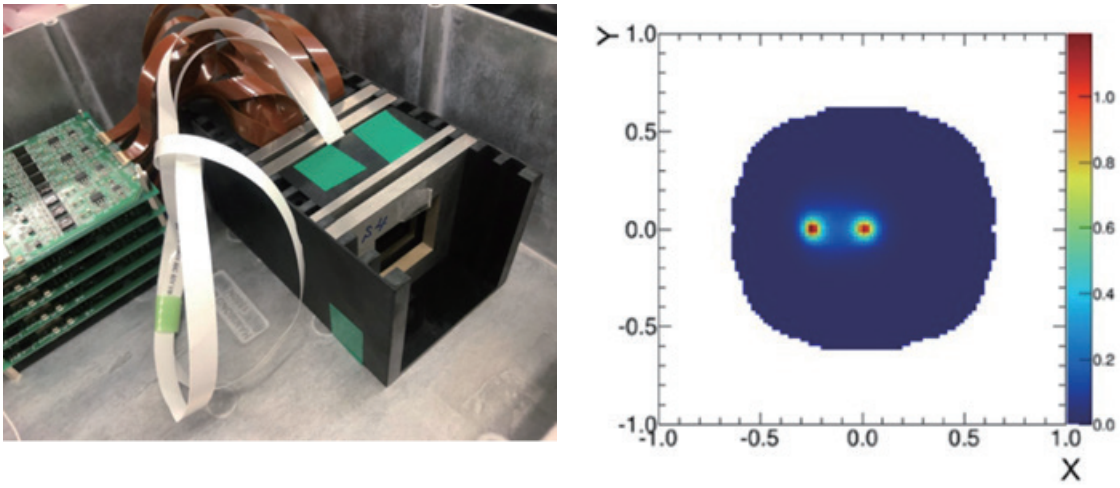
Part 3. List of Publications



Newly developed compact Compton camera
and measured gamma ray image.
(Press release on January 30, 2020)

Papers

1. **"Development and performance verification of a 3-D position sensitive Compton camera for imaging MeV gamma rays"**
   H. Hosokoshi, J. Kataoka, S. Mochizuki, M. Yoneyama, S. Ito, H. Kiji, F. Nishi, S. Miyamoto, and Tatsushi Shima
   Nature Scientific Reports (2019) Vol. 9, 18551,
   DOI: 10.1038/s41598-019-54862-z

2. **"γ-ray strength function for barium isotopes"**
   H. Utsunomiya, T. Renstrøm, G. M. Tveten, S. Goriely, T. Ari-izumi, V. W. Ingeberg, B. V. Kheswa, Y.-W. Lui, S. Miyamoto, S. Hilaire, S. Péru, and A. J. Koning
   Physical Review C 100, 034605 (2019).

3. **"Erratum: Photoneutron cross-section measurements in the 209Bi(γ, xn) reaction with a new method of direct neutron-multiplicity sorting [Phys. Rev. C 96, 044604 (2017)] "**
   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 99, 059901 (2019).

4. **"Neutron emission spectrum from gold excited with 16.6 MeV linearly polarized monoenergetic photons"**
   Y. Kirihara, H. Nakashima, T. Sanami, Y. Namito, T. Itoga, S. Miyamoto, A. Takemoto, M. Yamaguchi, Y. Asano
   Journal of Nucl. Sci. Technol., vol. 57, no. 4, pp. 444–456 (2020).

5. **"FCI の正解率劣化に伴う心理プロセス"**
   庄司善彦
   大学の物理教育, Vo.25, No.3, pp.121-124.

6. **"FCI 項目への回答応答に存在する日米差の正解率劣化に伴う心理プロセス"**
   庄司善彦
   大学の物理教育, Vo. 26, No.1, pp.8-11.

7. **"Sparse modeling of chemical bonding in binary compounds"**
   Y. Kanda, H. Fujii, and T. Oguchi
   Science and Technology of Advanced Materials (STAM), 20, 1178 (2019).

8. **"Half-metallicity of the ferrimagnet Mn2VAl revealed by resonant inelastic soft x-ray scattering in a magnetic field"**
   R. Y. Umetsu, H. Fujiwara, K. Nagai, Y. Nakatani, M. Kawada, A. Sekiyama, F. Kuroda, H. Fujii, T. Oguchi, Y. Harada, J. Miyawaki, and S. Suga
   Phys. Rev. B 99, 134414 (2019).

9. **"Local Structure Analysis on Si-Containing DLC Films Based on the Measurement of C K-Edge and Si K-edge X-Ray Absorption Spectra"**
   Kazuhiro Kanda, Shuto Suzuki, Masahito Niibe, Takayuki Hasegawa, Tsuneo Suzuki, Hedetoshi Saitoh
   Coatings, 10, 00330 (2020).
   doi:10.3390/coatings10040440

10. **"Effect of nonequilibrium atmospheric pressure O_2 plasma-assiated annealing on anatase TiO_2 nanoparticls"**

Retsuo Kawakami, Yuki Yoshitani, Akihiro Shirai, Shin-ichiro Tanagiya, Hirofumi Koide, Yuki Mimoto, Kosuke Kajikawa, Masahito Niibe, Yoshitaka Nakano, Chisato Azuma, Takashi Mukai
Appl. Surf. Sci. 526, 146684 (2020).
doi: 10.1016/j.apsusc.2020.146684

11. **"Removal of Surface Contamination by Atomic Hydrogen Annealing"**
Akira Heya, Tetsuo Harada, Masahito Niibe, Koji Sumitomo, and Takeo Watanabe
J. Photopolymer Sci. Technol., 33, 419-426 (2020).

12. **"Electronic structure of a 3x3-ordered silicon layer on Al(111)"**
Yusuke Sato, Yuki Fukaya, Mathis Cameau, Asish K. Kundu, Daisuke Shiga, Ryu Yukawa, Koji Horiba, Chin-Hsuan Chen, Angus Huang, Horng-Tay Jeng, Taisuke Ozaki, Hiroshi Kumigashira, Masahito Niibe, and Iwao Matsuda
Phys. Rev. Mater., 4, 064005 (2020).
DOI: 10.1103/PhysRevMaterials.4.06405.

13. **"Topological Dirac nodal loops in nonsymmorphic hydrogenated monolayer boron"**
N. T. Cuong, I. Tateishi, M. Cameau, M. Niibe, N. Umezawa, B. Slater, K. Yubuta, T. Kondo, M. Ogata, S. Okada, and I. Matsuda
Phys. Rev. B 101, 195412 (2020).
DOI: 10.1103/PhysRevB.101.195412

14. **"Charge redistribution within platinum-nitrogen coordination structure to boost hydrogen evolution"**
Xing Cheng, Yue Lu, Lirong Zheng, Yitao Cui, Masahito Niibe, Takashi Tokushima, Hongyi Li, Yuefei Zhang, Ge Chen, Shaorui Sun, and Jiujun Zhang
Nano Energy 73, 104739 (2020).
DOI: 10.1016/j.nanoen.2020.104739

15. **"Water Electrolysis Using Thin Pt and RuOx Catalysts Deposited by a Flame-Annealed Method on Pencil-Lead Graphite-Rod Electrodes"**
Ryuki Tsuji, Yuuki Koshino, Hideaki Masutani, Yuich Haruyama, Masahito Niibe, Satoru Suzuki, Seiji Nakashima, Hironori Fujisawa, and Seigo Ito
ACS Omega, 5, 6090-6099 (2020) .
DOI: 10.1021/acsomega.Oc00074.

16. **"Development of Soft X-rayAbsoeption Spectroscopic Equipment at Atmospheric Pressure Using He-path with a Free-Standing Membrane as a Partition Wall"**
Masahito Niibe, Yuka Horikawa, Takashi Tokushima
Adv. X-ray Chem. Anal. Japan, 51, 41-48 (2020).

17. **"Effect of air-based nonequilibrium atmospheric pressure plasma jet treatment on characteristics of polypropylene film surfaces"**
Retsuo Kawakami, Yuki Yoshitani, Kimiaki Mitani, Masahito Niibe, Yoshitaka Nakano, Chisato Azuma, Takashi Mukai
Appl. Surf. Sci. 509, 144910 (2020).

18. **"Dopamine detection on activated reaction fieldconsisting of graphene-integrated siliconphotonic cavity"**
R. Kou, Y. Kobayashi, S. Inoue, T. Tsuchizawa, Y. Ueno, S. Suzuki, H. Hibino, T. Yamamoto, H. Nakajima, K. Yamada
Optics Express 27, 32058-32068 (2019).

19. **"Growth process of hexagonal boron nitride in the diffusion and precipitation method studied by X-ray photoelectron spectroscopy"**
Satoru Suzuki and Yuichi Haruyama
Jpn. J. Appl. Phys. 58, SIIB15-1-4 (2019).

20. **"Water Electrolysis using Flame-Annealed Pencil-Graphite Rods"**
R. Tsuji, H. Masutani, Y. Haruyama, M. Niibe, S. Suzuki, S. Honda, Y. Matsuo, A. Heya, N. Matsuo, S. Ito
ACS Sustainable Chem. Eng. 7, 5681 (2019).

21. **"Quasi-free-standing monolayer hexagonal boron nitride on Ni"**
Satoru Suzuki, Yuichi Haruyama, Masahito Niibe, Takashi Tokushima, Akinobu Yamaguchi, Yuichi Utsumi, Atsushi Ito, Ryo Kadowaki, Akane Maruta and Tadashi Abukawa
Mater. Res. Express 6, 016304-1-8 (2019).

22. **"At wavelength coherent scatterometry microscope using high-order harmonics for EUV mask inspection"**
Yutaka Nagata, Tetsuo Harada, Takeo Watanabe, Hiroo Kinoshita, and Katsumi Midorikawa
Int. J. Extrem. Manuf. 1 (2019) 032001.

23. **"Development of an EUV and OoB Reflectometer at NewSUBARU Synchrotron Light Facility"**
Keisuke Tsuda, Tetsuo Harada, Takeo Watanabe
Proc. SPIE 11148 (2019) 111481N.

24. **"Resonant Soft X-ray Scattering for the Stochastic Origin Analysis in EUV Resist"**
Jun Tanaka, Takuma Ishiguro, Tetsuo Harada, and Takeo Watanabe
J. Photopolym. Sci. Technol. 32 (2019) pp. 327-331.

25. **"Resonant Soft X-ray Reflectivity for the Chemical Analysis in Thickness Direction of EUV Resist"**
Takuma Ishiguro, Jun Tanaka, Tetsuo Harada, and Takeo Watanabe
J. Photopolym. Sci. Technol. 32 (2019) pp. 333-337.

26. **"Energy- and spatial-resolved detection using a backside-illuminated CMOS sensor in the soft X-ray region"**
Tetsuo Harada, Nobukazu Teranishi, Takeo Watanabe, QUan Zhou, Xiao Yang, Jan Bogaerts, and Xinyang Wang
Appl. Phys. Exp. 12 (2019) 082012.

27. **"Fabrication of hig-aspect-ratio transmission grating using DDR process for 10 nm EUV resist evaluation by EUV interference lithography"**
Mana Yoshifuji, Shota Niihara, Tetsuo Harada, and Takeo Watanabe
Jpn. J. Appl. Phys. 58 (2019) SDDA02.

28. **"High-exposure-durability, high-quantum-efficiency (>90%) backside-illuminated soft-X-ray CMOS sensor"**
T. Harada, N. Teranishi, T. Watanabe, Q. Zhou, J. Bogaerts, X. Wang
Appl. Phys. Exp. 13 (2020) 103009.（Peer reviewed）

29. **"Synthesis and Property of Tellurium-Containing Molecular Resist Materials for Extreme Ultraviolet Lithography System"**
Hiroto Kudo, Mari Fukunaga, Teppei Yamada, Shinji Yamakawa, Takeo Watanabe, Hiroki Yamamoto, Kazumasa Okamoto, Takahiro Kozawa
J. Photopolym. Sci. Technol., 32 (2020) 805-810.

30. **"EUV Lithographic Technology for the Innovative IoT and AI (in Japanese) "**
Takeo Watanabe
Clean Technology, 2 (2020) pp.1-5.

31. **"Magnetic scattering in Ni wires fabricated on ferroelectric LiNbO3 substrate for magnetic sensor application"**
R. Nakamura, S. Saegusa, S. Suzuki, A. Nakao, Y. Utsumi, T. Ohkochi, M. Oura, Y. Takizawa, T. Saiki, T. Lee, K. Kim, K. Yamada, T. Ogasawara, A. Yamaguchi
Sensors and Materials 31, 3007-3022 (2019).

32. **"Controllability of cupric particle synthesis by linear alcohol chain number as additive and pH control in cupric acetate solution using X-ray radiolysis"**
A. Yamaguchi, I. Okada, I. Sakurai, H. Izumi, M. Ishihara, T. Fukuoka, S. Suzuki, K. Elphick, E. Jackson, A. Hirohata, Y. Utsumi
J. Synchrotron Rad. 26(6), 1986-1995 (2019).

33. **"Deep X-ray lithography system with a uniform and high-accuracy fabrication area establish in beamline BL11 at NewSUBARU"**
Masaya Takeuchi, Akinobu Yamaguchi, and Yuichi Utsumi
Journal of Synchrotron Radiation, Vol.26, pp.528-534, 2019

34. **"Deposition of Polytetrafluoroethylene Film Assisted by Synchrotron Radiation Irradiation"**
Masaya Takeuchi, Hirokazu Izumi, Mari Ishihara, Toshiro Kobayashi, Akinobu Yamaguchi, and Yuichi Utsumi
Journal of Photopolymer Science and Technology, Vol. 32, pp. 249-252 (2019). (IF : 0.934)

35. **"Modification of the Transmittance of Bulk Polytetrafluoroethylene via Synchrotron Radiation Irradiation"**
Masaya Takeuchi, Toshiro Kobayashi, Akinobu Yamaguchi, and Yuichi Utsumi
Journal of Photopolymer Science and Technology, Vol. 32, pp. 253-256 (2019). (IF : 0.934)

36. **"Improving the mixing performance of a 3D lab-on-a-chip device by using fluid dynamics simulation"**
Toshiro Kobayashi, Yuhei Yoshimasa, Masaya Takeuchi, Yuichi Utsumi, and Akinobu Yamaguchi
Advanced Experimental Mechanics, 4, 55- 60 (2019).

37. **"Measuring Elastic and Plastic Properties of PVK and CBP Thin Films using Triangular Pyramid Indenter"**
Toshiro Kobayashi, Hideaki Furumoto, Akinobu Yamaguchi, Hideyuki Kanemitsu, and Ion Cosmin Gruescu
Advanced Experimental Mechanics, 4, 96-102 (2019).

38. **"Present status of photoemission electron microscope newly installed in SPring-8 for time-resolved nanospectroscopy"**
Takuo Ohkochi, Hitoshi Osawa, Akinobu Yamaguchi, Hidenori Fujiwara, Masaki Oura
Jpn. J. Appl. Phys. 58, 118001-1-3 (2019). (IF : 1.471)

39. **"Cracking of Aluminum and Silver Alloy Thin Films on Polymer Thin Films"**
Toshiro Kobayashi, Hideaki Furumoto, Shigeru Nagasawa, Hideyuki Kanematsu, Ion Cosmin Gruescu, Yuichi Utsumi
Advanced Experimental Mechanics, Vol.4, 115-120 (2019).

Proceedings

1. **"Analysis of Students' University Selection Reports"**
   Y. Shoji
   Proc. of DSIR, IEEE Explore

2. **"Cognitive Acceleration Program in UndergraduateSchool"**
   Y. Shoji, T. Yumoto
   Proc. of DSIR, IEEE Explore

3. **"Analysis of LWR Origin in EUV Resist"**
   Takeo Watanabe, Jun Tanaka1 and Tetsuo Harada
   Proceedings of ALC'19, 2019.

4. **"Removal of carbon contamination on oxidation-prne metal coated mirrors using atomic hydrogen"**
   Masato Niibe, Tetsuo Harada, Akira Heya, Takeo Watanabe, and Naoto Matsuo
   AIP Conf. Proc. 2054, 060010 (2019).

5. **"EUV Lithography Research and Development Activities in Japan (Plenary Talk) "**
   Takeo Watanabe
   Proceedings of EUVL International Workshop, Jun. 2019, Berkeley, CA, USA, Jun. 13, 2019.

6. **"Photopolymer Science and Technology Related to EUV Lithography at University of Hyogo"**
   Takeo Watanabe
   Proceedings pf APSMR Annual Meeting 2019, Sapporo, July 26-29, 2019

7. **"EUVL fundamental works at University of Hyogo (Invited) "**
   Takeo Watanabe
   Proceedings of International Symposium on EUV Lithography 2019, Monterey, USA, Sep. 17, 2019.

8. **"Technical Issues in EUV Lithography (in Japanese) (Invited) "**
   Takeo Watanabe
   231st Photopolymer Conference, Tokyo University of Science, Apr. 25, 2019.

9. **"Advanced Research and Prospect at NewSUBARU Synchrotron Light Facility (in Japanese) "**
   Takeo Watanabe
   Proceedings of 135th Issui-Kai Conference, Jul. 26, 2019.

10. **"Resist Technology for Advanced Lithography (in Japanese) (Invited) "**
    Takeo Watanabe
    Proceedings of 29th Photopolymer Conference, Tokyo University of Science, Aug. 28-29, 2019.

11. **"Technology R&D for EUV Lithography (in Japanese) (Invited) "**
    Takeo Watanabe
    Proceedings of EUVL Seminar, Technical Information Institute, Co., Ltd., Dec. 5, 2019.

12. **"Fundamental Technology for EUV Lithography ～Advanced Technology Information, and Solution for the Technical Issues, and Prospect for the Future Technology～ (in Japanese) "**
    Takeo Watanabe
    Proceedings of Science and Technology Seminar, Science & Technology, Co., Ltd., pp.1-300, Jan. 30m 2019.

13. **"Anisotropic pyrochemical etching of PTFE by Synchrotron radiation"**

M. Takeuchi, A. Yamaguchi, and Y. Utsumi
Proceedings of the 14th Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS) April 11-14, 2019, Bangkok, Thailand, pp. 418-422

14. **"Study on three dimensional additive manufacturing process using X-ray radiolysis"**
Akinobu Yamaguchi, Ikuya Sakurai, Ikuo Okada, Atsushi Yamaguchi, Mari Ishihara, Takao Fukuoka, Satoru Suzuki, and Yuichi Utsumi
Proceedings of the 14th Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS) April 11-14, 2019, Bangkok, Thailand, pp. 139-142

15. **"X-ray radiolysis-based three dimensional additive manufacturing process"**
S. Saegusa, I. Sakurai, I. Okada, T. Fukuoka, S. Suzuki, Y. Utsumi, and A. Yamaguchi
2019 International Conference on Electronics Packaging (ICEP), April 17 -20, 2019

16. **"On-chip Synthesis of An Nanoparticles by Microwave-induced Reaction in Microchannel Embedded in the Post-Wall Waveguide"**
Yamaguchi, M. Kishihara, T. Fukuoka, M. Takeuchi, and Y. Utsumi
The 23rd International Conference on Miniaturized Systems for Chemistry and Life Science (μTAS 2019).

Review

1. **"マテリアルズ・インフォマティクスによる材料開発"**
藤井将
工業材料, 2019 年 6 月号 vol67, No.6, p78 日刊工業新聞社

2. **"軟 X 線を用いた逆コンプトン散乱による高エネルギーガンマ線ビームの開発"**
村松憲仁，岡部雅大，鈴木伸介，伊達仲，清水肇，大熊春夫，神田一浩，宮本修治，原田哲男，渡邊健夫，宮部学，時安敦史
加速器, 16(3), 154-160 (2019).

3. **"放射光光励起反応とプロセスへの展開"**
山口明啓，櫻井郁也，岡田育夫，内海裕一
エレクトロニクス実装学会, 2020 年 23 巻 1 号, pp. 46-52.

1. **"Development of a positron annihilation measurement system by implantation of 17 MeV gamma beam into bulk materials"**
K. Sugita, S. Miyamoto, M. Terasawa, A. Iwase, K. Umezawa, and F. Hori
AIP Conference Proceedings2182, 040007 (2019) : https://doi.org/10.1063/1.5135839
The 18th International Conference on Positron Annihilation (ICPA-18)

2. **"GDR cross sections updated in the IAEA-CRP"**
H. Utsunomiya, I. Gheorghe, K. Stopani, S. Belyshev, H. Wang, G. Fan, T. Ari-izumi, Y.-W. Lui, D. M. Filipescu, D. Symochko, M. Krzysiek, S. Miyamoto
ND2019 (International Conference on Nuclear Data for Science and Technology, May 19-24, 2019: China National Convention Center, Beijing)
http://nd2019.medmeeting.org/Content/78040

3. **"Development of the gamma-ray tracking detector at RCNP and its performance test at NewSUBARU"**
Kohda, Y. Yamamoto, N. AOI, E. Ideguchi, M. K. Raju, H. Thi Ha, T. T. Pham, S. Miyamoto, T. Shizuma, N. Imai, K. Wimmer, P. Doornenbal, M. L. Cortes, J. Hwang
High Resolution Gamma-Ray Spectroscopy at the RIBF, TU Darmstadt, Germany April 10, 2019

4. **"Fast positron beam penetration and annihilation in materials"**
K. Sugita, S. Miyamoto, M. Terasawa, K. Umezawa and F. Hori
SLOPOS15, (2019) Sep. 2-6 Prague, Czech.

5. **"Development of high energetic gamma beam induced positron annihilation apparatus at NewSUBARU"**
Kento Sugita, Shuji Miyamoto, Mititaka Terasawa, Satoshi Hashimoto, Sho Amano, Kenji Umezawa, Fuminobu Hori
16th. Particle Accelerator Society of Japan, p.126 (2019)

6. **"Automatic operation of NewSUBARU ring for automatic energy variable measurement of Compton scattered gamma rays"**
Satoshi Hashimoto, Shuji Miyamoto, Yasuyuki Minagawa, Kazuyuki Kajimoto
16th. Particle Accelerator Society of Japan, p.1052 (2019)

7. **"Present status of the NewSUBARU synchrotron light facility"**
Satoshi Hashimoto, Yoshihiko Shoji, Shuji Miyamoto, Yasuyuki Minagawa, Kazuyuki Kajimoto, Yousuke Hamada
16th. Particle Accelerator Society of Japan, p.1254 (2019)

8. **"Analysis of Students' University Selection Reports"** (Oral)
Yoshihiko Shoji
International Congress on Advanced Applied Informatics, July 7-12, 2019, Toyama, Japan

9. **"Cognitive Acceleration Program in Undergraduate School"** (Oral)
Yoshihiko Shoji
International Congress on Advanced Applied Informatics, July 7-12 ,2019, Toyama, Japan

10. **"Characterization of amorphous carbon films using near edge X-ray absorption fine structure measurement"** [invited]
Kazuhiro Kanda
The ASIAN Conference on X-ray Absorption Spectroscopy 2019 (ACXAS2019), 2019.8.28-30

Chiangmai, Thailand

11. **"NEXAFS evaluation for the lumen of DLC coated small diameter long-sized medical objective tube by using AC high-voltage burst plasma CVD method"**
Yuichi Imai, Kazuhiro Kanda, Yasuhiro Fujii, Susumu Ouzawa, Daiki Ousaka, Tatsuyuki, Nakatani
12th International Symposium on Advanced Plasma Science and its Applications for Nitrides and Nanomaterials / 13th International Conference on Plasma-Nano Technology & Science (ISPlasma2020/IC-PLANTS2020), 10P2-52, March 8-11, Nagoya University (Higashiyama Campus), Nagoya, Japan, (2020)

12. **"Nano-polycryetalline diamond and compressed graphite systhesized from neutron-irradiated highly oriented pyrolytic graphite"**
Keisuke Niwase, Mititaka Terasawa, Shin-ichi Honda, Masahito Niibe, Masafumi ichikawa, Shusaku Nakamura, Yuji Higo
32nd Advanced Materials World Congress (IAAM), Sydney, Australia, Feb. 2-5, 2020.

13. **"Soft X-ray Absorption and Emission Spectra of Monolayer h-BN film"**
Masahito Niibe, Satoru Suzuki, and Takashi Tokushima
20th Int'l Symp. On Boron Borides and Related Materials (ISBB), Niigata Japan, 22-27, Sep. 2019.

14. **"Soft X-ray Absorption and Emission Spectra of Trace Boron doped in HOPG"**
Masahito Niibe, Noritaka Takehira, and Takashi Tokushima
20th Int'l Symp. On Boron Borides and Related Materials (ISBB), Niigata Japan, 22-27, Sep. 2019.

15. **"Study of Electroic Structure of Silicene on Al(111) Substrate"**
Y. Sato, Y. Fukaya, C. H. Chen, A. Huang, H. T. Jeng, M. Niibe, and I. Matsuda
20th Int'l Symp. On Boron Borides and Related Materials (ISBB), Niigata Japan, 22-27, Sep. 2019.

16. **"Electron trrucuture of rare-earth aluminum/chromium boride R(Al0.95Cr0.05)B4 studied by B-K soft X-ray emission and absorption spectroscopy"**
Masahito Niibe, M. Cameou, N.T. Cuong, T. Kindo, K. Yubuta, S. Okada and I. Matsuda
The 40th Int'l Conf. on Vacuum Ultraviolet and X-ray Physics (VUVX19), San Francisco USA, 1-5, July 2019.

17. **"Photocatalytic Characteristics of Au/TiO2/Au Nanostructure Induced by Ultraviolet Irradiation"**
Retsuo Kawakami, Hirofumi Koide, Yuki Yoshitani, Shin-ichiro Yanagiya, Toshihiro Okamoto, Masanobu Haraguchi, Akihiro Furube, Masahito Niibe, Yoshitaka Nakano, Chisato Azuma and Takashi Mukai
15th International Symposium on Sputtering & Plasma Processes, Kanazawa Japan, Jun. 2019.

18. **"Laser-plasma-source for soft X-ray microscope"** (Invited)
S.Amano
6th International Congress on Microscopy & Spectroscopy (INTERM2019), Oludeniz, Turkey, May 12-18, 2019.

19. **"Development of Time-Division Depth-Profiling Techniques in Multi- Layered Dielectric Thin Films by using Near-Ambient-Pressure Hard X-ray Angle-Resolved Photoemission Spectroscopy"**
Satoshi Toyoda, Tomoki Yamamoto, Masashi Yoshimura, Hirosuke Sumida, Susumu Mineoi, Masatake Machida, Akitaka Yoshigoe, Akira Yoshikawa, Satoru Suzuki, Kazushi Yokoyama
2019 Int. Workshop on Dielectric Thin Films for Future Electron Devices – Science and Technology – (2019 IWDTF), Tokyo, November 19, 2019.

20. **"Preparation and Characterization of Graphene/Bi(Fe,Mn)O3 Structure on SrRuO3-buffered SrTiO3 Substrate"**
S. Nakashima, S. Yamagata, Y. Fuchiwaki, S. Suzuki, and H. Fujisawa
Materials Research Meeting 2019 (MRM2019), Yokohama, December 11, 2019.

21. **"Time series analysis of depth profiles in multi-layered stack-film interfaces studied by near-ambient-pressure hard x-ray angle-resolved photoemission spectroscopy"**
Satoshi Toyoda, Tomoki Yamamoto, Masashi Yoshimura, Hirosuke Sumida, Susumu Mineoi, Masatake Machida, Akitaka Yoshigoe, Akira Yoshikawa, Satoru Suzuki, Kazushi Yokoyama
Int. Conf. on Materials and Systems for Sustainability 2019 (ICMaSS2019), Nagoya, November 1, 2019.

22. **"EUV Lithography Research and Development Activities in Japan"** (Plenary Talk)
Takeo Watanabe
EUVL International Workshop, Jun. 2019, Berkeley, CA, USA, Jun. 13, 2019.

23. **"Resonant Soft X-ray Reflectivity for the Chemical Analysis in Thickness Direction of EUV Resist"**
Takuma Ishiguro, Jun Tanaka, Tetsuo Harada, and Takeo Watanabe
ICPST36, Chiba, Japan, Jun. 25, 2019.

24. **"Resonant Soft X-ray Scattering for the Stochastic Origin Analysis in EUV Resist"**
Jun Tanaka, Takuma Ishiguro, Tetsuo Harada, and Takeo Watanabe
ICPST36, Chiba, Japan, Jun. 25, 2019.

25. **"Photopolymer Science and Technology Related to EUV Lithography at University of Hyogo"** (Invited)
Takeo Watanabe
Proceedings pf APSMR Annual Meeting 2019, Sapporo, July 26-29, 2019.

26. **"Fundamental Studies of EUV Resist at the NewSUBARU Synchrotron Light Source"** (Invited)
Takeo Watanabe and Testuo Harada
ELENA International Conference 2019, Lueven, Belgium, Sep. 4, 2019.

27. **"Development of an EUV and OoB Reflectometer in NewSUBARU Synchrotron light Facility"** (Invited)
Keisuke Tsuda, Tetsuo Harada, Takeo Watanabe
Speed Presentation on BACUS 2019, Monterey, USA, Sep. 17, 2019.

28. **"EUVL fundamental works at University of Hyogo"** (Invited)
Takeo Watanabe, Tetsuo Harada
International Symposium on EUV Lithography 2019, Monterey, USA, Sep. 17, 2019.

29. **"Fundamental Research Activities of Extreme Ultraviolet Lithography at NewSUBARU Synchrotron Facility"**
Takeo Watanabe and Tetsuo Harada
MNE2020, Rhodes, Greece, Sep. 23, 2019.

30. **"Development of VUV and soft X-ray reflectometers for EUV-optics and optical-index measurements in NewSUBARU"**
Tetsuo Harada, Takeo Watanabe
XIO 2019, Sendai, Japan, Oct. 26, 2019,

31. **"Development of High-Power EUV Irradiation Tool in Hydrogen Atmosphere"**
Ayato Ohgata, Tetsuo Harada, and Takeo Watanabe
MNC2019, Hiroshima, Japan, Oct. 28, 2019.

32. **"EUV Resist Research Activites at NewSUBARU"**
Takeo Watanabe
IEUVI Resist International Workshop 2020
San Jose, USA, Feb. 23, 2019.

33. **"Future EUV lithography with shortening the wavelength"**
Takeo Watanabe, Takuto Fujii, Fuuka Yoshizawa, Hironori Matsumoto, Takuma Ishiguro, and Tetsuo Harada
Speed Talk at SPIE Advanced Lithography 2020, San Jose, USA, Feb. 26, 2019.

34. **"The evaluation method of the origin of LWR in EUV resist"**
Takeo Watanabe and Tetsuo Harada
SPIE Advanced Lithography 2020, San Jose, USA, Feb. 27, 2019.

35. **"Development of an EUV and OoB Reflectometer in NewSUBARU Synchrotron light Facility"**
Keisuke Tsuda, Tetsuo Harada, Takeo Watanabe
Photomask Japan 2019, Yokohama, Japan, Apr. 16, 2019.

36. **"Development of High-Power EUV Irradiation tool in H2 atmosphere"**
Ayato Ohgata, Tetsuo Harada, Takeo Watanabe
Photomask Japan 2019, Yokohama, Japan, Apr. 16, 2019.

37. **"Development of an EUV and OoB Reflectometer in NewSUBARU Synchrotron light Facility"** (Invited)
Keisuke Tsuda, Tetsuo Harada, Takeo Watanabe
Poster Session on BACUS 2019, Monterey, USA, Sep. 17, 2019.

38. **"Development of high-power EUV irradiation tool in hydrogen atmosphere"**
Tetsuo Harada, Ayato Ohgata, Takeo Watanabe
International Symposium on EUV Lithography 2019, Monterey, USA, Sep. 17, 2019.

39. **"The stochastic origin analysis using the resonant soft X-ray scattering method in EUV resists"** (Invited)
Takeo Watanabe, Tetsuo Harada, Jun Tanaka, Takuma Ishiguro
International Symposium on EUV Lithography 2019, Monterey, USA, Sep. 16, 2019.

40. **"Analysis of LWR Origin in EUV Resist"**
Takeo Watanabe, Jun Tanaka, and Tetsuo Harada
ALC '19, Kyoto, Oct. 21, 2019.

41. **"Future EUV lithography with shortening the wavelength"**
Takeo Watanabe, Takuto Fujii, Fuuka Yoshizawa, Hironori Matsumoto, Takuma Ishiguro, and Tetsuo Harada
SPIE Advanced Lithography 2020, San Jose, CA, USA, Feb. 27, 2020.

42. **"Study on three dimensional additive magnufacturing process using X-ray radiolysis"**

Akinobu Yamaguchi, Ikuya Sakurai, Ikuo Okada, Atsushi Yamaguchi, Mari Ishihara, Takao Fukuoka, Satoru Suzuki, Yuichi Utsumi
IEEE NEMS April 11th, 2019.

43. **"Anisotropic pyrochemical etching of PTFE by Synchrotron radiation"** (Oral)
Masaya Takeuchi, Akinobu Yamaguchi, Yuichi Utsumi
IEEE NEMS April 11th, 2019.

44. **"X-ray radiolysis-based three dimensional additive manufacturing process"** (Oral)
S. Saegusa, I. Sakurai, I. Okada, T. Fukuoka, S. Suzki, Y. Utsumi, and A. Yamaguchi
20th International Conference on Electronic Packaging (ICEP 2019), April 17th – 20th, 2019, Toki-messe, Nigata, Japan

45. **"Study on the physical mechanism of uniaxial magnetic anisotropy induced in Ni layer on LiNbO3 substrate"** (Oral)
Yamaguchi, T. Ohkochi, M. Oura, K. Yamada, Y. Utsumi, A. Nakao
10th International Symposium on Metallic Multilayers (MML), June 17th-21st, 2019, IMDEA Nanocienciain Campus Universitario de Cantoblanco, Spain

46. **"Enhancement of damping constant in Ni wire deposited on LiNbO3 substrate"** (Poster)
Yamaguchi, K. -J. Kim, A. Nakao, and K. Yamada
10th International Symposium on Metallic Multilayers (MML), June 17th-21st, 2019, IMDEA Nanocienciain Campus Universitario de Cantoblanco, Spain

47. **"Deposition of Polytetrafluoroethylene Assisted by Synchrotron Radiation Irradiation"** (Oral)
M. Takeuchi, H. Izumi, M. Ishihara, T. Kobayashi, A. Yamaguchi, Y. Utsumi
The 36th International Conference of Photopolymer Science and Technology, June 25th-27th, 2019, Makuhari Messe

48. **"Modification of the Transmittance of Bulk Polytetrafluoroethylene via Synchrotron Radiation Irradiation"** (Oral)
Masaya Takeuchi, Toshiro Kobayashi, Akinobu Yamaguchi, and Yuichi Utsumi
The 36th International Conference of Photopolymer Science and Technology, June 25th-27th, 2019, Makuhari Messe

49. **"Additive manufacturing process by X-ray-induced-photochemical reaction"** (Oral)
A. Yamaguchi, I. Okada, I. Sakurai, S. Saegusa, Y. Utsumi
The 10th Japan-China-Korea Join Conference on MEMS/NEMS, 2019, July 16th-18th, Asahikawa, Japan

50. **"Thermal Evaporation of a Polytetrafluoroethylene Film Under AtmosphericPressure Assisted by Synchrotron Radiation Pre-Irradiation"** (Oral)
M. Takeuchi, A. Yamaguchi, Y. Utsumi
The 10th Japan-China-Korea Join Conference on MEMS/NEMS, 2019, July 16th-18th, Asahikawa, Japan

51. **"XPS and XMCD-PEEM Studies of uniaxial magnetic anisotropy induced in Ni layer deposited on LiNbO3 substrate"**
A. Yamaguchi, T. Ohkochi, M. Oura, K. Yamada, A. Naoko, Y. Utsumi
10th Joint European Magnetic Symposia, August 26th-30th, 2019, Uppsala Konsert & Kongress, Uppsala, Sweden

52. **"Evaluation of Gilbert damping in magnetic wires on LiNbO3 using rectifying effect"**
A. Yamaguchi, K. –J. Kim, T. Lee, A. Nakao, T. Ohkochi, K. Yamada
10th Joint European Magnetic Symposia, August 26th-30th, 2019, Uppsala Konsert & Kongress, Uppsala, Sweden

53. **"Study on X-ray radiolysis-induced-chemical reaction at interface between liquid and substrate for additive manufacturing process"** (Poster)
A. Yamaguchi, I. Sakurai, I. Okada, M. Ishihara, T. Fukuoka, K. Elphick, E. Jackson, A. Hirohata, Y. Utsumi
45th International conference on micro & nano engineering, September 23rd-26th, 2019, in Rhodes island, Greece.

54. **"Ferromagnetic/Ferroelectric heterojunction-induced modulation of magnetic properties of artificial magnets"** (Poster)
A. Yamaguchi, R. Nakamura, S. Saegusa, K. Yamada, T. Saiki, A. Nakao, Y. Utsumi, T. Ogasawara, M. Oura, T. Ohkochi
45th International conference on micro & nano engineering, September 23rd-26th, 2019, in Rhodes island, Greece.

55. **"On-chip synthesis of ruthenium complex in a microchannel by microwave heating"** (Poster)
M. Takeuchi, M. Kishihara, T. Kobayashi, A. Yamaguchi, T. Matsumura-Inoue, Y. Utsumi
45th International conference on micro & nano engineering, September 23rd-26th, 2019, in Rhodes island, Greece.

56. **"On-chip synthesis of Au nanoparticles by microwave-induced reaction microchannel embedded in the post-wall waveguide"** (Poster)
A. Yamaguchi, M. Kishihara, T. Fukuoka, M. Takeuchi, Y. Utsumi
The 23rd International Conference on Miniaturized Systems for Chemistry and Life Science, (μTAS 2019) October 27th-31st, 2019, Congress Center Basel, Basel, Switzerland

57. **"Anisotropic pyrochemical etching of polytetrafluoroethylene by soft X-ray"** (Poster)
K. Fujitani, M. Takeuchi, A. Yamaguchi, Y. Utsumi
MNC 2019, October 28th-31st, 2019,Hiroshima, Japan

58. **"Aggregation and dispersion of Au-nanoparticles and decorated polystyrene beads with SERS-activity in optofluidic chip"** (Oral)
A. Yamaguchi, Y. Utsumi, T. Fukuoka
Okinawa Colloids 2019, November 3rd-8th, 2019, Bankoku Shinryoukan, Okinawa, Japan

59. **"Longevous Plasmonic Nanotags for On-dose-authentication of Medical Tables in Supply Chain Security"** (Poster)
T. Fukuoka, H. Nakanishi, Y. Mori, A. Yamaguchi
Okinawa Colloids 2019, November 3rd-8th, 2019, Bankoku Shinryoukan, Okinawa, Japan

60. **"Study on magnetization dynamics in magnetic wires on LiNbO3"** (Oral)
S. Saegusa, R. Nakamura, T. Ogasawara, Y. Utsumi, K. Yamada, T. Ohkochi, T. Kinoshita, M. Oura, and A. Yamaguchi
Materials Research Meeting 2019, December 10th-14th, 2019, Yokohama, Japan

61. **"Study on mechanism and control of uniaxial magnetic anisotropy induced in the**

ferromagnetic/ferroelectric heterojunction using XMCD-PEEM and XPS" (Poster)
R. Nakamura, S. Saegusa, A. Nakao, Y. Utsumi, K. Yamada, T. Ohkohic, T. Kinoshita, M. Oura, and A. Yamaguchi
Materials Research Meeting 2019, December 10th-14th, 2019, Yokohama, Japan