
“Adhesion and frictional force measurements employing scanning probe microscopy in a pentafluoropropane gas atmosphere”,  
J. Vac. Sci. Technol. **B 30**, 011601-3, 2012
32. Y. Haruyama, Y. Kang, M. Okada, S. Matsui  
“Electronic structure of fluorinated diamond-like carbon thin films as a function of annealing temperature using photoelectron spectroscopy”,  
J. Electron Spectrosc. Related Phenom **184**, 276-279, 2011
33. K. Kanda, N. Yamada, K. Yokota, M. Tagawa, M. Niibe, M. Okada, Y. Haruyama, and S. Matsui  
“Fabrication of Fluorine-terminated Diamond-Like Carbon Thin Film Using a Hyperthermal AtomicFluorine Beam”,  
Diamond and Related Materials **20**, 703-706, 2011
34. K. Arai, T. Okuda, K. Fukumoto, M. Kotsugi, T. Ohkouchi, K. Kodama, T. Kimura, Y. Haruyama, T. Nakamura, T. Matsushita, T. Muro, S. Matsui, A. Kakizaki, Y. Otani, and T. Kinoshita  
“Dynamics of Magnetostatically Coupled Vortices Observed by Time-Resolved Photoemission Electron Microscopy”, Jpn. J. Appl. Phys. **50**, 053001-6, 2011

35. Y. Ikemoto, M. Ishikawa, S. Nakashima, H. Okamura, Y. Haruyama, S. Matsui, T. Moriwaki, T. Kinoshita  
 "Development of scattering near-field optical microspectroscopy apparatus using an infrared synchrotron radiation source", Optics Communications **285** 2212–2217, 2012
36. M. Niibe, T. Kotaka, S. Hori, and S. Inoue:  
 "NEXAFS Characterization of c-BN Thin Film Prepared by Sputtering Method"  
 Adv. X-ray Cem. Anal. Japan **43**, 153-160 (2012).
37. T. Kotaka, M. Niibe, and T. Mitamura:  
 "Investigation of Analyzing Depth of N-K Absorption Spectra Measured with TEY and TFY Method"  
 Adv. X-ray Cem. Anal. Japan **43**, 175-180 (2012).
38. M. Niibe, T. Kotaka, R. Kawakami, T. Inaoka, K. Tominaga, and T. Mukai:  
 "Damage Analysis of Plasma-etched n-GaN Crystal Surface by Nitrogen K-edge NEXAFS Spectroscopy"  
 Jpn. J. Appl. Phys., **51**, 01AB02 (2012).
39. Wada, K. Koshimura, M. Niibe, H. Saitoh, K. Kanda, H. Ito:  
 "Carbon-K NEXAFS measurements of a-CNx films formed from decomposition of BrCN in electron cyclotron resonance plasmas of He, Ne, and Ar" J. Non-crystal. Solids, **358**, 124-128 (2012).
40. Y. Nakano, R. Kawakami, M. Niibe, A. Takeichi, T. Inaoka and K. Tominaga:  
 "Photoluminescence Study of Damage Introduced in GaN by Ar- and Kr-Plasmas Etching,"  
 Material Research Society Symposium Proceedings Vol. **1396**, mrsf11-1396-o07-36 (2012).
41. R. Kawakami, A. Takeichi, M. Niibe, T. Inaoka, and K. Tominaga:  
 "Damage Characteristics of TiO<sub>2</sub> Thin Film Surfaces Etched by Capacitively Coupled Radio Frequency Helium Plasmas"Jpn. J. Appl. Phys., **50**, 08KD01 (2011).
42. Wada, T. Suzuki, M. Niibe, H. Ito, and K. Kanda:  
 "Annealing Effect og W Incorporated Diamond-Like Carbon Fabricated by Ga Focused Ion Beam Chemical Vapor Deposition"  
 Jpn. J. Appl. Phys., **50**, 06GG05-1~4 (2011).
43. M. Niibe, K. Koida, Y. Kakutani, T. Nakayama, S. Terashima, A. Miyake, H. Kubo, S. Matsunari, T. Aoki, and S. Kawata:  
 "Nonlinear behavior of decrease in reflectivity of multilayer mirrors for extreme ultraviolet lithography optics by high-flux extreme ultraviolet irradiationin various vaccum environment"  
 Jpn. J. Appl. Phys., **50**, 06GB05-1~6 (2011).
44. Akira Wada, Takeshi Ogaki, Masahito Niibe, Masahito Tagawa, Hidetoshi Saitoh, Kazuhiro Kanda andHaruhiko Ito:  
 "Local structural analysis of a-SiCx:H films formed by decomposition of tetramethylsilane in microwave discharge flow of Ar",  
 Diamond and Related Materials, **20**, 364-367 (2011).
45. K. Kanda, N. Yamada, K. Yokota, M. Tagawa, M. Niibe, M. Okada, Y. Haruyama, S. Matsui:  
 "Fabrication of Fluorine-terminated diamond-like carbon thin film using a hyperthermal atomic fluorine beam",  
 Diamond and Related Materials, **20** 703-706 (2011).

## (2) International Meetings

1. Yoshiaki Ukita, Saki Kondo, Tsukasa Azeta, Masaki Ishizawa, Chiwa Kataoka, Masahiro Takeo, Yuichi Utsumi,

2. "Stacked centrifugal microfluidic device with three-dimensional microchannel networks and multifunctional capillary bundle structures for immunoassay", Sensors and Actuators B: Chemical, 165, (2012)
3. Tsunemasa Saiki, Katsuhide Okada, Yuichi Utsumi, "Highly efficient liquid flow actuator operated by surface acoustic waves", Electronics and Communications in Japan, 94, 10, 10-16, (2011)
4. Tsunemasa Saiki, and Yuichi Utsumi, "Highly efficient liquid flow actuator operated by surface acoustic waves", IEEJ Transactions on Electronics, Information and Systems, 132, 1, 70-76, (2012)
5. Tsukasa Azeta, Yuichi Utsumi, "Proposal of High-Integrated Three-Dimensional Microfluidic by Using Centrifugal Force for Enzyme Linked Immunosorbent Assay", Journal of Japan Institute of Electronics packaging, 15, 1, 38-41, (2012).
6. Mitsuyoshi Kishihara, Hiroaki Ikeuchi, Yuichi Utsumi, Tadashi Kawai, Isao Ohta, "Design and Fabrication of PTFE-Filled Waveguide Components by SR Direct Etching", IEICE TRANSACTIONS on Electronics, E95-C, 1, 122-129 (2012).
7. Hiroo Shizuka, Koichi Okuda, Masayuki Nunobiki, Wei Li, Takanobu Inaoka, Tsunemasa Saiki, Yuichi Utsumi, "Ductile Mode Cutting of Lithium Niobate", Journal of the Japan Society for Abrasive Technology, 56, 2, 118-123 (2012)
8. Tsukasa Azeta, Yoshiaki Ukita, Yuichi Utsumi, "Proposal of Three-dimensional Microfluidics Device For Immunoassay Using Centrifugal Force" The 9<sup>th</sup> International Workshop on High Aspect Ratio Micro Structure Technology (HARMST2011), pp55-56, June 12-18 (2011), Hsin Chu, Taiwan
9. Tsukasa Azeta, Yoshiaki Ukita, Masahiro Takeo, Kyuya Nakagawa, Shinichi Yusa, Yuichi Utsumi, "Three-Dimensional Lab-on-a-CD with Enzyme-Linked Immunosorbent Assay", The 9<sup>th</sup> International Workshop on High Aspect Ratio Micro Structure Technology (HARMST2011), pp174-175, June 12-18 (2011), Hsin Chu, Taiwan
10. Tsukasa Azeta, Hiroki Nose, Masatoshi Kataoka, Yuichi Utsumi, "Propose a blood separation chip for 3D lab-on-a-CD", The 9<sup>th</sup> International Workshop on High Aspect Ratio Micro Structure Technology (HARMST2011), pp176-177, June 12-18 (2011), Hsin Chu, Taiwan
11. Mitsuhiro Yoshida, Yoshito Hirose, Yoshiaki Ukita, Masahiro Takeo, Kyuya Nakagawa, Shinichi Yusa, Kunihiko Mabuchi, Yuichi Utsumi, "Proposal of Stacked Electrode Layers for Multiplex Nerve Fibers", The 9<sup>th</sup> International Workshop on High Aspect Ratio Micro Structure Technology (HARMST2011), pp78-79, June 12-18 (2011), Hsin Chu, Taiwan
12. Mitsuhiro Yoshida, Yuji Yoritama, Akinobu Yamaguchi, Yuichi Utsumi, "Fabrication of Integrated Magneto Impedance Sensor for Medical Monitoring", The 9<sup>th</sup> International Workshop on High Aspect Ratio Micro Structure Technology (HARMST2011), pp178-179, June 12-18 (2011), Hsin Chu, Taiwan
13. Tsunemasa Saiki, Tsukasa Azeta, Kei Kuramoto, Yuichi Utsumi, "High Efficiency Microfluidic Reactor Chip Operated Only Using Surface Acoustic Wave",

The 9<sup>th</sup> International Workshop on High Aspect Ratio Micro Structure Technology (HARMST2011), pp139-140, June 12-18 (2011), Hsin Chu, Taiwan

14. Hikaru Tomita, Tsunemasa Saiki, Nozomu Araki, Hiroyuki Ishigaki, Yuichi Utsumi, "Study on Powder Transport Using Surface Acoustic Wave Actuator", The 9<sup>th</sup> International Workshop on High Aspect Ratio Micro Structure Technology (HARMST2011) , pp137-138, June 12-18 (2011), Hsin Chu, Taiwan
15. Atsushi Tokuoka, Daiji Noda, Tadashi Hattori, "Fabrication of high aspect ratio Au microstructure using direct electroplating on Si microstructure" , The 9<sup>th</sup> International Workshop on High Aspect Ratio Micro Structure Technology (HARMST2011) , pp158-159, June 12-18 (2011), Hsin Chu, Taiwan
16. Mitsuyoshi Kishihara, Hiroaki Ikeuchi, Yuichi Utsumi, Tadashi Kawai, Isao Ohta, "Fabrication of Waveguide Bandpass Filter Using SR Direct Etching of PTFE and Its Evaluation", The 9<sup>th</sup> International Workshop on High Aspect Ratio Micro Structure Technology (HARMST2011) , pp121-122, June 12-18 (2011), Hsin Chu, Taiwan
17. Yoshiaki Ukita, Tsukasa Azeta, Saki Kondo, Chiwa Kataoka, Shinichi Yusa, Masahiro Takeo, Yuichi Utsumi, "Environmental Analysis using Stacked Centrifugal Microfluidics" The 9<sup>th</sup> International Workshop on High Aspect Ratio Micro Structure Technology (HARMST2011) , pp121-122, June 12-18 (2011), Hsin Chu, Taiwan
18. Kyuya Nakagawa, Masahiro Takeo, Yuichi Utsumi, "Ice Creates Microstructure in a Colloidal Suspension: Can it be a useful structuralization in a microspace?", The 9 th International Workshop on High Aspect Ratio Micro Structure Technology (HARMST2011) , pp101, June 12-18 (2011), Hsin Chu, Taiwan
19. Tsukasa Azeta, Hiroki Nose, Saki Kondo, Yuichi Utsumi, "Three-dimensional Micro Fluidics Device Using Centrifugal Force ", International Conference on Electronics Packaging (ICEP2011) , pp955-958, April 13-15 (2011), Nara, Japan
20. Mitsuhiro Yoshida, Yoshito Hirose, Yoshiaki Ukita, Kunihiko Mabuchi, Yuichi Utsumi, "Proposal of stacked electrodes for multiplex neural interface" , International Conference on Electronics Packaging (ICEP2011) , pp968-971, April 13-15 (2011), Nara, Japan
21. Tsukasa Azeta, Yoshiaki Ukita, Yoshito Hirose, Saki Kondo, Yuichi Utsumi, "High-sensitive Detection of Polychlorinated Biphenyl on Three-dimensional Lab-on-a-CD", International Conference on Electronics Packaging (ICEP2011) , pp963-967, April 13-15 (2011), Nara, Japan
22. Hiroki Nose, Tsukasa Azeta, Yoshiaki Ukita, Saki Kondo, Chiwa Kataoka, Yuichi Utsumi, "High-sensitive Enzyme-linked Immunosorbent Assey in Three-dimensional Lab-on-a-CD" International Conference on Electronics Packaging (ICEP2011) , pp959-962, April 13-15 (2011), Nara, Japan
23. Hideki Kido, Masaki Ishizawa, Tsukasa Azeta, Yoshiaki Ukita, Yuichi Utsumi, "Direct Photo-Etching of Fluorocarbon Polymers Induced by High Energy Synchrotron Radistion", 37<sup>th</sup> International Confedence on Micro and Nano Engineering (MNE2011) , pp166, September 19-23 (2011), Berlin, Germany
24. Takao Fukuoka, Mitsuhiro Yoshida, Daisuke Fukuoka, Yuichi Utsumi,

25. "Noble Metal Nanostructure for Near Infrared Localized Plasmon Sensing", 37<sup>th</sup> International Conference on Micro and Nano Engineering (MNE2011) , pp340, September 19-23 (2011), Berlin, Germany
26. Tsunemasa Saiki, Hikaru Tomita, Hiroo Shizuka, Koichi Okuda, Kazusuke Maenaka, Yuichi Utsumi, "Reflected Surface Acoustic Wave Actuator Using Micro Groove", 37<sup>th</sup> International Conference on Micro and Nano Engineering (MNE2011) , pp490, September 19-23 (2011), Berlin, Germany
27. Hiroki Nose, Tsukasa Azeta, Masatoshi Kataoka, Masahiro Takeo, Kyuya Nakagawa, Shinichi Yusa, Yuichi Utsumi, "Proposal a Preparation Chip for 3D Lab-no-a-CD", 37<sup>th</sup> International Conference on Micro and Nano Engineering (MNE2011) , pp534, September 19-23 (2011), Berlin, Germany
28. Masaki Ishizawa, Tsukasa Azeta, Hiroki Nose, Yoshiaki Ukita, Masahiro Takeo, Kyuya Nakagawa, Shinichi Yusa, Yuichi Utsumi, "Multi Stacked Centrifugal Microfluidics for Enzyme-linked Immunosorbent Assay", 37<sup>th</sup> International Conference on Micro and Nano Engineering (MNE2011) , pp602-603, September 19-23 (2011), Berlin, Germany
29. Yoshiaki Ukita, Y. Takamura, Yuichi Utsumi, "A Novel Flow Sequencing Method on Centrifugal Microfluidic Device using "Liquid Clock"" , 25<sup>th</sup> International Microprocesses and Nanotechnology Conference (MNC2011), 26P-7-147L, October 24-27 (2011), Kyoto, Japan
30. Hideki Kido, Masaki Ishizawa, Tukasa Azeta, Yoshiaki Ukita, Yuichi Utsumi, "Direct Photo-Etching of Fluorocarbon Polymers Induced by High Energy Synchrotron Radiation", 25<sup>th</sup> International Microprocesses and Nanotechnology Conference (MNC2011), 26P-7-136, October 24-27 (2011), Kyoto, Japan
31. Masaki Ishizawa, Tsukasa Azeta, Hiroki Nose, Yoshiaki Ukita, Yuichi Utsumi, "Three-Dimensional Lab-on-a-CD with Enzyme-Linked Immunosorbent Assay", Nano/Micro Engineered and Molecular Systems (IEEE-NEMS 2012), pp285-289, March 5-8 (2012), Kyoto, Japan
32. Hideki Kido, T Kuroki, M Okubo, Yuichi Utsumi, "Application of Surface Modification and Photo-Etching of Polytetrafluoroethylene for LIGA", Nano/Micro Engineered and Molecular Systems (IEEE-NEMS 2012), pp750-751, March 5-8 (2012), Kyoto, Japan
33. Takao Fukuoka, Mitsuhiro Yoshida, Ryo Takahashi, M Suzuki, Yuichi Utsumi, "Gold Nanorod Arrays for Near Infrared Optofluidic Device", Nano/Micro Engineered and Molecular Systems (IEEE-NEMS 2012), pp439-440, March 5-8 (2012), Kyoto, Japan
34. H. Fujita, R. Bhushan, K. Iyama, K. Tsubakimoto, H. Yoshida, N. Miyanaga, and M. Nakatsuka, "High Average Power Short Pulse Laser for Generation of Coherent 13.5 nm Light", The 3rd International Conference on Laser Peening, Osaka, Japan, 2011/10/11-14.
35. H. Kinoshita, T. Harada, and T. Watanabe, "Overview of EUV Mask Inspection System in NewSUBSRU," EUVL Workshop, 2011.6, Maui
36. H. Yoshida, K. Tsubakimoto, H. Fujita, N. Miyanaga, Y. Nagata, H. Kinoshita, "Stimulated-Brillouin-scattering via phase-conjugation-mirror for high-average-power Nd:YAG laser systems",

CLEO Europe-EQEC 2011, ICM International Congress Centre, Munich, Germany, 2011/5/22-26.

37. H. Yoshida, K. Tsubakimoto, Y. Fujimoto, H. Fujita, N. Miyanaga, H. Nozawa, H. Yagi, T. Yanagitani, Y. Nagata, H. Kinoshita,  
“Optical properties and Faraday effects on terbium gallium garnet ceramics for Faraday rotator”,  
CLEO Europe-EQEC 2011, 22-26 May 2011, ICM - International Congress Centre, Munich,  
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38. Yuriy Platonov, Jim Rodriguez, Michael Kriese, Eric Gullikson, Tetsuo Harada, Takeo Watanabe, and Hiroo Kinoshita,  
“Multilayers for next generation EUVL at 6.X nm”, EUV and X-Ray Optics, Prague, Czech  
Republic,  
2011/4/20.
39. Toshiya Takahashi, Norihiko Sugie, Kazuhiro Katayama, Isamu Takagi, Yukiko Kikuchi, Eishi  
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Hiroyuki Tanaka, Soichi Inoue, Takeo Watanabe, Tetsuo Harada, and Hiroo Kinoshita,  
“Resist outgassing characterization for qualification in high power EUV lithography”, Extreme  
Ultraviolet (EUV) Lithography III,  
San Jose, California, USA, 2012/02/13.
40. T. Watanabe, H. Kinoshita,  
“R&D status of EUVL program in Japan,” EUVL Workshop, 2011.6, Matsui
41. Takeo Watanabe, Yuya Yamaguchi, Takuro Urayama, Naohiro Matsuda, Tetsuo Harada and Hiroo  
inosita, “EUV Interference Lithography for 1X nm (P8),”  
EUVL Workshop, 2011.6, Maui
42. Takuro Urayama, Naohiro Matsuda, Yuya Yamaguchi, Takafumi Iguchi, Yasuyuki Fukushima,  
Tetsuo Harada, Hiroo Kinoshita, and Takeo Watanabe,  
“EUV Interference Lithography for 1X nm”,  
ICPST-28, Chiba, Japan, 2011/6/21-24.
43. T. Harada, M. Nakasaji, T. Kimura, T. Watanabe, H. Kinoshita, Y. Nagata,  
“Imaging of EUV-Mask Patterns using the Coherent Scatterometry Microscope based on a Coherent  
Diffraction Imaging”,  
EIPBN 55th, Las Vegas, USA, 2011/5/31.
44. Y. Nagata, T. Harada, H. Kinoshita, K. Midorikawa,  
“Generation of highly coherent, bright 13 nm light with phase-matched high-order harmonics for  
coherent scatterometry microscope,”  
EIPBN 55th, Las Vegas, USA, 2011/5/31.
45. Masato Nakasaji, Akifumi Tokimasa, Tetsuo Harada, Yutaka Nataga, Takeo Watanabe, Katsumi  
Midorikawa, Hiroo Kinoshita,  
“Development of Coherent EUV Scatterometry Microscope with High-order Harmonic  
Generation Source for EUV Mask Inspection and Metrology,” MNC2011, Kyoto, Japan, 2011/10/26.
46. Yuya Yamaguchi, Yasuyuki Fukushima, Tetsuo Harada, Takeo Watanabe, and Hiroo Kinoshita,  
“Extreme Ultraviolet Interference Lithography toward 1X nm Nodes”,  
EIPBN 55th, Las Vegas, USA, 2011/5/31.
47. Tetsuo Harada, Masato Nakasaji, Akifumi Tokimasa, Takeo Watanabe, Youichi Usumi, Hiroo  
Kinoshita, “Micro Coherent EUV Scatterometry Microscope for a Defect Characterization on an  
EUV Mask”, MNC2011, Kyoto, Japan, 2011/10/26.
48. Fujimoto, M. Okada, Y. Kang, M. Niibe, S. Matsui, T. Suzuki, and K. Kanda  
“Thermal Durability of FIB-DLC Films containing W”

49. 24rd International Micropocesses and Nanotechnology Conference (MNC2011), ANA Hotel Kyoto, October24-27 [27P-11-28].
50. Takuto Fukuoka, Akira Heya, Naoto Matsuo, Kazuhiro Kanda and Takashi Noguchi  
“Novel activation method of B by soft X-ray undulator”  
2011 International Conference on Solid State Devices and Materials (SSDM 2011), Aichi Industry & Labor Center (WINC AICHI), Nagoya, Japan, Sep. 28-30, 2011
51. Kazuhiro Kanda, Masahito Niibe, Masahito Tagawa, Kumiko Yokota  
“Reaction Mechanism of the Irradiation of Soft X-ray to the Diamond-Like Carbon Films”  
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“Evaluation of curing time and calorific value of UV-curable resin under pentafluoropropane gas ambient by photo-differential scanning calorimetry”  
International Conference on Materials for Advanced Technologies (ICMAT2011), Suntec, Singapore, Jun. 26 – Jul. 1, 2011, [C1-5]
55. Makoto OKADA, Masayuki IWASA, Yuichi HARUYAMA, Kazuhiro KANDA, Hiroshi HIROSHIMA, Shinji MATSUI  
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65. M. Okada, M. Iwasa, Y. Haruyama, K. Kanda, H. Hiroshima and S. Matsui  
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75. D. Yamashita, M. Okada, Y. Nakai, Y. Haruyama, S. Matsui  
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97. M. Niibe, T. Kotaka, R. Kawakami, Y. Nakano, T. Inaoka, K. Tominaga, and T. Mukai:  
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"Capacitively coupled radio frequency helium plasma treatment effect on TiO<sub>2</sub> thin film surfaces"  
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108. Kazuhiro Kanda, Masahito Niibe, Masahito Tagawa, Kumiko Yokota:  
"Reaction Mechanism of the Irradiation of Soft X-ray to the Diamond-Like Carbon Films"  
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109. Kazuhiro Kanda, Masahito Niibe, Akira Wada, Haruhiko Itoh, Tsuneo Suzuki, and Hidetoshi Saitoh: "Near-Edge X-ray Absorption Fine Structure Spectra of Si-containing DLC Thin Films" 5th International Conference on New Diamond and Nano Carbons(NDNC2011)Kunibiki Messe, Matsue, May 16-20, 2011, [16-5]
110. Masahiro Ohka, Takuya Matsunaga, Daiji Noda and Tadashi Hattori, "Experimental Tactile Sensor Using Optical Flow", 4<sup>th</sup> International Conference on Manufacturing, Machine Design and Tribology (ICMDT 2011), Gamagori, Japan, April 24-27, 2011
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113. Daiji Noda, Yuu Kuboyama, Tadashi Hattori, "Fabrication of high precision microstructure using ICP etching for capacitive inclination sensor", 9<sup>th</sup> International Workshop on High-Aspect-Ratio Micro-Structure Technology (HARMST2011), Hsinchu, Taiwan, June 12-18, 2011
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### (3) Book

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### (4) Award

木下博雄

" 極端紫外線リソグラフィー技術の先駆的研究"

平成 23 年度科学技術分野の文部科学大臣表彰 科学技術賞 (研究部門)