

### **Part 3. List of Publications**



“Experiments of Material Engineering III” for third-year students in  
School of Engineering



## List of publications

### (1) Papers

1. **"Production of Medical  $^{99m}\text{Tc}$  Isotope Via Photonuclear Reaction"**  
M. Fujiwara, 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, **48**, No. 1, pp. 124–133. © Pleiades Publishing, Ltd., 2017.
2. **"Effect of the nuclear medium on  $\alpha$ -cluster excitation in  $^6\text{Li}$ "**  
T. Yamagata, S. Nakayama, H. Akimune, and S. Miyamoto  
Physical Review C, **95**, pp.044307-1-10 (2017).
3. **"Coherent radiation at the fundamental frequency by a Smith-Purcell free-electron laser with dielectric substrate"**  
D. Li, Y. Wang, M. Nakajima, M. Tani, M. Hashida, M. R. Asakawa, Y. Wei, and S. Miyamoto  
Appl. Phys. Lett. , **110**, 151108-1-3 (2017).
4. **"Direct neutron-multiplicity sorting with a flat-efficiency detector"**  
H. Utsunomiya, I. Gheorghe, D. M. Filipescu, T. Glodariu, S. Belyshev, K. Stopani, V. Varlamov, B. Ishkhanov, S. Katayama, D. Takenaka, T. Ari-izumi, S. Amano, S. Miyamoto  
Nuclear Instrum. Methods Phys. Res. A, **871**, pp. 135-141 (2017).
5. **"Measurement of deflection on germanium and gold prisms using 1.7 MeV laser Compton scattering  $\gamma$ -rays"**  
T. Kawasaki, S. Naito, Y. Sano, T. Hayakawa, T. Shizuma, R. Hajima, S. Miyamoto  
Physics Letter A, vol. , **381**, Issue 36, pp. 3129-3133 (2017).
6. **"Low-lying Dipole Strength in  $^{52}\text{Cr}$ "**  
T. Shizuma, T. Hayakawa, I. Daito, H. Ohgaki, S. Miyamoto, and F. Minato  
Physical Review C, **96**, 044316 (2017).
7. **"Photoneutron cross section measurements in the  $^{209}\text{Bi}(\gamma, xn)$  reaction with a new method of direct neutron-multiplicity sorting"**  
I. Gheorghe, H. Utsunomiya, S. Katayama, D. Filipescu, S. Belyshev, K. Stopani, V. Orlin, V. Varlamov, T. Shima, S. Amano, S. Miyamoto, Y.-W. Lui, T. Kawano, and S. Goriely  
Physical Review C, **96**, 044604 (2017).
8. **"Structural analysis of amorphous carbon films by BEMA theory based on spectroscopic ellipsometry measurement"**  
XiaoLong Zhou, Satoru Arakawa, Sarayut Tunmee, Keiji Komatsu, Kazuhiro Kanda, Haruhiko Ito, and Hidetoshi Saitoh  
Diamond & Related Materials **79C** (2017) 46-59.
9. **"Soft X-ray irradiation effect on the fluorinated DLC film"**  
Hiroki Takamatsu, Masahito Niibe, XiaoLong Zhou, Keiji Komatsu, Hidetoshi Saitoh, Hiroki Akasaka, Akihiro Saiga, Koji Tamada, Masahito Tagawa, Kumiko Yokota, Yuichi Furuyama, and Kazuhiro Kanda  
Diamond & Related Materials **79C** (2017) 14-20.
10. **"Formation of nanocrystalline silicon in  $\text{SiO}_x$  by soft X-ray irradiation at low temperature"**  
Akira Heya, Fumito Kusakabe, Naoto Matsuo, Kazuhiro Kanda, Kazuyuki Kohama, and Kazuhiro Ito  
Japanese Journal of Applied Physics **56** (2017) 035501.
11. **"Modification Processes of Highly Hydrogenated Diamond-Like Carbon Thin Films by Soft X-ray Irradiation"**  
Kazuhiro Kanda, Ryo Imai, Masahito Niibe, Hisashi Yoshioka, Keishi Komatsu, and Hidetoshi Saitoh  
Sensors and Materials, **29** (2017) 817-826.

12. **"Structural analysis of amorphous carbon films by spectroscopic ellipsometry, RBS/ERDA, and NEXAFS"**  
XiaoLong Zhou, Tsuneo Suzuki, Hideki Nakajima, Keiji Komatsu, Kazuhiro Kanda, Haruhiko Ito, and Hidetoshi Saitoh  
Appl. Phys. Lett. 110 (2017) 201902.
13. **"Fabrication of DLC cone for fast ignition experiment"**  
Mayuko Koga, Kazuhiro Kanda, Tsuneo Suzuki, and Takayoshi Norimatsu  
Fusion Engineering and Design, 123 (2017) 120-123.
14. **"ダイヤモンドをよく知るために ～量子ビーム利用測定技術(1) X線吸収分光を用いた局所構造解析"**  
神田一浩  
NEW DIAMOND, 126 (2017) 37-40.
15. **"DLC膜構造分析とISO規格化"**  
神田一浩  
応用物理, 86 (2017) 558-564.
16. **"Characteristics of TiO<sub>2</sub> thin film surfaces treated by O<sub>2</sub> Plasma in dielectric barrier discharge with the assistance of external heating"**  
Retsuo Kawakami, Masahito Niibe, Yoshitaka Nakano, Yuma Araki, Yuki Yoshitani, Chisato Azuma, Takashi Mukai  
Vacuum, 152, 265-271 (2018). doi: 10.1016/j.vacuum.2018.03.051
17. **"Nano-polycrystalline diamond synthesized from neutron-irradiated highly oriented pyrolytic graphite (HOPG)"**  
Mititaka Terasawa, Shin-ichi Honda, Keisuke Niwase, Masahito Niibe, Tomohiko Hisakuni, Tadao Iwata, Yuji Higo, Toru Shinmei, Hiroaki Ohfuji, Tetsuo Irifune  
Diamond & Related Materials, 82, 132-136 (2018).
18. **"Quenchable compressed graphite synthesized from neutron-irradiated highly oriented pyrolytic graphite in high pressure treatment at 1500°C"**  
Keisuke Niwase, Mititaka Terasawa, Shin-ichi Honda, Masahito Niibe, Tomohiko Hisakuni, Tadao Iwata, Yuji Higo, Takeshi Hirai, Toru Shinmei, Hiroaki Ohfuji, Tetsuo Irifune  
J. Appl. Phys. 123, 161577 (2018).
19. **"Characteristics of N<sub>2</sub> and O<sub>2</sub> Plasma-Induced Damages on AlGaN Thin Film Surfaces"**  
Retsuo Kawakami, Masahito Niibe, Yoshitaka Nakano, Ryo Tanaka, Chisato Azuma, Takashi Mukai  
Phys. Status Solidi, A214, 1700393 (2017).
20. **"Generation of electrical damage in n-GaN films following treatment in a CF<sub>4</sub> plasma"**  
Yoshitaka Nakano, Retsuo Kawakami, Masahito Niibe  
Appl. Phys. Express, 10, 1162021 (2017).
21. **"TiO<sub>2</sub> Thin Film Surfaces Treated by O<sub>2</sub> Plasma in Dielectric Barrier Discharge with Assistance of Heat Treatment"**  
Retsuo Kawakami, Kengo Fijimoto, Masahito Niibe, Yuma Araki, Yoshitaka Nakano, Takashi Mukai  
Proc. 14th Int'l Symp. Sputtering & Plasma Processes (ISSP 2017), 274-277 (2017).
22. **"Laser plasma soft X-ray source based on cryogenic target"**  
S. Amano  
Proc. of SPIE, vol.10243, 10243Q (2017)

23. **"クライオターゲットによる「水の窓」レーザ生成プラズマ軟 X 線源"**  
天野壮  
電気学会論文誌 C, Vol.137, No.3, 406-410(2017)
24. **"Terahertz spectroscopy of graphene complementary split ring resonators with gate tenability"**  
Satoru Suzuki, Yoshiaki Sekine, and Kazuhide Kumakura  
Japanese Journal of Applied Physics 56, 095102-1-5 (2017).
25. **"Initial stage of hexagonal boron nitride growth in diffusion and precipitation method"**  
Satoru Suzuki, Yui Ogawa, Shengnan Wang, Kazuhide Kumakura  
Japanese Journal of Applied Physics 56, 06GE06-1-5 (2017).
26. **"Depth analysis of molecular orientation induced by nanoimprint graphoepitaxy"**  
M. Okada, R. Fujii, Y. Haruyama, H. Ono, N. Kawatsuki, and S. Matsui  
Jpn. J. Appl. Phys. 56 040302, 2017
27. **"Formation of complex molecular orientation patterns in nanostructures via double nanoimprint graphoepitaxy"**  
Makoto Okada, Ryosuke Fujii, Yuichi Haruyama, Hiroshi Ono and Nobuhiro Kawatsuki  
Appl. Phys. Express 10, pp. 105201, 2017
28. **"A study on enhancing EUV resist sensitivity"**  
Atsushi Sekiguchi, Tetsuo Harada, Takeo Watanabe  
Proc. SPIE 10143 (2017) 1014322.
29. **"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.
30. **"集光型コヒーレント回折イメージング法による EUV マスク上の欠陥評価法の開発"**  
原田哲男, 橋本拓, 渡邊健夫  
電気学会論文誌 A, 137 (5), pp.260-264 (2017).
31. **"Imaging performance improvement of coherent extreme-ultraviolet scatterometry microscope with high-harmonic generation extreme-ultraviolet source"**  
D. Mamezaki, T. Harada, Y. Nagata, and T. Watanabe  
Jpn. J. Appl. Phys. 56, 06GB01 (2017).
32. **"Observation of EUVL mask using coherent EUV scatterometry microscope with high-harmonic-generation EUV source"**  
D. Mamezaki, T. Harada, Y. Nagata, and T. Watanabe  
Proc. SPIE 10454 (2017)1045413.
33. **"Resist Investigation Method using ab initio MO Calculation on basis of Approximation Molecular Model"**  
S. Nagata, S. Niihara, T. Harada, and T. Watanabe  
J. Photopolym. Sci. Technol. 30 (2017) 583.
34. **"Absorption Coefficient Measurement Advanced Method of EUV Resist by Direct-Resist Coating on a Photodiode"**  
S. Niihara, D. Mamezaki, M. Watanabe, T. Harada, and T. Watanabe  
J. Photopolym. Sci. Technol. 30 (2017) 87.

35. **"Evaluation of Block Copolymer Structure using Soft X-Ray Scattering"**  
Y. Nakatani, T. Harada, A. Takano, M. Yamada, and T. Watanabe  
J. Photopolym. Sci. Technol. 30 (2017) 77.
36. **"原子状水素を用いた Ni コートミラーの炭素汚染の除去"**  
新部正人, 原田哲男, 部家彰, 渡邊健夫, 松尾直人  
第 78 回応用物理学会秋季学術講演会予稿集, 5a-S44-2 (2017).
37. **"軟 X 線散乱を用いたトリブロック共重合体構造の評価"**  
中谷侑亮, 原田哲男, 高野敦志, 山田素行, 渡邊健夫  
第 78 回応用物理学会秋季学術講演会予稿集, 5p-S42-3 (2017).
38. **"軟 X 線 CMOS イメージセンサの特性評価"**  
原田哲男, 中谷侑亮, 寺西信一, 渡邊健夫  
第 78 回応用物理学会秋季学術講演会予稿集, 5p-S42-4 (2017)
39. **"フォトダイオード直接塗布法による EUV レジストの高精度な吸収係数測定法"**  
新原章汰, 豆崎大輝, 渡辺雅紀, 原田哲男, 渡邊健夫  
第 78 回応用物理学会秋季学術講演会予稿集, 5p-S42-5 (2017)
40. **"Synthesis of Hyperbranched Polyacetals containing C-(4-t-butylbenz)calix[4]resorcinarene; Resist Properties for Extreme Ultraviolet (EUV) Lithography"**  
Hiroto Kudo, Mari Fukunaga, Kohei Shiotsuki, Hiroya Takeda, Hiroki Yamamoto, Takahiro Kozawa, Takeo Watanabe  
Reactive and Functional Polymers REACT-D-18-00010.
41. **"半導体微細パターンニング技術最前線 (共著) ~基礎から MEMS 技術、応用開発事例まで~ 第 2 章 EUV リソグラフィ技術、第 2 節 EUV 干渉露光技術"**  
渡邊健夫  
株式会社エヌ・ディー・エス, 2017.4.10.
42. **"EUV レジストの最前線 (特集「第 16 回放射線プロセスシンポジウムの各論として掲載) "**  
渡邊健夫  
「放射線と産業」第 142 号, 一般財団法人 放射線利用振興協会編
43. **"最新フォトレジスト材料開発とプロセス最適化技術" 河合晃 監修**  
渡邊健夫  
(株) シーエムシー出版, 2017.9.
44. **"UV 硬化技術を使った新製品開発 (共著)**  
第 8 章 UV 硬化型ソルダーレジスト、フォトレジストの設計と評価  
第 7 節 EUV レジストのアウトガス評価、反応解析"  
渡邊健夫  
株式会社技術情報協会, 2017.11.
45. **"Synthesis of cupric particles induced by X-ray radiolysis"**  
A. Yamaguchi, I. Okada, T. Fukuoka, Y. Utsumi  
IEEJ Transactions on Electronics, Information and Systems, vol. 137, No.3, pp. 400 -405 (2017), DOI: 10.1541/ieejieiss.137.400  
**"X 線照射による銅粒子生成"**  
山口明啓, 岡田育夫, 福岡隆夫, 内海裕一  
電気学会論文誌 C (電子・情報・システム部門誌)
46. **"A study for Sensitivity Improvement of 3-D Lab-on-a-CD based Immunosensor"**

Chiwa Kataoka, Tsukasa Azeta, Kazuyuki Sawadaishi, Yoshiaki Ukita, Akinobu Yamaguchi and Yuichi Utsumi  
IEEE Transactions on Electronics Information and Systems Vol. 137 No.3, pp. 418 – 423 (2017), DOI:  
10.1541/ieej.iss.137.418

\*Electronics and Communications in Japan, Vol. 101, No. 1, 2018 (Willey 英訳バージョン)

47. **"On-chip Synthesis of Ruthenium Complex by Microwave-Induced Reaction in a Microchannel Coupled with Post-Wall Waveguide"**  
Y. Utsumi, A. Yamaguchi, T. Matsumura-Inoue, and M. Kishihara  
Sensors & Actuator B: Chemical, 242, 384-388 (2017).
48. **"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).
49. **"圧電体基板上に作製した NiCu 合金微小磁性細線の磁気抵抗効果"**  
山口明啓, 大河内拓雄, 保井晃, 才木常正, 内海裕一, 木下豊彦, 山田啓介  
電気学会論文誌 A, Vol. 137 (No. 8), pp. 487-488 (2017).  
IEEE Transaction on Fundamentals and Materials Vol. 138 (No. 8), pp. 487-488 (2017).
50. **"Caltrop particles synthesized by X-ray radiolysis in liquid phase with photochemical reaction"**  
A. Yamaguchi, I. Okada, I. Sakurai, T. Fukuoka, M. Ishihara and Y. Utsumi  
Journal of Synchrotron Radiation 24, 653-660 (2017).
51. **"Development of Bead-Based Multiplexed Immunoassay with Image Cytometric Analysis"**  
Yoshiaki Ukita, Chiwa Kataoka, Kazuyuki Sawadaishi, Akinobu Yamaguchi, and Yuichi Utsumi,  
Sensors and Materials, Vol. 29 (No. 5), 567-573 (2017).
52. **"Control of domain structure in artificial Ni wires fabricated on a LiNbO3 substrate"**  
A. Yamaguchi, T. Ohkochi, A. Yasui, T. Kinoshita, K. Yamada  
IEEE Transactions on Magnetics 53, 8108504 (2017).
53. **"X線をを用いた熱化学異方性エッチングによる PTFE の微細加工プロセスの検討"**  
山口明啓, 木戸秀樹, 竹内雅耶, 内海裕一  
電気学会論文誌 E, Vol. 137 (No. 12) pp. 417-421
54. **"金ナノ粒子のボトムアッププロセスで表面増強ラマン散乱活性なナノセンサー／ナノビーコンを造る"**  
福岡隆夫, 山口明啓, 内海裕一, 倉本亮介, 森康維  
BUNSEKI KAGAKU Vol. 66 No.2 pp. 919-923 (2017).
55. **"Fabrication of Waveguide Butler Matrix for Short Millimeter-Wave by X-ray Lithography"**  
M. Kishihara, M. Takeuchi, A. Yamaguchi, Y. Utsumi, I. Ohta  
IEEE 978-1-5090-6360-4 DOI: 10.1109/MWSYM.2017.8058629 Conference: Conference: 2017 IEEE/MTT-S  
International Microwave Symposium - IMS 2017
56. **"Biofilm Formation Behaviors on Graphene by E. coli and S. epidermidis"**  
H. Kanematsu, M. Sato, K. Shindo, D. M. Barry, N. Hirai, A. Ogawa, T. Kogo, Y. Utsumi, A. Yamaguchi, H. Ikegai, Y. Mizunoe  
ESC Transactions, 80(10), 1167-1175 (2017).
57. **"Caltrop cupric oxide particles synthesized by X-ray photochemical reaction"**  
A. Yamaguchi, I. Okada, T. Fukuoka, and Y. Utsumi  
2017 International Conference on Electronics Packaging (ICEP 2017) Conference Proceedings IEEE Xplore,  
sponsored by JIEP (The Japan Institute of Electronics Packaging), IEEE CPMT Society Japan Chapter, iMAPS.

58. **"DIELECTROPHORESIS-ENABLED DYNAMIC FORMATION OF HIGHER-ORDER NANOSTRUCTURE CONSISTING OF AU-NANOPARTICLES-DECORATED POLYSTYRENE BEADS FOR SERS DETECTION"**  
A. Yamaguchi, T. Fukuoka, and Y. Utsumi  
Micro TAS 2017, W057c
59. **"放射光励起光プロセスと新しい応用展開"**  
山口明啓, 内海裕一  
公益社団法人 砥粒加工学会学会誌「特集 めっき技術における微細性」p535-538 (2017).  
Journal of the Japan Society for Abrasive Technology Vo. 6, No. 10 (2017) Oct., pp. 535-538.
60. **"研究室だより：兵庫県立大学 材料・放射光専攻ナノマイクロシステム研究室"**  
山口明啓  
電気学会 E 部門誌 Vol. 138 (No. 2), pp. 2



## (2) International meetings

1. **"Performance measurement of HARPO: a Time Projection Chamber as a gamma-ray telescope and polarimeter"**  
P. Gros, S. Amano, D. Attíe, P. Baron, D. Baudin, D. Bernard, P. Bruel, D. Calvet, P. Colas, S. Dafé, A. Delbart, M. Frodin, Y. Geerebaert, B. Giebels, D. Götz, S. Hashimoto, D. Horan, T. Kotaka, M. Louzir, F. Magniette, Y. Minamiyama, S. Miyamoto, H. Ohkuma, P. Poilleux, I. Semeniouk, P. Sizun, A. Takemoto, M. Yamaguchi, R. Yonamine, and S. Wang  
arXiv:1706.06483v1 [astro-ph.IM] 20 Jun 2017 (2017).
2. **"M1 strength in photonuclear reactions with linearly polarized  $\gamma$ -ray beam"**  
T. Hayakawa, T. Shizuma, K. Horikawa, S. Miyamoto, S. Amano, M. Yamaguchi, A. Takemoto, S. Chiba, H. Akimune, K. Ogata, M. Fujiwara  
JPS Conf. Proc. 14, 021012 (2017).
3. **"Measurement of neutron spectra for photonuclear reaction with linearly polarized photons"**  
Y. Kirihara, T. Itoga, T. Sanami, H. Nakashima, Y. Namito, S. Miyamoto, A. Takemoto, M. Yamaguchi, and Y. Asano  
EPJ Web of Conferences 153, 01019 (2017). DOI: 10.1051/epjconf/201715301019
4. **"Measurement of neutron energy spectra for  $E_{\gamma}=23.1$  and 26.6 MeV mono-energetic photon induced reaction on natC using laser electron photon beam at NewSUBARU"**  
T. Itoga, H. Nakashima, T. Sanami, Y. Namito, Y. Kirihara, S. Miyamoto, A. Takemoto, M. Yamaguchi and Y. Asano  
EPJ Web of Conferences 153, 07010 (2017). DOI: 10.1051/epjconf/201715307010
5. **"Partial photoneutron cross section measurements on  $^{209}\text{Bi}$ "**  
I. Gheorghie, D. Filipescu, S. Katayama, H. Utsunomiya, S. Belyshev, K. Stopani, V. Varlamov, T. Shima, Y.-W. Lui, S. Amano, and S. Miyamoto  
EPJ Web of Conferences 146, 05011 (2017).
6. **"Photoneutron Reaction Data for Nuclear Physics and Astrophysics"**  
H. Utsunomiya, T. Renstrøm, G. M. Tveten, I. Gheorghie, D. M. Filipescu, S. Belyshev, K. Stopani, H. Wang, G. Fan, Y.-W. Lui, D. Symochko, S. Goriely, A.-C. Larsen, S. Siem, V. Varlamov, B. Ishkhanov, T. Glodariu, M. Krzysiek, D. Takenaka, T. Ari-izumi, S. Amano, S. Miyamoto  
Proceedings of the CGS16 Conference (Shanghai, September 2017).
7. **"Erosion process of fluorinated diamond-like carbon films by exposure to soft X-rays"**  
Kazuhiro Kanda, Hiroki Takamatsu, Eri Miura-Fujiwara, Hiroki Akasaka, Akihiro Saiga, Koji Tamada, Masahito Tagawa, Kumiko Yokota, and Yuichi Furuyama (invited)  
The Collaborative Conference on Materials Research (CCMR), Jeju, South Korea, Jun. 26-30 (2017).
8. **"Classification of Hydrogen-Free and Hydrogenated DLC Films Prepared by Filtered Arc Deposition"**  
Toru Harigai, Takahiro Imai, Yoshiyuki Suda, Hirofumi Takikawa, Masao Kamiya, Satoru Kaneko, Shinsuke Kunitsugu, Masahito Niibe, and Kazuhiro Kanda  
IUMRS-ICAM 2017, Kyoto, Japan Aug. 27-Sep. 1 (2017).
9. **"DLC denture coating and the effect of prevention of contamination in oral cavity"**  
Yuichi Imai, Kazuhiro Kanda, Yoko Kato, Teppei Horikawa, and Tatsuyuki Nakatani  
Plasma Conference 2017, Himeji, Japan, Nov. 20-24 (2017).
10. **"Observation of B-K Emission and Absorption Spectra of Trace Boron Doped in HOPG"**

Masahito Niibe, Noritaka Takehira and Takashi Tokushima  
The 8th International Symposium on Surface Science (ISSS-8), Tsukuba, Oct. 2017.

11. **"Surface Structure Analysis of AlGa<sub>N</sub> Thin Films Damaged by Oxygen and Nitrogen Plasmas"**  
Masahito Niibe, Ryo Tanaka, Retsuo Kawakami, Yoshitaka Nakano and Takashi Mukai  
The 8th International Symposium on Surface Science (ISSS-8), Tsukuba, Oct. 2017.
12. **"Generation Behavior of Electrical Damage Introduced into n-GaN Films by CF<sub>4</sub> Plasma Treatments"**  
Yoshitaka Nakano, Retsuo Kawakami and Masahito Niibe  
29th International Conf. on Defects in Semiconductors (ICDS), Matsue, Aug. 2017.
13. **"TiO<sub>2</sub> Thin Film Surfaces Treated by O<sub>2</sub> Plasma in Dielectric Barrier Discharge with Assistance of Heat Treatment"**  
Retsuo Kawakami, Kengo Fujimoto, Masahito Niibe, Yuma Araki, Yoshitaka Nakano and Takashi Mukai  
Proc. 14th International Symp. Sputtering & Plasma Processes, 274-277, Kanazawa, Jul. 2017.
14. **"Laser Plasma soft X-ray Source Based on Cryogenic Target"**  
S. Amano (Invited)  
SPIE, Optics+Optoelectronics, Prague, Czech Republic, April 24-27, 2017.
15. **"Surface morphology changes of CVD-graphene/Cu{120} induced by post-annealing processes"**  
Y. Ogawa, Y. Murata, S. Suzuki, H. Hibino, S. Heun, K. Kumakura  
30th Int. Microprocess and Nanotechnology Conf. (MNC2017), Jeju, Korea, November 7 (2017).
16. **"Evolution of graphene alignment on recrystallizing polycrystalline Cu-foil for chemical vapor deposition growth"**  
Yui Ogawa, Satoru Suzuki, Hiroki Hibino, Kazuhide Kumakura, Yoshitaka Taniyasu  
Int. Symp. on Nanoscale Transport and Photonics 2017, Atsugi, November 14 (2017).
17. **"T Molecular orientation of photoreactive liquid crystalline polymer films observed by NEXAFS"**  
Y. Haruyama, M. Okada, E. Nishioka, M. Kondo, N. Kawatsuki, and S. Matsui  
European Congress and Exhibition on Advanced Materials and Processes (EUROMAT2017),  
Thessaloniki, Greece, 2017/9/19
18. **"CESIUM ION DOPED NICKEL OXIDE LAYERS FOR INVERTED PEROVSKITE SOLAR CELLS"**  
Shota Fukumoto, Naoyuki Shibayama, Hiroyuki Kanda, Ajay Kumar Baranwal, Yuichi Haruyama,  
Hiroshi Segawa, Tsutomu Miyasaka, Seigo Ito  
The 27th International Photovoltaic Science and Engineering Conference (PVSEC-27), Otsu, Japan  
2017/11/14
19. **"Development of EUV Phase Imaging Microscope for Mask-3DEffect and Defect Evaluation"**  
Tetsuo Harada, Daiki Mamezaki, and Takeo Watanabe  
Photomask Japan, Yokohama, April 5 - 7, 2017.
20. **"NewSUBARU EUVL R&D Activities and EUV Mask Defect Inspection (Invited talk) "**  
Takeo Watanabe, Tetsuo Harada  
International Workshop on EUV Lithography, San Francisco, CA, USA, Jun. 12- 15, 2017.
21. **"Resist Investigation Method using ab initio MO Calculation on basis of Approximation Molecular**

**Model"**

S. Nagata, S. Niihara, T. Harada, and T. Watanabe,  
The 34th International Conference of Photopolymer Science and Technology  
Makuhari Messe, Chiba, Japan, Jun. 26-29, 2017.

22. **"Absorption Coefficient Measurement Advanced Method of EUV Resist by Direct-Resist Coating on a Photodiode"**  
Shota Niihara, Daiki Mamezaki, Masanori Watanabe, Tetsuo Harada, Takeo Watanabe  
The 34th International Conference of Photopolymer Science and Technology  
Makuhari Messe, Chiba, Japan, Jun. 26-29, 2017.
23. **"Evaluation of Block Copolymer Structure using Soft X-ray Scattering"**  
Yusuke Nakatani, Tetsuo Harada, Atsushi Takano, Motoyuki Yamada, Takeo Watanabe  
The 34th International Conference of Photopolymer Science and Technology  
Makuhari Messe, Chiba, Japan, Jun. 26-29, 2017.
24. **"EUV Lithography Research and Development Activities at University of Hyogo (Invited talk) "**  
Takeo Watanabe  
OSA Laser Congress 2017, Nagoya Congress Center, Oct.,1-5, 2017.
25. **"Current Status and Prospect for EUV lithography (Panelist) "**  
Takeo Watanabe  
OSA Laser Congress 2017, Nagoya Congress Center, Oct.,1-5, 2017.
26. **"EUV Lithography Research and Development Activities at University of Hyogo"**  
Takeo Watanabe  
IMEC meeting, Leuven, Belgium, Oct. 13, 2017.
27. **"Current Status and Prospect for EUV lithography (Plenary talk) "**  
Takeo Watanabe  
2017 7th International Conference on Integrated Circuits, Design, and Verification (ICDV2017), Hanoi, Vietnam, Oct. 5-6, 2017.
28. **"Observation of EUVL Mask Using Coherent EUV Scatterometry Microscope with High-Harmonic-Generation EUV Source"**  
Daiki Mamezaki, Tetsuo Harada, and Takeo Watanabe  
Photomask Japan, Yokohama, April 5-7, 2017.
29. **"Development of Polarization Control Unit with Broadband Mo/Si Multilayer for Accurate EUV Reflectometry"**  
Masanori Watanabe, Tetsuo Harada, and Takeo Watanabe  
Photomask Japan, Yokohama, April 5-7, 2017.
30. **"Large Collector Mirror Reflectometer for the High Power EUV Light Source Achievement"**  
Takeo Watanabe and Tetsuo Harada  
2017 International Workshop on EUV Lithography, San Francisco, CA, USA, Jun. 12- 15, 2017.
31. **"EUV Lithography Research and Development Activities at University of Hyogo"**  
Takeo Watanabe and Tetsuo Harada  
2017 International Workshop on EUV Lithography, San Francisco, CA, USA, Jun. 12- 15, 2017.

32. **"EUV resist development at NewSUBARU in University of Hyogo"**  
Takeo Watanabe, Shota Niihara, Shohei Nagata, Masahiro Watanabe, Daiki Memezaki, Tetsuo Harada  
Photomask Technology + Extreme Ultraviolet Lithography 2017, Monterey, CA, USA, 2017.9.11-14.
33. **"A Study of EUV Resist Sensitivity by using metal materials"**  
Atsushi Sekiguchi, Yoko Matsumoto, Yoshiyuki Utsumi, Michiya Naito, Takeo Watanabe and Tetsuo Harada  
Photomask Technology + Extreme Ultraviolet Lithography 2017, Monterey, CA, USA, 2017.9.11-14.
34. **"Development of the negative-tone molecular resists for EB/EUVL having high EUV absorption capacity, and molecular design method"**  
Takashi Sato, Tomoaki Takigawa, Yuta Togashi, Takumi Toida, Masatoshi Echigo, Tetsuo Harada, Takeo Watanabe, Hiroto Kudo  
Photomask Technology + Extreme Ultraviolet Lithography 2017, Monterey, CA, USA, 2017.9.11-14.
35. **"Development of EUV phase imaging microscope for mask-3D-effect and defect evaluation"**  
Tetsuo Harada, Daiki Mamezaki, Yusuke Nakatani, Takeo Watanabe  
Photomask Technology + Extreme Ultraviolet Lithography 2017, Monterey, CA, USA, 2017.9.11-14.
36. **"Caltrap cupric oxide particles synthesized by X-ray photochemical reaction"**  
A. Yamaguchi, I. Okada, T. Fukuoka, and Y. Utsumi  
2017 International Conference on Electronics Packaging (ICEP 2017), Yamagata, Japan, 2017/4/20
37. **"Control of domain structure in artificial Ni wires fabricated on a LiNbO<sub>3</sub> substrate"**  
A. Yamaguchi, T. Ohkochi, A. Yasui, T. Kinoshita, K. Yamada  
Intermag 2017, Dublin, Ireland, 24th-28th, April, 2017
38. **"Dielectrophoresis-enabling Dynamic Formation of Higher-Order Nanostructure Consisting of Au-nanoparticles-Decorated Polystyrene Beads for SERS Detection"**  
A. Yamaguchi, T. Fukuoka, Y. Utsumi  
The 21st International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2017), Savannah, USA, 22nd-26th, Oct., 2017
39. **"Strain-induced magnetic properties of micro-scale artificial magnets on ferroelectric LiNbO<sub>3</sub> substrate"**  
A. Yamaguchi, K. Ueda, T. Nakajima, Y. Utsumi, T. Ohkochi, A. Yasui, T. Kinoshita, K. Yamada  
The 62nd Annual Conference on Magnetism and Magnetic Materials (2017 MMM), Pittsburgh, USA, November 6th-10th, 2017
40. **"Ferromagnetic resonance of Ni wires fabricated on ferroelectric LiNbO<sub>3</sub> substrate for studying strain-induced magnetic properties"**  
A. Yamaguchi, K. Ueda, T. Nakajima, Y. Utsumi, K. Yamada  
The 62nd Annual Conference on Magnetism and Magnetic Materials (2017 MMM), Pittsburgh, USA, November 6th-10th, 2017
41. **"Plasmonic Nanobeacon Based on Gold Nanoparticle Self-assembly for Universal Bio-Nanosensing"**  
T. Fukuoka, A. Yamaguchi, Y. Mori  
The first International Workshop by the 174th Committee JSPS "Symbiosis of Biology and Nanodevices"  
(第174委員会主催国際ワークショップ「Symbiosis of Biology and Nanodevices」), Kyoto, Dec. 21st, 2017