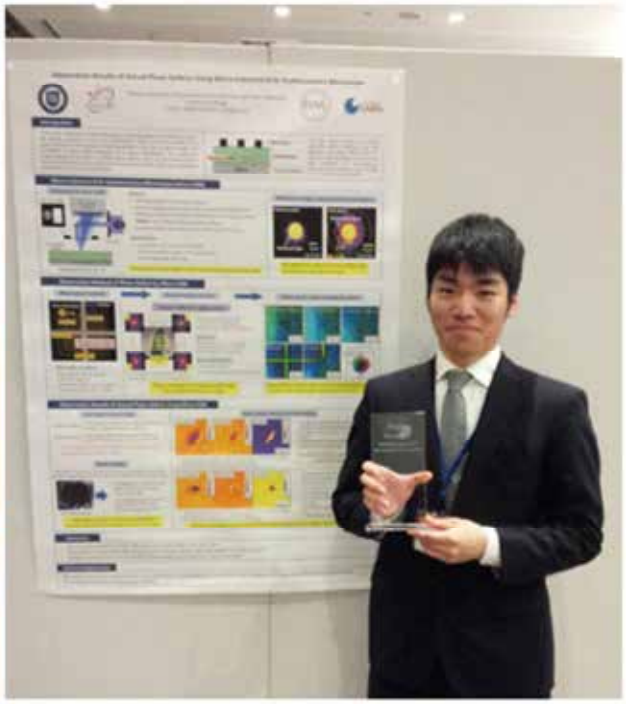
Part 3. List of Publications



H. Hashimoto in a master's course of a graduate school won the Best Academic Poster Award in Photomask Japan 2016.

List of publications

(1) Papers

1. **"Positron annihilation Doppler broadening measurement for bulk amorphous alloy by using high energy positron generated from LCS gamma-ray at NewSUBARU"**
F. Hori, Y. Ueno, K. Ishii, T. Ishiyama, A. Iwase, S. Miyamoto, M. Terasawa
Journal of Physics: Conference Series **674** (2016) 012025.

2. **"Development of Compton X-ray spectrometer for high energy resolution single-shot high-flux hard X-ray spectroscopy"**
Sadaoki Kojima, Takahito Ikenouchi, Yasunobu Arikawa, Shohei Sakata, Zhe Zhang, Yuki Abe, Mitsuo Nakai, Hiroaki Nishimura, Hirouyki Shiraga, Tetsuo Ozaki, Shuji Miyamoto, Masashi Yamaguchi, Akinori Takemoto, Shinsuke Fujioka, and Hiroshi Azechi
Review of Scientific Instruments, **87**, 043502 (2016).

3. **"Spatial anisotropy of neutrons emitted from the ^{56}Fe(γ, n)^{55}Fe reaction with a linearly polarized γ-ray beam"**
T. Hayakawa, T. Shizuma, S. Miyamoto, S. Amano, A. Takemoto, M. Yamaguchi, K. Horikawa, H. Akimune, S. Chiba, K. Ogata and M. Fujiwar
Physical Review C, **93**, pp. 004313-1-4 (2016).

4. **"Proposal for selective isotope transmutation of long-lived fission products using quasi-monochromatic γ-ray beams"**
Takehito Hayakawa, Shuji Miyamoto, Ryoichi Hajima, Toshiyuki Shizuma, Sho Amano, Satoshi Hashimoto, Tsuyoshi Misawa
Journal of Nuclear Science and Technology, **53**, issue 12, pp.2064-2071 (2016).

5. **"Harmonics radiation of graphene surface plasmon polaritons in terahertz regime"**
D. Li, Y. Wang, M. Nakajima, M. Hashida, Y. Wei, S. Miyamoto
Physics Letters A **380**, pp.2181–2184 (2016).

6. **"Laser Compton Scattering Gamma-Ray Experiments for Supernova Neutrino Process"**
Takehito Hayakawa, Shuji Miyamoto, Takayasu Mochizuki, Ken Horikawa, Sho Amano, Dazhi Li, Kazuo Imasaki, Yasukazu Izawa, Kazuyuki Ogata and Satoshi Chiba
Plasma and Fusion Research, **11**, 3406066 (2016).

7. **"Production of Medical 99mTc Isotope Via Photonuclear Reaction"**
M. Fujiwaraa,, *, K. Nakai, N. Takahashi, T. Hayakawa, T. Shizuma, S. Miyamoto, G. T. Fan, A. Takemoto, M. Yamaguchi, and M. Nishimura
Physics of Particles and Nuclei, 2017, Vol. **48**, No. 1, pp. 124–133. © Pleiades Publishing, Ltd., (2017).
ISSN 1063-7796

8. **"Investigation of pitting corrosion of diamond-like carbon films using synchrotron-based spectromicro scopy"**
Sarayut Tunmee, Pat Photongkam, Chanan Euaruksakul, Hiroki Takamatsu, XiaoLong Zhou, Pornwasa Wongpanya, Keiji Komatsu, Kazuhiro Kanda, Haruhiko Ito, and Hidetoshi Saitoh
Journal of Applied Physics **120**, 195303 (2016).

9. **"Double crystal monochromator controlled by integrated computing on BL07A in NewSUBARU, Japan"**
Masato Okui, Naoki Yato, Akinobu Watanabe, Baiming Lin, Norio Murayama, Sei Fukushima, Kazuhiro Kanda
AIP Conference Proceedings **1741**, 030033(2016).

10. **"Fabrication of hydrogenated amorphous silicon carbide films by decomposition of hexamethyldisilane with microwave discharge flow of Ar"**

Haruhiko Ito, Motoki Kumakura, Tsuneo Suzuki, Masahito Niibe, Kazuhiro Kanda, Hidetoshi Saitoh
Japanese Journal of Applied Physics **55**, 06HC01 (2016).

11. **"Structure and physical properties of stable isotopic amorphous carbon films"**
Yutaro Suzuki, Yasuyoshi Kurokawa, Tsuneo Suzuki, Kazuhiro Kanda, Masahito Niibe, Masayuki Nakano, Naoto Ohtake, Hiroki Akasaka
Diamond and Related Materials, **63**, 115-119 (2016).

12. **"Low-Temperature Activation in Boron Ion-Implanted Silicon by Soft X-Ray Irradiation"**
Akira Heya, Naoto Matsuo, Kazuhiro Kanda
IEICE TRANS. ELECTRON., E**99**-C, (2016).

13. **"結晶配向性と励起エネルギーを変化させたグラファイトにおける C-K 発光スペクトルの入／出射角度依存性"**
竹平徳崇，新部正人，荒木佑馬，徳島高
X線分析の進歩, **48,** 129-136 (2017).

14. **"Large take-off angle dependence of C-K emission spectra observed in highly oriented pyrolytic graphite"**
Masahito Niibe, Takashi Tokushima, Noritaka Takehira, and Yuma Araki
J. Electron Spectrosc. Relat. Phonom., DOI: 10.1016/j.elspec.2017.02.001, (2017).

15. **"AlGaN surfaces etched by CF4 plasma with and without the assistance of near-ultraviolet irradiation"**
Retsuo Kawakami, Masahito Niibe, Yoshitaka Nakano, Takashi Mukai
Vacuum, **136**, 28-35 (2017).

16. **"Low energy soft X-ray emission spectrometer at BL-09A in NewSUBARU"**
Masahito Niibe
SPring-8/SACLA Research Frontiers 2015, 149-150 (2016).

17. **"Low Energy Soft X-ray Emission Spectrometer at BL-09A in NewSUBARU"**
Masahito Niibe and Takashi Tokushima
Proc. SRI2015, AIP Conf. Proc., **1741**, 030042 (2016).

18. **"Developement of the Surface-sensitive Soft X-ray Absorption Fine Structure Measuremant Technique for Bulk Insulator"**
Takumi Yonehara, Junji Iihara, Shigeki Uemura, Koji Yamaguchi, and Masahito Niibe
Proc. SRI2015, AIP Conf. Proc., **1741**, 050025 (2016).

19. **"Fabrication and characterization of fine-grained 316L steel with 2.0 mass% TiC"**
M. Terasawa, H. Kurishita, T. Sakamoto, M. Niibe, H. Takahashi, S. Nishikawa, A. Yamamoto, M. Yamashita, T. Mitamura, T. Yamasaki, M. Kawai
J. Nuclear Sci. Technol., **53**, 1951-1959 (2016), DOI:10.1080/00223131.2016.1175390

20. **"Damage Characteristics of n-GaN Crystal Etched with N2 Plasma by Soft X-ray Absorption Spectroscopy"**
Masahito Niibe, Takuya Kotaka, Retsuo Kawakami, Yoshitaka Nakano, Takashi Mukai
e-J. Surf. Sci. Nanotech, **14**, 9-13 (2016).

21. **"Surface Analysis of AlGaN Treated with CF4 and Ar Plasma Etching"**
Shodai Hirai, Masahito Niibe, Retsuo Kawakami, Tatsuo Shirahama, Yoshitaka Nakano, Takashi Mukai
e-J. Surf. Sci. Nanotech, **13**, 481-487 (2015).

22. **"High-average-power water window soft X-rays from an Ar laser plasma"**
S.Amano

Appl. Phys. Express, Vol.**9**, 076201 (2016)

23. **"Micromachining using soft X-rays from laser-produced Xe plasma"**
S.Amano, T.Inoue, and S.Miyamoto
Electro. Commum. in Japan, Vol.**99**, Issue 2, 3-9 (2016)

24. **"Depth analysis of molecular orientation induced by nanoimprint graphoepitaxy"**
Makoto Okada, Ryosuke Fujii, Yuichi Haruyama, Hiroshi Ono, Nobuhiro Kawatsuki, and Shinji Matsui
Japanese Journal of Applied Physics, Vol. **56**, 040302 1-4 (2017).

25. **"Influence of film thickness on the reorientation structure of photoalignable liquid crystalline polymer films"**
Y. Taniguchi, M. Kondo, Y. Haruyama, S. Matsui, and N. Kawatsuki
Polymer **90**, pp. 290-294 (2016).

26. **"Light stability tests of CH3NH3PbI3 perovskite solar cells using porous carbon counter electrodes"**
Seigo Ito, Gai Mizuta, Shusaku Kanaya, Hiroyuki Kanda, Tomoya Nishina, Seiji Nakashima, Hironori Fujisawa, Masaru Shimizu, Yuichi Haruyama and Hitoshi Nishino
Phys.Chem.Chem.Phys. **18**, 27102-27108 (2016).

27. **"ニュースバル放射光施設を活用したフォトマスク検査顕微鏡の開発"**
原田哲男
姫路工業倶楽部部報工学レポート vol. **28**, 2017/1/1.

28. **"A Study on Enhancing EUV Resist Sensitivity"**
A. Sekiguchi, T. Harada, and T. Watanabe
Proc. SPIE **10143** (2017) 1014322.

29. **"EUV レジスト開発と歴史"**
渡邊健夫
リソグラフィー技術その 40 年、S&T 出版、2016.12.9.

30. **"Current Status and Prospect of EUVL Lithography for IoT"**
Takeo Watanabe
Proceedings of the 20th SANKEN International Symposium (2016) 10.

31. **"Development of EUV Lithographic Technology at University of Hyogo"**
Takeo Watanabe, and Tetsuo Harada
Proceedings of the 14th International Conference on radiation Curing, RadTech Asia (2016) 43.

32. **"Development of Actual EUV Mask Observation Method for Micro Coherent EUV Scatterometry Microscope"**
T. Harada, H. Hashimoto, and T. Watanabe
Proc. SPIE **9985** (2016) 99851T.

33. **"Observation Results of Actual Phase Defects Using Micro Coherent EUV Scatterometry Microscope"**
H. Hashimoto, T. Harada, and T. Watanabe
Proc. SPIE **9985** (2016) 99850K.

34. **"Development of the Transmittance Measurement for EUV Resist by Direct-Resist Coating on a Photodiode"**
Daiki Mamezaki, Masanori Watanabe, Tetsuo Harada, and Takeo Watanabe,
J. Photopolym. Sci. Technol., **29** (2016) pp. 749 - 752.

35. **"EUVL Research Activity at Center for EUV Lithography"**
Takeo Watanabe, and Tetsuo Harada
J. Photopolym. Sci. Technol., **29** (2016) pp. 737 - 744.

36. **"Extreme-ultraviolet collector mirror measurement using large reflectometer at NewSUBARU synchrotron facility"**
Haruki Iguchi, Hiraku Hashimoto, Masaki Kuki, Tetsuo Harada, Hiroo Kinoshita, Takeo Watanabe, Yuriy Y. Platonov, Michael D. Kriese, and Jim R. Rodriguez
Jpn. J. Appl. Phys. **55**, 06GC01 (2016)

37. **"EUV resist outgassing analysis for the new platform resists at EIDEC"**
Eishi Shiobara, Yukiko Kikuchi, Shinji Mikami, Takeshi Sasami, Takashi Kamizono, Shinya Minegishi, Takakazu Kimoto, Toru Fujimori, Takeo Watanabe, Tetsuo Harada, Hiroo Kinoshita, Satoshi Tanaka
Proc. SPIE **9776**, 97762H (2016).

38. **"Phase Imaging Results of Phase Defect Using Micro Coherent EUV Scatterometry Microscope"**
Tetsuo Harada, Hiraku Hashimoto, Tsuyoshi Amano, Hiroo Kinoshita, and Takeo Watanabe
J. Micro-Nanolith. Mem. **15**, 021007 (2016).

39. **"Actual defect observation results of an extreme ultraviolet blank mask by coherent diffraction imaging"**
Tetsuo Harada, Hiraku Hashimoto, Tsuyoshi Amano, Hiroo Kinoshita, and Takeo Watanabe
Appl. Phys. Express **9**, 035202 (2016).

40. **"On-chip synthesis of ruthenium complex by microwave-induced reaction in a microchannel coupled with post-wall waveguide"**
Yuichi Utsumi, Akinobu Yamaguchi, Takeko Matsumura-Inoue, Mitsuyoshi Kishihara
Sensors and Actuators B: Chemical, **242**, 384-388 (2017)

41. **"Highly sensitive detection and stochastic analysis of magnetization fluctuation induced in a nano-scale magnetic wire"**
A. Yamaguchi, K. Motoi and H. Miyajima,
Journal of Magnetism and Magnetic Materials, **401**, 9-15 (2016)

42. **"Real-space observation of magnetic vortex core gyration in a magnetic disc both with and without a pair tag"**
Akinobu Yamaguchi, Hiroshi Hata, Minori Goto, Motoi Kodama, Yuichi Kasatani, Koji Sekiguchi, Yukio Nozaki, Takuo Ohkochi, Masato Kotsugi, and Toyohiko Kinoshita
Japanese Journal of Applied Physics, **55**, 023002 (2016)

43. **"Anisotropic pyrochemical microetching of poly(tetrafluoroethylene) initiated by synchrotron radiation-induced scission of molecule bonds"**
Akinobu Yamaguchi, Hideki Kido, Yoshiaki Ukita, Mitsuyoshi Kishihara, and Yuichi Utsumi
Applied Physics Letters, **108**, 051610 (2016)

44. **"Dielectrophoresis-enabled surface enhanced Raman scattering on gold-decorated polystyrene microparticle in micro-optofluidicdevices for high-sensitive detection"**
Akinobu Yamaguchi, Takao Fukuoka, Ryo Takahashi, Ryohei Hara, Yuichi Utsumi
Sensors and Actuators B **230**, 94-100 (2016)

45. **"Synthesis of metallic nanoparticles through X-ray radiolysis using synchrotron radiation"**
Akinobu Yamaguchi, Ikuo Okada, Takao Fukuoka, Ikuya Sakurai, and Yuichi Utsumi
Japanese Journal of Applied Physics **55**, 055502-1-5 (2016)

46. **"Direct digital manufacturing of a mini-centrifuge-driven centrifugal microfluidic device and demonstration of a smartphone-based colorimetric enzyme-linked immunosorbent assay"**
Yoshiaki Ukita, Yuichi Utsumi, Yuzuru Takamura
Analytical Methods, **8**, 256-262 (2016)

47. **"Trial Fabrication of PTFE-Filled Waveguide Bandpas Filter at Short Milimeter Wave Frequency by SR Etching (放射光エッチングによる短ミリ波帯テフロン導波管バンドパスフィルタの試作)"**
M. Kishihara, M. Murakami, A. Yamaguchi, Y. Utsumi and I. Ohta
電子情報通信学会和文論文誌 C, **J99-C No.7**, 361-364 (2016)

48. **"Dielectrophoresis-enabled surface enhanced Raman scattering of glycine modified on Au-nanoparticle-decorated polystyrene beads inmicro-optofluidic devices"**
Akinobu Yamaguchi, Takao Fukuoka, Kazuhisa Kuroda, Ryohei Hara, Yuichi Utsumi
Colloids and Surfaces A: Physicochemical and Engineering Aspects, **507,** 118-123 (2016)

49. **"Rapid X-ray Fabrication of Microstructured Polytetrafluoroethylene Substrates by Anisotropic, Pyrochemical Microetching"**
Akinobu Yamaguchi, Hideki Kido, Yuichi Utsumi
Journal of Photopolymer Science and Technology, **29**, 3, 403-407 (2016)

50. **"One-Step Synthesis of Copper and Cupric Oxide Particles from the Liquid Phase by X-Ray Radiolysis Using Synchrotron Radiation"**
Akinobu Yamaguchi, Ikuo Okada, Takao Fukuoka, Mari Ishihara, Ikuya Sakurai, Yuichi Utsumi
Journal of Nanomaterials, 2016, Article ID 8584304 (2016)

51. **"Interdigital transducer generated surface acoustic waves suitable for powder transport"**
Tsunemasa Saiki, Akio Tsubosaka, Akinobu Yamaguchi, Michitaka Suzuki, Yuichi Utsumi
Advanced Powder Technology, **28**, 491-498 (2017)

52. **"Synthesis of Cupric Particles Induced by X-ray Radiolysis"**
Akinobu Yamaguchi, Ikuo Okada, Takao Fukuoka, Yuichi Utsumi
IEEJ Transactions on Electronics, Information and Systems, **137**, 3, 400-405 (2016)

53. **"Alternative Raman Spectroscopy of Glycine binding on Au-Nanoparticle-Decorated Polystyrene Beads due to Aggregation induced by Dielectrophoresis in Micro-Optofluidic Devices"**
A. Yamaguchi, T. Fukuoka and Y. Utsumi
Micro TAS 2016, M168h

54. **"Anisotropic Pyrochemical Fabrication of Polytetrafluoroethylene and Metallic Nanoparticles Initiated by Synchrotron Radiation for Microfluidic Devices"**
A. Yamaguchi, H. Kido, Y. Ukita, M. Kishihara, T. Fukuoka and Y. Utsumi
Micro TAS 2016, W132g

55. **"Fabrication of higher order three-dimensional layer stack nanostructure for molecular detection and electrode"**
A. Yamaguchi, T. Fukuoka, M. Ishihara and Y. Utsumi
Proc. SPIE **9929**, 992906 (2016)

56. **"Synthesis of nanoparticles through X-ray radiolysis using synchrotron radiation"**
A. Yamaguchi, I. Okada, T. Fukuoka, M. Ishihara, I. Sakurai and Y. Utsumi
Proc. SPIE **9929**, 992919 (2016)

57. **"X 線光化学反応による金属ナノ・マイクロ粒子生成 (Fabrication of Metallic Nano/Microscale particles by Photochemical reaction initiated by X-ray Radiolysis in cupper (II) sulfate solution)"**
山口明啓, 岡田育夫, 福岡隆夫, 内海裕一
MES 2016, 2D2-4

58. **"強誘電体／磁性体接合における磁気異方性の制御と磁区構造"**
山口明啓, 才木常正, 内海裕一, 大河内拓雄, 保井晃, 木下豊彦, 山田啓介
【A】基礎・材料・共通部門　マグネティクス研究会, 2016-9-20, MAG-16-134, 4 pages, IEEJ-MAG

59. **"圧電体基板上に創製した微小磁性体の磁気特性"**
山口明啓, 才木常正, 内海裕一, 大河内拓雄, 保井晃, 木下豊彦, 山田啓介
【A】基礎・材料・共通部門　マグネティクス研究会, 2016-12-8, MAG-16-228, 4 pages, IEEJ-MAG

60. **"Heat Transfer Performance of Sodium Encapsulating Engine Valves"**
T. Kobayashi, I. Hashimoto, R. Hashimoto, H. Kanematsu, Y. Utsumi and M. Yamamoto
Advanced Experimental Mechanics, **1**, 69-7 (2016)

61. **"Deformation Analysis of Soft Actuator having a Bellows Structure Operated by Inner Pressure"**
T. Kobayashi, M. Fujiwara, Y. Utsumi, H. Kanematsu, M. Yamamoto and H. Taniguchi
Advanced Experimental Mechanics, **1**, 185-189 (2016)

62. **"Measurement of Critical Cracking Strain of Organic Thin Films Prepared by Wet Coating Process"**
T. Kobayashi, M. Munkhtsog, Y. Utsumi, H. Kanematsu, and T. Masuda
Proc. 14th European Vacuum Conference (EVC-14), Portorose, Slovenia, 2016

63. **"Small immunoassay systems for medical diagnosis and environmental analysis"**
T. Kobayashi, Y. Yoshimasa, Y. Utsumi
Proc. The Irago Conference 2016

(2) International meetings

1. **"Therahertz Radiation From Graphene Surface Plasmon Polaritons"**
   Dazhi Li, Yuanyuan Wang, Makoto Nakajima, Masaki Hashida, Yanyu Wei, Shuji Miyamoto, Masahiko Tani
   41st International Conference on Infrared, Millimeter, and Terahertz waves (IRMMW-THz), 25-30 Sept., Copenhargen, Denmark (2016).

2. **"Laser Compton Scattering Gamma-Ray Beam Source for Nuclear Physics and Material Research"**
   Shuji Miyamoto (Invited)
   15th International Conference on X-Ray Lasers (ICXRL2016), Nara Kasugano International Forum, May 22 - 27 (2016).

3. **"Photon scattering measurement on Cr-52 with Linearly Polarized Photon Beam at NewSUBARU"**
   T. Shizuma, T. Hayakawa, F. Minato, I. Daito, H. Ohgaki, S. Miyamoto
   International Nuclear Physics Conference, Adelade, Australis, 11-16 Sept., (2016).

4. **"Measurement of neutron energy spectra for Eγ=23.1 and 26.6 MeV mono-energetic photon induced reaction on natC using laser electron photon beam at NewSUBARU"**
   Toshiro Itoga, Hiroshi Nakashima, Toshiya Sanami, Yoshihito Namito, Yoichi Kirihara, Shuji Miyamoto, Akinori Takemoto, Masashi Yamaguchi and Yoshihiro Asano
   13th International Conference on Radiation Shielding, Paris, France, Oct. 3-6 (2016).

5. **"Measurement of neutron spectra for photonuclear reaction with linearly polarized photons"**
   Yoichi Kirihara, Toshiro Itoga, Hiroshi Nakashima, Toshiya Sanami, Yoshihito Namito, Shuji Miyamoto, Akinori Takemoto, Masashi Yamaguchi and Yoshihiro Asano
   13th International Conference on Radiation Shielding, Paris, France, Oct. 3-6 (2016).

6. **"Electronics for HARPO: Design, Development and Validation of Electronics for a High Performance Polarised-Gamma-Ray Detector"**
   Yannick Geerebaert, D. Bernard, P. Bruel, M. Frotin, B. Giebels, P. Gros, D. Horan, M. Louzir, P. Poilleux, I. Semeniouk, S. Wang, D. Attié, D. Calvet, P. Colas, A. Delbart, P. Sizun, D. Götz AIM, S. Amano, S. Hashimoto, T. Kotaka, Y. Minamiyama, S. Miyamoto, A. Takemoto, M. Yamaguchi, S. Daté, H. Ohkuma
   20th Real Time Conference, Padova, Italy, 5-10 June (2016).

7. **"Laser Compton Scattering Gamma-ray Beam Generation and Applications"**
   Shuji Miyamoto (Invited)
   Carpathian Summer School of Physics 2016, "*Exotic Nuclei & Nuclear / Particle Astrophysics (VI). Physics with small accelerators*", Sinaia, Romania, June 26-July 9 (2016).

8. **"First measurement of polarization asymmetry of a gamma-ray beam between 1.74 to 74 MeV with the HARPO TPC"**
   Philippe Gros, Sho Amano, David Attié, Denis Bernard, Philippe Bruel, Denis Calvet, Paul Colas, Schin Daté, Alain Delbart, Mickael Frotin, Yannick Geerebaert, Berrie Giebels, Diego Götz, S. Hashimoto, Deirdr Horan, T. Kotaka, Marc Louzir, Y. Minamiyama, Shuji Miyamoto, H. Ohkuma, Patrick Poilleux, Igor Semeniouk, Patrick Sizun, A. Takemoto, M. Yamaguchi, Shaobo Wang

SPIE Astronomical telescopes and instrumentation conference 2016 (2016).
Instrumentation and Methods for Astrophysics (astro-ph.IM); Instrumentation and Detectors (physics.ins-det)

9. **"NewSUBARU Gamma Beam Source - Status and Activities"**
Shuji Miyamoto (Invited)
International Conference on Nuclear Photonics, Monterey, California, Oct. 16-21 (2016).

III

10. **"PDCA Cycle Model of Drawing Process for Class Placement of Liberal Arts – The trial work of the IR section at the University of Hyogo"**
Y. Shoji and Y. Kokubo
5th International Conference on Data Science and Institutional Research, Kumamoto Japan, July 10-14 (2016).

11. **"Evaluation of amorphous carbon film by X-ray absorption spectroscopy"**
Kazuhiro Kanda (Invited)
26th annual meeting of the Materials Research Society of Japan (MRS-J) Yokohama, Japan Dec. 19-22, (2016).

12. **"Evaluation of amorphous carbon film by X-ray absorption spectroscopy"**
Shotaro Tanaka, Makoto Okada, Takayuki Hasegawa, Masahito Niibe, and Kazuhiro Kanda
26th annual meeting of the Materials Research Society of Japan (MRS-J) Yokohama, Japan Dec. 19-22, (2016).

13. **"Effect of the soft X-ray irradiation on the surface of fluorinated DLC films"**
Hiroki Takamatsu, Makoto Okada, Masahito Niibe, and Kazuhiro Kanda
26th annual meeting of the Materials Research Society of Japan (MRS-J) Yokohama, Japan Dec. 19-22, (2016).

14. **"Structural analysis of diamond-like carbon and related materials using NEXAFS and ellipsometry"**
Hidetoshi Saitoh, Satoru Arakawa, Sarayut Tunmee, Kazuhiro Kanda, Pat Photongkam, Nichada Jeeranaikun, Ratchadaporn Supruangnet and Hideki Nakajima
1st Thailand Synchrotron Conference and Exhibition (TSCE2016) SLRI, Thailand, Feb. 26-28 (2016).

15. **"Construction and Performance of the Compact Soft X-ray Emission Spectrometer at BL-09A in NewBUBARU SR Facility"** (invited)
Masahito Niibe, Noritaka Takehira, and Tahashi Tokushima
5th Annual Congress of AnalytiX-2017, 22-24 Mar. 2017, Fukuoka, Japan.

16. **"Structural changes on neutron-irradiated highly oriented pyrolytic graphite under static high pressure and temperature"**
T. Hisakuni, S. Suzuki, S. Honda, M. Niibe, M. Terasawa, Y. Higo, K. Niwase, H. Izumi, E. Taguchi, T. Iwata
Symp. on Surf. Sci. & Nanotechnol. (SSSN-Kansai), 24-25 Jan. 2017, Kyoto, Japan.

17. **"Irradiation effect in multi-walled carbon nanotubes by highly charged ions"**

M. Kato,Y. Fujiwara, S. Honda, M. Terasawa, M. Niibe, M. Sakurai, N. Nishida, T. Tokui, K. Suzuki, K. Betsumiya, K. Niwase, K.-Y. Lee
Symp. on Surf. Sci. & Nanotechnol. (SSSN-Kansai), 24-25 Jan. 2017, Kyoto, Japan.

18. **"Electrical damage in n-GaN films treated by CF4 plasma"**
Yoshitaka Nakano, Masahito Niibe and Retsuo Kawakami
Proceedings of International Symposium of Dry Process 2016, pp.73--74, Sapporo, Nov. 2016.

19. **"A large take-off angle dependence of C-K emission spectra observed in highly oriented pyrolytic graphite"**
Masahito Niibe, Takashi Tokushima, Niritaka Takehira, Yuma Araki
39th inter'l Conf. on Vacuum Ultraviolet and X-ray Physics (VUVX2016), P_103, 3-8 July 2016, Zurich, Switzerland.

20. **"Soft X-ray Absorption Spectroscopy of Orientation, Oxygen Content, Chemical States of Ion-irradiated Vertically Aligned Multiwalled Carbon Nanotubes"**
S. Honda, F. Ideno, Y. Muramatsu, M, Niibe, M. Terasawa, E.M. Gullikson and K.-Y. Lee
39th inter'l Conf. on Vacuum Ultraviolet and X-ray Physics (VUVX2016), P_168, 3-8 July 2016, Zurich, Switzerland.

21. **"Effect of Ultraviolet Light-Assisted CF4 Plasma Irradiation on AlGaN Thin Film Surface"**
Retsuo Kawakami, Masahito Niibe, Yoshitaka Nakano and Takashi Mukai
Proceedings of the 43rd International Symposium on Compound Semiconductors (ISCS2016), pp.MoP-ISCS-096_1--MoP-ISCS-096_2, Toyama, Jun. 2016.

22. **"Electrical Damage Investigation of n-GaN Films Treated by CF4 Plasma"**
Yoshitaka Nakano, Masahito Niibe and Retsuo Kawakami
Proceedings of the 43rd International Symposium on Compound Semiconductors (ISCS2016), pp.MoP-ISCS-LN-4_1--MoP-ISCS-LN-4_2, Toyama, Jun. 2016.

23. **"Laser Plasma X-ray Source Based on Cryogenic Targets"**
S. Amano
The 15th International Conference on X-Ray Lasers (ICXRL2016), Nara, May 22-27, 2016.

24. **"Laser Plasma VUV~ X-ray Source Using Solid Rare Gas Targets"**
S. Amano
The 39th International Conference on Vacuum Ultraviolet and X-ray Physics (VUVX2016), Zurich, Swiss, July 3-8, 2016.

25. **"Molecular orientation evaluation of negative-tone and positive-tone photo-cross-linkable liquid crystalline polymer pattern fabricated by nanoimprint-graphoepitaxy"**
Makoto Okada, Yusuke Taniguchi, Yuichi Haruyama, Hiroshi Ono, Nobuhiro Kawatsuki, and Shinji Matsui
The 60th International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication 2016, Pittsburgh, USA, 2016/6/1.

26. **"Thin PDMS antisticking layer formed by using PDMS-disilanol for nanoimprinting"**

Makoto Okada and Shinji Matsui
The 60th International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication 2016, Pittsburgh, USA, 2016/6/1.

27. **"Evaluation of molecular orientation induced by simplified double nanoimprint-graphoepitaxy"**
Makoto Okada, Ryosuke Fujii, Yuichi Haruyama, Hiroshi Ono, Nobuhiro Kawatsuki, and Shinji Matsui
The 42nd International Conference on Micro and Nano Engineering 2016, Vienna, Austria, 2016/9/21

28. **"Depth analysis of molecular orientation induced by nanoimprint-graphoepitaxy"**
Makoto Okada, Ryosuke Fujii, Yuichi Haruyama, Hiroshi Ono, Nobuhiro Kawatsuki, and Shinji Matsui
The 42nd International Conference on Micro and Nano Engineering 2016, Vienna, Austria, 2016/9/21.

29. **"Simplified double nanoimprint-graphoepitaxy using L&S and flat pattern molds"**
Makoto Okada, Ryosuke Fujii, Yuichi Haruyama, Hiroshi Ono, Nobuhiro Kawatsuki, and Shinji Matsui
The 15th International Conference on Nanoimprint and Nanoprint Technology 2016, Braga, Portugal, 2016/9/27, invited poster.

30. **"Examination of depth profile of molecular orientation in L&S pattern fabricated by nanoimprint-graphoepitaxy"**
Makoto Okada, Ryosuke Fujii, Yuichi Haruyama, Hiroshi Ono, Nobuhiro Kawatsuki, and Shinji Matsui
The 15th International Conference on Nanoimprint and Nanoprint Technology 2016, Braga, Portugal, 2016/9/27.

31. **"High-aspect-ratio structure fabrication by room-temperature nanoimprinting"**
Makoto Okada and Shinji Matsui
The 29th International Microprocesses and Nanotechnology Conference 2016, Kyoto, Japan, 2016/11/11.

32. **"Evaluation of Thermal Nanoimprint Resin with PDMS Additive for Improving Release Property"**
Shogo Fukui, Makoto Okada, and Yuichi Haruyama
The 29th International Microprocesses and Nanotechnology Conference 2016, Kyoto, Japan, 2016/11/10.

33. **"Molecular orientation in photoreactive liquid crystalline polymer films observed by NEXAFS"**
Y. Haruyama, Y. Taniguchi, M. Kondo, N. Kawatsuki, M. Okada, and S. Matsui
The 39th International conference on Vacuum Ultraviolet and X-ray Physics, Zurich, Switzerland, 2016/7/5.

34. **"Evaluation of damage in an organic thin film with cluster ion sputtering"**
S. Fujita, Y. Nohara, M. Ohno, and Y. Haruyam
The 39th International conference on Vacuum Ultraviolet and X-ray Physics, Zurich, Switzerland, 2016/7/5.

35. **"Observation Results of Actual Phase DefectsUsing Micro Coherent EUV Scatterometry Microscope"**
Hiraku Hashimoto, Tetsuo Harada, Takeo Watanabe
Photomask Japan 2016, Yokohama, Japan, 2016/4/7.

36. **"Measurement Result of an EUV Collector MirrorUsing a Large Reflectometer at NewSUBARU"**

Haruki Iguchi, Tetsuo Harada, Takeo Watanabe
Photomask Japan 2016, Yokohama, Japan, 2016/4/7.

37. **"Defect Imaging Result with Quantitative Intensity and Phase Contrast Using Micro Coherent EUV Scatterometry Microscope"**
Tetsuo Harada, Hiraku Hashimoto, Takeo Watanabe, Hiroo Kinoshita
Photomask Japan 2016, Yokohama, Japan, 2016/4/8.

38. **"EUVL Research Activity at Center for EUV Lithography"**
Takeo Watanabe, Tetsuo Harada
ICPST33, Chiba, Japan, 2016/6/24.

39. **"Development of the transmittance measurement for EUV resist by direct-resist coating on a photodiode"**
Daiki Mamezaki, Masanori Watanabe, Tetsuo Harada and Takeo Watanabe
ICPST33, Chiba, Japan, 2016/6/24.

40. **"Observation results of actual phase defects using micro-coherent EUV scatterometry microscope"**
Hiraku Hashimoto, Tetsuo Harada, Hiroo Kinoshita, Takeo Watanabe
Photomask Technology 2016, San Jose, USA, 2016/9/12.

41. **"Development of actual EUV mask observation method for micro-coherent EUV scatterometry microscope"**
Tetsuo Harada, Hiraku Hashimoto, Hiroo Kinoshita, Takeo Watanabe
Photomask Technology 2016, San Jose, USA, 2016/9/12.

42. **"EUV Resist Transmittance Measurement Using Photodiode Direct-Resist Coating Method"**
Daiki Mamezaki, Masanori Watanabe, Tetsuo Harada, Takeo Watanabe
EUV Lithography Symposium 2016, Hiroshima, Japan, 2016/10/24.

43. **"Development of Large EUV reflectometer in NewSUBARU Synchrotron Facility"**
Tetsuo Harada, Haruki Iguchi, Takeo Watanabe
EUV Lithography Symposium 2016, Hiroshima, Japan, 2016/10/24.

44. **"Actual Defect Imaging Result with Quantitative Intensity and Phase Contrast Using Micro Coherent EUV Scatterometry Microscope"**
Tetsuo Harada, Hiraku Hashimoto, Takeo Watanabe
EUV Lithography Symposium 2016, Hiroshima, Japan, 2016/10/24.

45. **"Development of the negative-tone molecular resists for EB/EUVL having high EUV absorption capacity"**
Tomoaki Takigawa, Yuta Togashi, Takumi Toida, Takashi Sato, Masatoshi Echigo, Hiroto Kudo, Tetsuo Harada, Takeo Watanabe
EUV Lithography Symposium 2016, Hiroshima, Japan, 2016/10/24.

46. **"Defect and absorber phase imaging of EUV mask using synchrotron and high-harmonic-generation EUV source"**
Tetsuo Harada, Takeo Watanabe
OSA International Workshop on Compact EUV & X-ray Light Sources, Hiroshima, Japan, 2016/10/28.

47. **"Improvement of Mask-Defect-Detection Performance of Coherent EUV Scatterometry**

Microscope with High-Harmonic-Generation EUV Source"
Daiki Mamezaki, Tetsuo Harada, Yutaka Nagata, Takeo Watanabe
Micro Nano Conference, Kyoto, Japan, 2016/11/11.

48. **"A study on enhancing EUV resist sensitivity"**
Atsushi Sekiguchi, Tetsuo Harada, Takeo Watanabe
SPIE advanced Lithography 2017, San Jose USA, 2017/2/28.

49. **"Rapid X-ray fabrication of microstructured polytetrafluoroethylene substrates by anisotropic, pyrochemical microetching"**
Akinobu Yamaguchi, Hideki Kido, Yuichi Utsumi
The 33rd International Conference of Photopolymer Science and Technology, June 22-24 (2016), Makuhari, Chiba, Japan (招待講演)

50. **"Fabrication of higher order three-dimensional layer stack nanostructure for molecular detection and electrode"**
Akinobu Yamaguchi, Takao Fukuoka, Mari Ishihara, Yuichi Utsumi
SPIE Optics + Photonics 2016, August 30 - September 1 (2016), San Diego, USA

51. **"Synthesis of nanoparticles through X-ray radiolysis using synchrotron radiation"**
Akinobu Yamaguchi, Ikuo Okada, Takao Fukuoka, Mari Ishihara, Ikuya Sakurai, Yuichi Utsumi
SPIE Optics + Photonics 2016, August 30 - September 1 (2016), San Diego, USA

52. **"Development of Miniature Micro-Powder Feeder Driven by Surface Acoustic Wave for Practical Use"**
Tsunemasa Saiki, Akio Tsubosaka, Akinobu Yamaguchi, Masahiro Takeo, Michitaka Suzuki, Yuichi Utsumi
The 42nd International Conference on Micro and Nano Engineering (MNE2016), September 19-23 (2016), Vienna, Austria

53. **"Alternative Raman Spectroscopy of Glycine Binding on Au-Nanoparticle-Decorated Polystyrene Beads due to Aggregation induced by Dielectrophoresis in Micro-Optofluidic devices"**
Akinobu Yamaguchi, Takao Fukuoka, Yuichi Utsumi
The 20th international conference on miniaturized systems for chemistry and life science (TAS2016), October 10-15 (2016), Dublin, Ireland

54. **"Anisotropic Pyrochemical Fabrication of Polytetrafluoroethylene and Metallic Nanoparticles Initiated by Synchrotron Radiation For Microfluidic Devices"**
Akinobu Yamaguchi, Hideki Kido, Yoshiaki Ukita, Mitsuyoshi Kishihara, Takao Fukuoka, Yuichi Utsumi
The 20th international conference on miniaturized systems for chemistry and life science (TAS2016), October 10-15 (2016), Dublin, Ireland

55. **"Observation of magnetic domain structure initiated by competition among the magnetoelastic anisotropy and shape anisotropy using XMCD-PEEM"**
A. Yamaguchi, T. Ohkochi, A. Yasui, T. Kinoshita, and K. Yamada
61st Annual Conference on Magnetism and Magnetic Materials, October 31- November 4 (2016), New

Orleans, LA, USA

56. **"Measurement of Critical Cracking Strain of Organic Thin Films Prepared by Wet Coating Process"**
T. Kobayashi, M. Munkhtsog, Y. Utsumi, H. Kanematsu, and T. Masuda
14th European Vacuum Conference (EVC-14), June 6-10 (2016), Portorose, Slovenia

57. **"Small immunoassay systems for medical diagnosis and environmental analysis"**
T. Kobayashi, Y. Yoshimasa, Y. Utsumi
The Irago Conference 2016, November 1-2 (2016), Tokyo, Japan