

6. 原著論文

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1. Shot noise limit of sensitivity of chemically amplified resists used for extreme ultraviolet lithography, S. Fujii, T. Kozawa, K. Okamoto, J. J. Santillan, and T. Itani. *Jpn. J. Appl. Phys.* 54 (2015) 116501.
2. Optimum concentration ratio of photodecomposable quencher to acid generator in chemically amplified extreme ultraviolet resists, T. Kozawa. *Jpn. J. Appl. Phys.* 54 (2015) 126501.
3. Relationships between quencher diffusion constant and exposure dose dependences of line width, line edge roughness, and stochastic defect generation in extreme ultraviolet lithography, T. Kozawa. *Jpn. J. Appl. Phys.* 54 (2015) 016502.
4. Theoretical study of fabrication of line-and-space patterns with 7 nm quarter-pitch (7nm space width and 21nm line width) using electron beam lithography with chemically amplified resist processes: I. Relationship between sensitivity and chemical gradient, T. Kozawa, *Jpn. J. Appl. Phys.* 54 (2015) 056501.
5. Effects of diffusion constant of photodecomposable quencher on chemical gradient of chemically amplified extreme-ultraviolet resists, T. Kozawa, *Jpn. J. Appl. Phys.* 54 (2015) 056502.
6. Effect of thermalization distance on chemical gradient of line-and-space patterns with 7 nm half-pitch in chemically amplified extreme ultraviolet resists, T. Kozawa, J. J. Santillan, and T. Itani, *Jpn. J. Appl. Phys.* 54 (2015) 066501.
7. Study on radiation chemistry of fluorinated polymers for EUV resist, N. Nomura, K. Okamoto, H. Yamamoto, T. Kozawa, R. Fujiyoshi, and K. Umegaki, *Jpn. J. Appl. Phys.* 54 (2015) 06FE03.
8. Redox-dependent DNA distortion in a SoxR protein-promoter complex studied using fluorescent probes, M. Fujikawa, K. Kobayashi, and T. Kozawa, *J. Biochem.* 157 (2015) 389.
9. Relationship between information and energy carried by photons in extreme ultraviolet lithography: Consideration from the viewpoint of sensitivity enhancement, S. Fujii, T. Kozawa, K. Okamoto, J. J. Santillan, and T. Itani, *Jpn. J. Appl. Phys.* 54 (2015) 086502.
10. Theoretical study of fabrication of line-and-space patterns with 7 nm quarter-pitch using electron beam lithography with chemically amplified resist processes: II. Stochastic effects, T. Kozawa, *Jpn. J. Appl. Phys.* 54 (2015) 096501.
11. Theoretical study of fabrication of line-and-space patterns with 7 nm quarter-pitch using electron beam lithography with chemically amplified resist process: III. Post exposure baking on quartz substrates, T. Kozawa, *Jpn. J. Appl. Phys.* 54 (2015) 096703.
12. Study on Dissolution Behavior of Poly(4-hydroxystyrene) as Model Polymer of Chemically Amplified Resists for Extreme Ultraviolet Lithography, M. Mitsuyasu, H. Yamamoto, and T.

- Kozawa, J. *Photopolym. Sci. Technol.* 28 (2015) 119-124.
13. Synthesis and Resist Properties of Hyperbranched Polyacetals, H. Kudo, S. Matsubara, H. Yamamoto, and T. Kozawa, *J. Photopolym. Sci. Technol.* 28 (2015) 125-129.
 14. Synthesis of Hyperbranched Polyacetals via An + B₂-Type Polyaddition (n=3, 8, 18, and 21): Candidate Resists for Extreme Ultraviolet Lithography, H. Kudo, S. Matsubara, H. Yamamoto, and T. Kozawa, *J. Polym. Sci. Part A: Polym. Chem.* 53 (2015) 2343–2350.
 15. Quencher diffusion in chemically amplified poly(4-hydroxystyrene-co-t-butyl methacrylate) resist, T. Kozawa, J. J. Santillan, and T. Itani, *Jpn. J. Appl. Phys.* 54 (2015) 118002.
 16. Acid Quantum Efficiency of Anion-bound Chemically Amplified Resists upon Exposure to Extreme Ultraviolet Radiation, Y. Komuro, D. Kawana, T. Hirayama, K. Ohmori, and T. Kozawa, *J. Photopolym. Sci. Technol.* 28 (2015) 501-505.
 17. Resist material options for extreme ultraviolet lithography, T. Kozawa, *Adv. Opt. Techn.* 4 (2015) 311-317.
 18. Relationship between Thermalization Distance and Line Edge Roughness in Sub-10 nm Fabrication Using Extreme Ultraviolet Lithography, T. Kozawa, J. J. Santillan, and T. Itani, *J. Photopolym. Sci. Technol.* 28 (2015) 669-675.
 19. Quick Measurement of Continuous Absorption Spectrum in Ion Beam Pulse Radiolysis: Application of Optical Multi-channel Detector into Transient Species Observation, K. Iwamatsu, Y. Muroya, S. Yamashita, A. Kimura, M. Taguchi, Y. Katsumura, *Radiat. Phys. Chem.* 119 (2016).
 20. Deciphering the reaction between a hydrated electron and a hydronium ion at elevated temperatures, J. Ma, S. Yamashita, Y. Muroya, Y. Katsumura and M. Mostafavi, *Phys. Chem. Chem. Phys.* 17 (2015) 22934.
 21. Modeling and simulation of acid generation in anion-bound chemically amplified resists used for extreme ultraviolet lithography, Y. Komuro, D. Kawana, T. Hirayama, K. Ohomori, and T. Kozawa, *Jpn. J. Appl. Phys.* 54 (2015) 036506.
 22. Effects of dose shift on line width, line edge roughness, and stochastic defect generation in chemically amplified extreme ultraviolet resist with photodecomposable quencher, T. Kozawa, *Jpn. J. Appl. Phys.* 54 (2015) 016503.
 23. Pulse radiolysis study of polystyrene-based polymers with added photoacid generators:
 24. Reaction mechanism of extreme-ultraviolet and electron-beam chemically amplified resist, K. Okamoto, H. Yamamoto, T. Kozawa, R. Fujiyoshi, and K. Umegaki, *Jpn. J. Appl. Phys.* 54 (2015) 026501.
 25. Study on resist performance of chemically amplified molecular resists based on cyclic oligomers, H. Yamamoto, H. Kudo, and T. Kozawa, *Microelectron. Eng.* 133 (2015) 16-22.
 26. Feasibility study of sub-10-nm-half-pitch fabrication by chemically amplified resist processes

- of extreme ultraviolet lithography: II. Stochastic effects, T. Kozawa, J. J. Santillan, and T. Itani, *Jpn. J. Appl. Phys.* 54 (2015) 036507.
27. Effects of dose shift on line width, line edge roughness, and stochastic defect generation in chemically amplified extreme ultraviolet resist with photodecomposable quencher, T. Kozawa, *Jpn. J. Appl. Phys.* 54 (2015) 016504.
 28. Binding of Promoter DNA to SoxR Protein Decreases the Reduction Potential of the [2Fe-2S] Cluster, K. Kobayashi, M. Fujikawa, and T. Kozawa, *Biochemistry* 54 (2015) 334.
 29. The Radical S-Adenosyl-L-methionine Enzyme QhpD Catalyzes Sequential
 30. Formation of Intra-protein Sulfur-to-Methylene Carbon Thioether Bonds, T. Nakai, H. Ito, K. Kobayashi, Y. Takahashi, H. Hori, M. Tsubaki, K. Tanizawa, and T. Okajima, *J. Biol. Chem.* 290 (2015) 11144.
 31. High-aspect-ratio patterning by ClF₃-Ar neutral cluster etching, H. Yamamoto, T. Seki, J. Matsuo, K. Koike, and T. Kozawa, *Microelectron. Eng.* 141 (2015) 145-149.
 32. Chemical repair activity of free radical scavenger edaravone: reduction reactions with dGMP hydroxyl radical adducts and suppression of base lesions and AP sites on irradiated plasmid DNA, K. Hata, A. Urushibara, S. Yamashita, M. Lin, Y. Muroya, N. Shikazono, A. Yokoya, H. Fu, and Y. Katsumura, *J. Radiat. Res.* 56 (2015) 59.
 33. Sequential radiation chemical reactions in aqueous bromide solutions: pulse radiolysis experiment and spur model simulation, S. Yamashita, K. Iwamatsu, Y. Maehashi, M. Taguchi, K. Hata, Y. Muroya, and Y. Katsumura, *RSC Adv.* 5 (2015) 25877.
 34. 尿酸のラジカルスカベンジャーとしての生理的役割, 小林 一雄, 高尿酸血症と痛風 23, (2015) 114-119
 35. Femtosecond Time-Resolved Electron Microscopy, J. Yang, Y. Yoshida, and H. Shibata, *Electron. Comm. Jpn.* 98, 50-57 (2015).
 36. Generation of Terahertz Waves Using Ultrashort Electron Beams from a Photocathode Radio-Frequency Gun Linac, K. Kan, J. Yang, A. Ogata, T. Kondoh, M. Gohdo, H. Shibata, and Y. Yoshida, *Electron. Comm. Jpn.* 99, 22-31 (2016).
 37. Proton Transfer of Guanine Radical Cation Formed upon One-Electron Oxidation Studied by Time-resolved Resonance Raman Spectroscopy Combined with Pulse Radiolysis. J. Choi, C. Yang, M. Fujitsuka, S. Tojo, H. Ihee, and T. Majima. *J. Phys. Chem. Lett.*, 2015, 6 (24), 5045–5050.
 38. Radical Ions of Cyclopyrenylene: Similarity and Difference from Cycloparaphenylenes. M. Fujitsuka, S. Tojo, T. Iwamoto, E. Kayahara, S. Yamago, and T. Majima. *J. Phys. Chem. A*, 2015, 119(118), 4136-4141.
 39. Detection of structural changes upon one-electron oxidation and reduction of stilbene derivatives by time-resolved resonance Raman spectroscopy during pulse radiolysis and

- theoretical calculations. M. Fujitsuka, D. W. Cho, J. Choi, S. Tojo, T. Majima. *J. Phys. Chem. A*, 2015, 119 (26), 6816–6822.
40. How Does Guanine:Cytosine Base Pair Affect Excess-Electron Transfer in DNA? Shih-Hsun Lin, Mamoru Fujitsuka, and Tetsuro Majima. *J. Phys. Chem. B* 2015, 119(25), 7994-8000.
 41. Emission from charge recombination during the pulse radiolysis of bis(diarylamino)dihydro-indenoindene derivatives. C. Lu, M. Fujitsuka, S. Tojo, W. J. Wang, Y. Wei, T. Majima. *J. Phys. Chem. C*, 2015, 119 (31), 17818–17824.
 42. Mesolysis mechanisms of aromatic thioether radical anions studied by pulse radiolysis and DFT calculation. M. Yamaji, S. Tojo, M. Fujitsuka, A. Sugimoto, and T. Majima. *J. Org. Chem.* 2015, 80(16), 7890-7895.
 43. Covalently-attached-ferrocene dyads: synthesis, redox-switched emission, and observation of the charge-separated state. M. Abe, H. Yamada, T. Okawara, M. Fujitsuka, T. Majima, and Y. Hisaeda. *Inorg. Chem.*, 2016, 55 (1), 7–9.
 44. The unprecedented J-aggregate formation of rhodamine moieties induced by 9-phenylanthracenyl substitution. S. Kim, M. Fujitsuka, N. Tohnai, T. Tachikawa, I. Hisaki, M. Miyata, and T. Majima. *Chem. Commun.* 2015, 51(58), 11580-11583.
 45. Plasmon-Induced Spatial Electron Transfer between Single Au Nanorod and ALD-coated TiO₂: Dependence on TiO₂ Thickness. Z. Zheng, T. Tachikawa, and T. Majima. *Chem. Commun.* 2015, 51, 14373-14376.
 46. Dual Electron Transfer Pathways from the Excited C60 Radical Anion: Enhanced Reactivities due to Photoexcitation of Reaction Intermediates. M. Fujitsuka, T. Ohsaka, and T. Majima. *Phys. Chem. Chem. Phys.* 2015, 17(46), 31030-31038.
 47. Dynamics of Excess-Electron Transfer via Consecutive Thymine versus Alternating Adenine–Thymine Sequences in DNA. S.-H. Lin, M. Fujitsuka, and T. Majima. *Chem. Eur. J.* 2015, 21(45), 16190-16194.
 48. DNA Microenvironment Monitored by Controlling Redox Blinking. K. Kawai, K. Higashiguchi, A. Maruyama, and T. Majima. *ChemPhysChem* 2015, 16(17), 3590-3594.
 49. Selective photoredox activity controlled on specific facet-dominated TiO₂ mesocrystals. P. Zhang, T. Tachikawa, Z. Bian, and T. Majima. *Appl. Catal. B Environ.* 2015, 176, 678-686.
 50. TiO₂ mesocrystal with nitrogen and fluorine codoping during topochemical transformation: efficient visible light induced photocatalyst with the effect of codopants. P. Zhang, M. Fujitsuka, and T. Majima. *Appl. Catal. B Environ.* 2015, 185, 181–188.
 51. Singlet-Singlet and Singlet-Triplet Annihilations in Structure-Regulated Porphyrin Polymers. M. Fujitsuka, K. Satyanarayana, T.-Y. Luh, and T. Majima. *J. Photochem. Photobiol. A Chem.* accepted. Nanoplasmonic Photoluminescence Spectroscopy at Single-Particle Level: Sensing for Ethanol Oxidation. Z. Zheng and T. Majima. *Angew. Chem. Int. Ed.* 2016, accepted.

52. Multistep Electron Transfer Systems Including [2.2]- or [3.3]Paracyclophane M. Fujitsuka, T. Miyazaki, T. Shinmyozu, and T. Majima. *J. Phys. Chem. A* accepted.
53. Excess-Electron Transfer in DNA via Fluctuation-Assisted Hopping. Mechanism S.-H. Lin, M. Fujitsuka, and T. Majima. *J. Phys. Chem. B* accepted.
54. Excited State Dynamics of Si-Rhodamine and Its Aggregates: Versatile fluorophore for NIR absorption S. Kim, M. Fujitsuka, M. Miyata, and T. Majima. *Phys. Chem. Chem. Phys.* 2016, 18(3), 2097-2103.
55. In Situ Topotactic n-Type F-Doping into TiO₂ Mesocrystal Superstructures for Efficient Visible-Light Driven Hydrogen Generation. P. Zhang, T. Tachikawa, M. Fujitsuka, and T. Majima. *ChemSusChem* 2016, accepted.

解説・総説・その他

1. 飽和炭化水素の放射線化学初期過程と分解過程、近藤孝文、法澤公寛、楊金峰、神戸正雄、菅晃一、吉田陽一、放射線化学 100 号、40-42 (2015).
2. 超高速パルスラジオリシスの現状と展望、楊金峰、近藤孝文、菅晃一、神戸正雄、吉田陽一、放射線化学 100 号、52-55 (2015).
3. 相対論的フェムト秒電子線パルスによる超高速電子顕微鏡の研究、楊金峰、顕微鏡 Vol. 60, No. 3, 156-159(2015).
4. 機能分子のパルスラジオリシスの新展開、真嶋哲朗、放射線化学 2015, 99, 9-21.
5. DNA 内過剰電子移動、藤塚 守、真嶋哲朗、化学工業 2015, 55(7), 497-502.
6. Photoinduced Electron Transfer of Porphyrin Isomers: Impact of Molecular Structures on Electron Transfer Dynamics, M. Fujitsuka and T. Majima, *Chem. Asian J.* (review, invited), 2015, 10, 2320-2326.
7. 光線力学療法における細胞内一重項酸素の蛍光検出、金 水縁、真嶋哲朗、ケミカルエンジニアリング 2015, 60(9).
8. 有機化合物の放射線化学、真嶋哲朗、放射線化学 2015, 100, 18.

【国際会議発表】

1. RF gun based MeV electron diffraction and imaging(Invited), J. Yang, International Conference on High Energy Density Science 2015 (HEDS2015), Apr. 22-24, Yokohama, Japan (2015).
2. Development and perspective of the atto-second pulse radiolysis, M. Gohdo, K. Kan, T. Kondoh, J. Yang, Y. Yoshida, The 29th Miller Conference (Miller Conference 2015), Mar. 14-19, Cumbria, England (2015).
3. Pulse radiolysis study of polystyrene dimer phenyl cation radical in THF, M. Gohdo, T. Kondoh, K. Kan, J. Yang, H. Shibata, S. Tagawa, Y. Yoshida, The 29th Miller Conference (Miller Conference 2015), Mar. 14-19, Cumbria, England (2015).

4. Bunch Length Measurement of Femtosecond Electron Beam by Monitoring Coherent Transition Radiation (MOPTY002), I. Nozawa, M. Gohdo, K. Kan, T. Kondoh, A. Ogata, J. Yang, Y. Yoshida, The 6th International Particle Accelerator Conference (IPAC'15), May 3-8, Richmond, USA (2015).
5. Measurement of Temporal Electric Field of Electron Bunch using Photoconductive Antenna (TUPJE007), K. Kan, M. Gohdo, T. Kondoh, I. Nozawa, A. Ogata, T. Toigawa, J. Yang, Y. Yoshida, The 6th International Particle Accelerator Conference (IPAC'15), May 3-8, Richmond, USA (2015).
6. RF Gun Based Ultrafast Electron Microscopy (TUPWI008), J. Yang, K. Tanimura, Y. Yoshida, J. Urakawa, The 6th International Particle Accelerator Conference (IPAC'15), May 3-8, Richmond, USA (2015).
7. Attosecond and Femtosecond Pulse Radiolysis (2-C1-SY-06-01), Y. Yoshida, The 15th International Congress of Radiation Research (ICRR 2015), May 25-29, Kyoto, Japan (2015).
8. Ultrafast Electron Microscopy/diffraction for Radiation Chemistry (2-C1-SY-15-01), J. Yang, The 15th International Congress of Radiation Research (ICRR 2015), May 25-29, Kyoto, Japan (2015).
9. Ultrafast Electron Transfer in Dodecane Studied by Femtosecond Pulse Radiolysis (2-C1-SY-15-05), T. Kondoh, S. Nishii, M. Gohdo, K. Kan, J. Yang, S. Tagawa, Y. Yoshida, The 15th International Congress of Radiation Research (ICRR 2015), May 25-29, Kyoto, Japan (2015).
10. Generation of Ultrashort Electron Bunches for Attosecond Pulse Radiolysis (2-C1-OS-06-01), I. Nozawa, K. Kan, J. Yang, A. Ogata, T. Kondoh, M. Gohdo, Y. Yoshida, The 15th International Congress of Radiation Research (ICRR 2015), May 25-29, Kyoto, Japan (2015).
11. Observation of Quasi-free Electrons Using Terahertz Pulse Radiolysis (2-PS6C-01), K. Kan, J. Yang, A. Ogata, T. Kondoh, M. Gohdo, I. Nozawa, T. Toigawa, K. Norizawa, Y. Yoshida, The 15th International Congress of Radiation Research (ICRR 2015), May 25-29, Kyoto, Japan (2015).
12. Formation Process of Alkyl Radicals in Alkanes Studied by Femtosecond Pulse Radiolysis (3-PS6A-03), S. Nishii, T. Kondoh, M. Gohdo, K. Kan, J. Yang, S. Tagawa, Y. Yoshida, The 15th International Congress of Radiation Research (ICRR 2015), May 25-29, Kyoto, Japan (2015).
13. Pulse Radiolysis Study of Polystyrene Dimer Phenyl Cation Radical in THF (3-PS6G-02), M. Gohdo, T. Kondoh, K. Kan, J. Yang, H. Shibata, S. Tagawa, Y. Yoshida, The 15th International Congress of Radiation Research (ICRR 2015), May

- 25-29, Kyoto, Japan (2015).
14. Spectral Shift of Hydrated Electron Studied By Femtosecond Pulse Radiolysis (2-PS6J-02), S. Yamaso, The 15th International Congress of Radiation Research (ICRR 2015), May 25-29, Kyoto, Japan (2015).
 15. Measurement of Coherent Transition Radiation from Electron Beam Using Large-aperture Photoconductive Antenna (W3E-2), K. Kan, J. Yang, A. Ogata, M. Gohdo, T. Kondoh, S. Sakakihara, I. Nozawa, K. Norizawa, T. Toigawa, H. Shibata, S. Gonda, and Y. Yoshida, The 40th International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz 2015), Aug. 23-28, Hong Kong, China (2015).
 16. Development of Attosecond and Femtosecond Pulse Radiolysis for Study of Primary Process of Radiation Chemistry, Y. Yoshida, the 13th Tihany Symposium on Radiation Chemistry, Aug. 29 - Sep. 03, Balatonalmádi, Hungary (2015).
 17. Pulse Radiolysis Study of Polystyrene Dimer Phenyl Cation Radical in THF, M. Gohdo, T. Kondoh, K. Kan, J. Yang, H. Shibata, S. Tagawa, Y. Yoshida, the 13th Tihany Symposium on Radiation Chemistry, Aug. 29 - Sep. 03, Balatonalmádi, Hungary (2015).
 18. Temperature Dependence of the Geminate Ion Recombination and Charge Transfer in n-Dodecane Studied by a Femtosecond Pulse Radiolysis, T. Kondoh, S. Nishii, M. Gohdo, K. Norizawa, K. Kan, J. Yang, S. Tagawa, Y. Yoshida, the 13th Tihany Symposium on Radiation Chemistry, Aug. 29 - Sep. 03, Balatonalmádi, Hungary (2015).
 19. Femtosecond Pulse Radiolysis Study of the Radiation Decomposition Process and the Primary Process in n-Dodecane, S. Nishii, T. Kondoh, M. Gohdo, K. Kan, J. Yang, S. Tagawa, Y. Yoshida, the 13th Tihany Symposium on Radiation Chemistry, Aug. 29 - Sep. 03, Balatonalmádi, Hungary (2015).
 20. Study of Primary Process of Radiation Chemistry by Femtosecond Pulse Radiolysis (IT-20), Y. Yoshida, Asia Pacific Symposium on Radiation Chemistry (APSRC-2016) & Trombay Symposium on Radiation & Photochemistry (TSRP-2016), Jan. 5-9 Mumbai, India (2016).
 21. Ultrafast Electron Attachment with Biphenyl in n-Dodecane Studied by Femtosecond Pulse Radiolysis (IT-46), T. Kondoh, S. Nishii, M. Gohdo, K. Kan, J. Yang, S. Tagawa, Y. Yoshida, Asia Pacific Symposium on Radiation Chemistry (APSRC-2016) & Trombay Symposium on Radiation & Photochemistry (TSRP-2016), Jan. 5-9 Mumbai, India (2016).
 22. Generation and detection of terahertz pulse from photocathode RF gun linac (164),

- K. Kan, J. Yang, T. Kondoh, M. Gohdo, I. Nozawa, Y. Yoshida, The 7th Asian Forum for Accelerators and Detectors (AFAD2016), Feb. 1-3, Kyoto, Japan (2016).
23. Charge Transfer in DNA and its Application (Plenary), T. Majima, Korean Biochip Society Spring Meeting, May 21, Gyeonggi-do, Korea (2015).
 24. Progress in Radiation Chemistry and Dosimetry in Biological Materials (Invited), T. Majima, 15th International Congress of Radiation Research (ICRR2015), May 25-29, Kyoto, Japan (2015).
 25. Study on Radical Ions of Oligomers by Time-Resolved Resonance Raman Spectroscopy during Pulse Radiolysis, M. Fujitsuka and T. Majima, 15th International Congress of Radiation Research (ICRR2015), May 25-29, Kyoto, Japan (2015).
 26. Single-Particle Study of Pt-Modified Au Nanorods for Plasmon-Enhanced Hydrogen Generation in Visible to Near Infrared Region (Invited), T. Majima, 11th Korea-Japan Symposium on Frontier Photoscience –2015, Jun. 26-28, Jeju, Korea (2015).
 27. Properties of Triplet-Excited [n]Cycloparaphenylenes (n = 8 – 12) (Invited), C. Lu, T. Iwamoto, E. Kayahara, S. Yamago, and T. Majima, 11th Korea-Japan Symposium on Frontier Photoscience –2015, Jun. 26-28, Jeju, Korea (2015).
 28. Electron Transfer in S₂-Excited Sb⁻ and Ge Tetraphenylporphyrins with an Electron Donor Substituent at the Meso-Position, Mamoru Fujitsuka, Tsutomu Shiragami, D. W. Cho, M. Yasuda, and T. Majima, 11th Korea-Japan Symposium on Frontier Photoscience –2015, Jun. 26-28, Jeju, Korea (2015).
 29. Single-Molecule Chemistry of Nanocatalysis for Light Energy Conversion (Plenary), T. Majima, 27th International Conference on Photochemistry, Jun. 28-Jul. 3, Jeju, Korea (2015).
 30. Photoinduced Electron Transfer Processes from Excited Naphthalene Diimide Radical Anions as an Efficient Electron Donor, M. Fujitsuka, S-S. Kim, and T. Majima, 27th International Conference on Photochemistry, Jun. 28-Jul. 3, Jeju, Korea (2015).
 31. Radical Ions of Cycloparaphenylenes: Size-Dependence Contrary to the Neutral Molecules, M. Fujitsuka, S. Tojo, T. Iwamoto, E. Kayahara, S. Yamago, and T. Majima, 27th International Conference on Photochemistry, Jun. 28-Jul. 3, Jeju, Korea (2015).
 32. Single molecule chemistry of photoenergy conversion systems (Plenary), T. Majima, Fundamental Theory and Experimental Techniques for the Researchers on solar Energy Utilization, Jul. 30-Aug. 2, Dalian, China (2015).

33. Metal Oxide Mesocrystals with Effective Charge Transport Pathways (Plenary), T. Majima, Aug. 25, Annual Meeting of Korean Society of Photoscience, Seoul, Korea (2015).
34. Far-Red Fluorescence Probe for Monitoring Singlet Oxygen during Photodynamic Therapy (Invited), T. Majima, Asia Oceania Conference on Photobiology, Nov. 15-18, Taipei, Taiwan (2015).
35. Excess Electron Transfer in DNA (Invited), M. Fujitsuka, Asia Oceania Conference on Photobiology, Nov. 15-18, Taipei, Taiwan (2015).
36. Single-particle, -molecule analysis of TiO₂ photocatalytic reaction (Invited), T. Majima, The 2015 International Chemical Congress of Pacific Basin Societies (Pacifichem), Dec. 15-20, Hawaii, USA (2015).
37. Single-molecule fluorescence imaging (Invited), T. Majima, The 2015 International Chemical Congress of Pacific Basin Societies (Pacifichem), Dec. 15-20, Hawaii, USA (2015).
38. Time Resolved Resonance Raman Spectroscopy during Pulse Radiolysis of Functional Molecules (Invited), M. Fujitsuka and T. Majima, 13th DAE-BRNS Biennial Trombay Symposium on Radiation & Photochemistry and 6th Asia Pacific Symposium on Radiation Chemistry (APSRC-2016), Jan. 5-9, Mumbai, INDIA (2016).
39. Metal Oxide Mesocrystals with Efficient Charge Transport Properties (Plenary), T. Majima, 2016 International Symposium on Resource Chemistry, Jan. 15-16, Shanghai, China (2016).
40. Charge Transfer in DNA, T. Majima, International Conference on Polymers for energy and Environmental Application (Annual Meeting of the Polymer Society 2016), Jan. 29-30, Taipei, Taiwan (2016).

【国内会議発表（招待講演のみ）】

1. 相対論的パルス電子を用いた超高速電子回折装置（招待講演）、楊金峰、日本物理学会「2015年秋の大会」、9月16-19日、大阪（2015）
2. 光線力学療法（PDT）における一重項酸素の高感度蛍光検出（招待講演）、真嶋哲朗、第37日本光医学・光生物学会、7月16-18日、宮崎（2015）
3. 単一分子の観測から広がる化学研究（招待講演）、真嶋哲朗、第2回分子技術若手シンポジウム「有機光化学の最近の進展」、12月11日、金沢（2015）

【受賞等、特記事項】

1. I. Nozawa, "Bunch Length Measurement of Femtosecond Electron Beam by Monitoring Coherent Transition Radiation", IPAC15 Student Poster Prize, The 6th International Particle Accelerator Conference (IPAC'15), May 3-8, Richmond, USA

(2015).

2. I. Nozawa, "Generation of Ultrashort Electron Bunches for Attosecond Pulse Radiolysis", Young Investigators Travel Award & Japanese Society of Radiation Chemistry Young Scientist Award, The 15th International Congress of Radiation Research (ICRR 2015), May 25-29, Kyoto, Japan (2015).
3. K. Kan, "Observation of Quasi-free Electrons Using Terahertz Pulse Radiolysis", Excellent Poster Award & Young Investigators Travel Award, The 15th International Congress of Radiation Research (ICRR 2015), May 25-29, Kyoto, Japan (2015).
4. S. Nishii, "Formation process of alkyl radicals in alkanes studied by femtosecond pulse radiolysis", Japanese Society of Radiation Chemistry Young Scientist Award, The 15th International Congress of Radiation Research (ICRR 2015), May 25-29, Kyoto, Japan. (2015).
5. M. Gohto, "Pulse Radiolysis Study of Polystyrene Dimer Phenyl Cation Radical in THF", Excellent Poster Award, The 15th International Congress of Radiation Research (ICRR 2015), May 25-29, Kyoto, Japan (2015).
6. S. Yamaso, "Formation of hydrated electron studies by femtosecond radiolysis", Japanese Society of Radiation Chemistry Young Scientist Award, The 15th International Congress of Radiation Research (ICRR 2015), May 25-29, Kyoto, Japan. (2015).
7. 野澤一太、"超短パルス電子ビーム発生・計測の研究"、第52回アイソトープ・放射線研究発表会若手優秀講演賞、第52回アイソトープ・放射線研究発表会、7月8日-10日、東京(2015)。
8. 野澤一太、"コヒーレント遷移放射を用いたフェムト秒電子ビーム計測"、第12回日本加速器学会年会賞ポスター発表の部、第12回日本加速器学会年会、8月5日-7日、福井(2015)。
9. 西井聡志、"パルスラジオリシス法によるドデカンの放射線分解過程の研究"、若手ポスター賞優秀賞、先端放射線化学シンポジウムおよび夏の学校、9月29日-10月1日、静岡(2015)。
10. 真嶋哲朗、日本光医学・光生物学会 学会賞、日本光医学・光生物学会、7月17日(2015)
11. 真嶋哲朗、Merit Award、Korean Society of Photoscience、8月25日(2015)
12. 藤塚守、光化学協会賞、光化学協会、9月10日(2015)