

(1)原著論文 (accept を含む) / Original Papers

1. Erik Loetstedt and Katsumi Midorikawa: "Nuclear Reaction Induced by Carrier-Envelope-Phase Controlled Proton Recollision in a Laser-Driven Molecule", *Phys. Rev. Lett.* 112, 093001, 2014/03/06
2. Koji Sugioka and Ya Cheng: "Fabrication of 3D microfluidic structures inside glass by femtosecond laser micromachining", *Applied Physics A*, 114(1), 215-221, 2014/01/01
3. Eiji J. Takahashi, Pengfei Lan, Oliver D. Mücke, Yasuo Nabekawa, and Katsumi Midorikawa, "Attosecond nonlinear optics using gigawatt-scale isolated attosecond pulses," *Nat. Commun.* 4, 2691, *Nat. Commun.* 4, 2691, 2013/10/25.
4. Keisuke Isobe, Takanori Takeda, Kyohei Mochizuki, Qiyuan Song, Akira Suda, Fumihiko Kannari, Hiroyuki Kawano, Akiko Kumagai, Atsushi Miyawaki, and Katsumi Midorikawa: "Enhancement of lateral resolution and optical sectioning capability of two-photon fluorescence microscopy by combining temporal-focusing with structured illumination", *Biomedical Optics Express*, 4(11), 2396-2410, 2013/10/10
5. Erik Loetstedt, and Katsumi Midorikawa: "Laser-induced electron localization in a triatomic molecular ion", *Physical Review A*, 88(4), P. 041402 [5 pages], 2013/10/8
6. Sizhu Wu, Dong Wu, Jian Xu, Haiyu Wang, Testuya Makimura, Koji Sugioka, and Katsumi Midorikawa: "Absorption mechanism of the second pulse in double-pulse femtosecond laser glass microwelding", *Optics Express*, 21(20), 24049-24059, 2013/10/1
7. Yutaka Nagata, Tetsuo Harada, Masato Nakasuji, Hiroo Kinoshita, and Katsumi Midorikawa: "Development of coherent EUV scatterometry microscope with high-order harmonic for EUV mask inspection", *Proc. SPIE 8849, X-Ray Lasers and Coherent X-Ray Sources: Development and Applications X*, 884914, 2013/09/30.
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10. Keisuke Isobe, Hiroyuki Kawano, Akiko Kumagai, Atsushi Miyawaki, and Katsumi Midorikawa: "Implementation of spatial overlap modulation nonlinear optical microscopy using an electro-optic deflector", *Biomedical Optics Express*, Vol. 4, No. 10, Page 1937-1945, 2013/09/01
11. Keisuke Isobe, Hiroyuki Kawano, Akira Suda, Akiko Kumagai, Atsushi Miyawaki, and Katsumi Midorikawa: "Simultaneous imaging of two-photon absorption and stimulated Raman scattering by spatial overlap modulation nonlinear optical microscopy" , *Biomedical Optics Express*, Vol. 4, No. 9, Page 1548-1558, 2013/09/01
12. T. Sato, A. Iwasaki, S. Owada, K. Yamanouchi, E. J. Takahashi, K. Midorikawa et al., "Full-coherent free electron laser seeded by 13th- and 15th-order harmonics of near-infrared

- femtosecond laser pulses,” *J. Phys. B* 46(16), 164006, doi:10.1088/0953-4075/46/16/164006, 2013/08/13.
13. Changning Liu, Yang Liao, Fei He, Jiangxin Song, Di Lin, Ya Cheng, Koji Sugioka, and Katsumi Midorikawa: “Compact 3D Microfluidic Channel Structures Embedded in Glass Fabricated by Femtosecond Laser Direct Writing”, *J. Laser Micro/Nanoengin.* 8(2), 170-174, 2013/08/01
 14. Tetsuo Harada, Masato Nakasuji, Yutaka Nagata, Takeo Watanabe, and Hiroo Kinoshita, “Phase imaging of EUV masks using a lensless EUV microscope”, *Proc. SPIE 8701, Photomask and Next-Generation Lithography Mask Technology XX*, 870119, 2013/07/09.
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 19. Pengfei Lan, Eiji Takahashi, Kunlong Liu, Yuxi Fu, and Katsumi Midorikawa: “Carrier envelope phase dependence of electron localization in the multicycle regime”, *New Journal of Physics*, vol.15, page.063023, 2013/06/01
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 21. Jintian Lin, Yingxin Xu, Jiangxin Song, Bin Zeng, Fei He, Huailiang Xu, Koji Sugioka, Wei Fang, and Ya Cheng: “Low-threshold whispering-gallery-mode microlasers fabricated in a Nd:glass substrate by three-dimensional femtosecond laser micromachining”, *Opt. Lett.* 38(9), 1458-1460, 2013/04/25
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(2)著書、解説等 / Books, Reviews

1. Koji Sugioka: “Ultrafast laser micro- and nano-processing of glasses”, *Lasers in materials science*, p.359-380, 2014/02/15
2. Nobuaki Ishikawa, Yasutaka Hanada, Ikuko Ishikawa, Koji Sugioka, and Katsumi Midorikawa: “3D waveguide fabrication in PDMS polymer biochip by femtosecond laser for mechanism study of symbiosis”, *Proceedings of LAMP2013 - the 6th International Congress on*

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3. Koji Sugioka, Miklós FÜLE、Judit BUDAI、Zsolt SZKIVA、László NÁNAI: “Self repeating surface morphology on ultra short laser pulses treated vanadium surface” , Proceedings of LAMP 2013, #13-037: A183, 2013/10/03
4. Yusuke Furukawa, Yasuo Nabekawa, and Katsumi Midorikawa: “Observation of Vibrational Wave-Packet Dynamics in D2+ Using High-Order Harmonic Pulses”, Progress in Ultrafast Intense Laser Science, Vol. X, P. 33-48, 2013/10
5. Keisuke Isobe, Wataru Watanabe, Kazuyoshi Itoh: “Functional imaging by controlled nonlinear optical phenomena,” Wiley, p.1-346, 2013/09/03
6. Koji Sugioka and Ya Cheng: “Femtosecond laser 3D micromachining for microfluidic and optofluidic applications”, Springer Briefs in Applied Science and Technology, p.1-129, 2013/06/30
7. Koji Sugioka and Ya Cheng: “Ultrafast Laser Processing: From Micro- to Nanoscale”, Pan Stanford Publishing Book, p.1-597, 2013/60/30
8. Ya Cheng and Koji Sugioka: “Fabrication of microfluidic chips and integrated optofluidic devices in glass by femtosecond laser direct writing”, Ultrafast Laser Processing: From Micro- to Nanoscale, p.489-518, 2013/06/30
9. Koji Sugioka and Ya Cheng: “Overview of ultrafast laser processing”, Ultrafast Laser Processing: From Micro- to Nanoscale, p.1-36, 2013/06/30
10. Yang Liao, Changning Liu, Fei He, Lingling Qiao, Ya Cheng, Koji Sugioka, and Katsumi Midorikawa: “Femtosecond laser direct writing of 3D high-aspect-ratio nanofluidic channels in glass: a new platform for DNA analysis”, CLEO: 2013, OSA Technical Digest (online) (Optical Society of America, 2013), paper CM1H.1, 2013/06/09
11. Koji Sugioka and Katsumi Midorikawa: “VUV-UV multiwavelength excitation process for high-quality ablation of fused silica”, Proceedings of SPIE, Vol. 8777, 877704, 2013/05/09
12. E. J. Takahashi, P. Lan, and K. Midorikawa, “Generation of isolated attosecond pulses,” Springer Series in Optical Science 177, Attosecond Physics, Springer 47-68 (2013)
13. 磯部圭佑, 緑川克美: “非線形光学顕微鏡の深部超解像化”, 光アライアンス, 25, 12-15, 2014/03/01.
14. 高橋栄治, 緑川克美, “水の窓領域におけるフルコヒーレント光の発生,” O plus E 36, 266-271 (2014).
15. 磯部圭佑, 緑川克美: “非線形光学顕微鏡の基本的限界を超える手法”, O plus E 36, 157-162, 2014/02/25
16. 磯部圭佑: “非線形光学イメージング技術の発展”, 分光研究, 62, 235-237, 2013/10/15
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18. 杉岡幸次: ” レーザ加工分野の市場動向: はじめに”、光産業の動向 ((財) 光産業技術振興協会編)、p.202-208、2013/04/01
19. 杉岡幸次: ” レーザ加工分野の市場動向: おわりに”、光産業の動向 ((財) 光産業技術振興協会編)、230-231、2013/04/01

(3)招待講演 / Invited Talks

1. Koji Sugioka: "Femtosecond laser 3D micromachining and its applications to biochip fabrication", SPIE LASE 2014, San Francisco, USA, Feb.5, 2014.
2. Ya Cheng, Yang Liao, and Koji Sugioka: "Femtosecond laser 3D nanofabrication in glass: enabling direct write of integrated micro/nanofluidic chips", SPIE Int. Symp. on Laser Applications in Microelectronic and Optoelectronic Manufacturing XIX (LAMOM XIX), San Francisco, USA, Feb.4, 2014.
3. A. Amani Eilanlou, Yasuo Nabekawa, Makoto Kuwata-Gonokami, and Katsumi Midorikawa: "Development of a mode-locked thin disk ring oscillator for intra-cavity high-order harmonic generation", The 6th Asian Workshop on Generation and Application of Coherent XUV and X-ray Radiation, Shanghai, China, Jan.13, 2014.
4. Katsumi Midorikawa: "Generation and Intense Isolated Attosecond Pulses", The 4th Asian Spectroscopy Conference, Singapore, Dec.16, 2013.
5. Yasuo Nabekawa, Yusuke Furukawa, Tomoya Okino, A. Amani Eilanlou, Eiji Takahashi, Kaoru Yamanouchi, and Katsumi Midorikawa: "Dynamical processes of molecules interacting with intense attosecond pulses in extreme ultraviolet region", International Symposium on Ultrafast Intense Laser Science XII (ISUILS 2013), Salamanca, Spain, Oct.10, 2013.
6. Katsumi Midorikawa: "Generation and Application of Intense High Harmonics and Attosecond Pulses", OSA's 97th Annual Meeting, Laser Science XXIX, Orlando, Florida, USA, Oct.8, 2013.
7. Koji Sugioka, Sizhu Wu, and Katsumi Midorikawa: "Efficient glass microwelding by double-pulse irradiation of femtosecond laser", 21st Int. Conf. on Advanced Laser Technology (ALT' 13), Budva, Montenegro, Sept.16, 2013.
8. Koji Sugioka, Dong Wu, and Katsumi Midorikawa: "Hybrid femtosecond laser processing for fabrication of highly functional biomicrochips", EUROMAT 2013 Symp. on Ultrafast Laser Processing and Functionalization of Materials for Technological Applications, Seville, Spain, Sept.13, 2013
9. Yutaka Nagata, Tetsuo Harada, Masato Nakasuji, Hiroo Kinoshita, Katsumi Midorikawa, "Development of coherent EUV scatterometry microscope with high-order harmonic for EUV mask inspection", SPIE 2013 Optics + Photonics 8849-40, San Diego, California, Aug. 29, 2013.
10. Koji Sugioka, Dong Wu, and Katsumi Midorikawa: "Hybrid femtosecond laser processing for fabrication of microfluidics and optofluidics", Optofluidics 2013, Hong-Kong, China, Aug.16, 2013
11. Yasuo Nabekawa, Yusuke Furukawa, Tomoya Okino, A. Amani Eilanlou, Kaoru Yamanouchi, and Katsumi Midorikawa: "Progress report on nonlinear Fourier-transform spectroscopy of D2 using laser high-harmonics", XXVIII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC2013), Lanzhou, China, July 26, 2013.
12. Katsumi Midorikawa: "Progress of XUV science by high-order harmonic generation", The 6th International Congress on Laser Advanced Materials Processing, Niigata, Japan, 2013.07.23
13. Katsumi Midorikawa: "Intense attosecond pulse: generation and applications", 4th International Conference on Attosecond Physics, Paris, France, July 11, 2013.
14. Ya Cheng, Yang Liao, and Koji Sugioka: "Fabrication of functional micro- and nanofluidics

- embedded in glass using femtosecond laser microprocessing”, The 10th Conference on Lasers and Electro-Optics Pacific Rim (CLEO-PR 2013), Kyoto, Japan, July 3, 2013
15. Koji Sugioka: “Femtosecond laser processing for biochip applications”, 10th Pacific Rim Conf. on Lasers and Electro-Optics (CLEO/Pacific Rim 2013), Kyoto, Japan, July 2, 2013
 16. Katsumi Midorikawa: “Recent progress on high harmonic generation and application at RIKEN”, The 10th Conference on Lasers and Electro-Optics Pacific RIM, Kyoto, Japan, June 30, 2013.
 17. Hiroo Kinoshita, Tetsuo Harada, Yutaka Nagata, Takeo Watanabe, and Katsumi Midorikawa, “Development of a coherent EUV scatterometry microscope” CLEO 2013, San Jose, California, June 13, 2013.
 18. Koji Sugioka, Dong Wu, and Katsumi Midorikawa: “Ship-in-a-bottle biochips fabricated by hybrid femtosecond laser processing”, 2013 Int. Conf. on Fundamentals of Laser Assisted Micro- and Nanotechnology (FLAMN-13), St. Petersburg, Russia, June 24, 2013.
 19. Ya Cheng, Yang Liao, and Koji Sugioka: “Extreme Nonlinear Optics at Nanoscale: Enabling Sub-50nm-scale 3D Nanostructuring in Glass”, The 7th International Conference on Nanophotonics (ICNP)/3rd Conference on Advances in Optoelectronics and Micro/Nano Optics (AOM), Hong Kong, China, May 22, 2013.
 20. Ya Cheng, Yang Liao, and Koji Sugioka: “Femtosecond laser 3D nano-structuring enabled by extreme concentration of ultrafast light at nanometer scale”, The 4th Shanghai-Tokyo Advanced Research (STAR4) Symposium on Ultrafast Intense Laser Science, Shanghai, China, May 9, 2013.
 21. Erik LOETSTEDT and Katsumi MIDORIKAWA: “Relativistic effects in strong-field double ionization”, The 4th Shanghai-Tokyo Advanced Research Symposium on Ultrafast Intense Laser Science (STAR 4), Shanghai, China, May 8, 2013.
 22. Keisuke Isobe, Hiroyuki Kawano, Akira Suda, Akiko Kumagai, Hideaki Mizuno, Atsushi Miyawaki, and Katsumi Midorikawa: “Spatial overlap modulation nonlinear optical microscopy for background-free deep imaging”, The 2nd Advanced Lasers and Photon Sources, Yokohama, Japan, April 25, 2013.
 23. K. Midorikawa: “Advanced Lasers and Photon Sources”, Optics and Photonics International Congress 2013. Yokohama, Japan, April 23, 2013.
 24. Ya Cheng, Yang Liao, and Koji Sugioka: “Micro/Nano integration in glass with femtosecond laser”, 2013 International Micro-Nano Technology and Application Symposium, Chongqing, China, Apr.22, 2013.
 25. Koji Sugioka, Dong Wu, and Katsumi Midorikawa: “Ship-in-a-bottle biomicrochips fabricated by hybrid femtosecond laser processing”, 1st Int. Workshop on Ultrafast Laser Modification of Materials, Corsica, France, Apr.18, 2013.
 26. Keisuke Isobe, Hiroyuki Kawano, Akira Suda, Akiko Kumagai, Hideaki Mizuno, Atsushi Miyawaki, and Katsumi Midorikawa: “Spatial overlap modulation nonlinear optical microscopy for high-resolution deep imaging”, Novel Techniques in Microscopy, Hawaii, USA, Apr.15, 2013.
 27. Koji Sugioka and Katsumi Midorikawa: “VUV-UV multiwavelength excitation process for

high-quality ablation of fused silica”, SPIE Int. Symp. on Damage to VUV, EUV, and X-ray Optics IV, Prague, Czech, Apr.15, 2013

28. 古川裕介、沖野友哉、鍋川康夫、緑川克美：“高次高調波フーリエ分光による分子の解離性イオン化ダイナミクス”、第 14 回レーザー学会東京支部研究会 電気学会光・量子デバイス技術研究会、東京、2014/3/5
29. 緑川克美、“光科学の地平を拓く”、腐食防食学会平成 26 年度提示社員総会 特別講演、東京、2 月 24 日、2014.
30. 緑川克美、“次世代アト秒 XUV 光源の開発”、東京大学大学院理学系研究科フotonサイエンス機構発足記念シンポジウム、東京、2 月 21 日、2014.
31. 緑川克美、“光科学の地平を拓く”、第 27 回理化学研究所と産業界の交流会、東京、2 月 13 日、2014.
32. 磯部圭佑、河野弘幸、熊谷安希子、宮脇敦史、須田亮、緑川克美：“SPOMNOM による深部組織の生体イメージング”、レーザー学会学術講演会第 34 回年次大会、北九州、2014/01/20
33. アマニ イランル、鍋川康夫、五神 真、緑川克美：“薄ディスクレーザーによる共振器内高次高調波発生用ハイパワーモード同期発振器”、レーザー学会学術講演会第 34 回年次大会、北九州、2014 年 01 月 22 日.
34. 杉岡幸次：“フェムト秒レーザによる 3 次元マイクロ・ナノ加工”、第 21 回先端光量子科学アライアンスセミナー、東京、Dec.25, 2013
35. 杉岡幸次：“励起状態を利用したレーザープロセス”、応用物理学会励起ナノプロセス研究会 第 9 回研究会、東京、Dec.19, 2013
36. 杉岡幸次：“レーザ加工分野の最新動向”、平成 25 年光産業技術振興協会光産業動向セミナー、横浜、Oct.16, 2013
37. 磯部圭佑：“非線形光学顕微鏡を高性能化するための超短光パルスレーザー技術”、最先端の光・レーザー技術勉強会、横浜、2013/10/16
38. 杉岡幸次：“フェムト秒レーザによるバイオチップの作製”、光産業技術振興協会平成 25 年度第 2 回多元技術融合光プロセス研究会、東京、Aug.28, 2013
39. 磯部圭佑、河野弘幸、熊谷安希子、宮脇敦史、緑川克美：“高分解能深部イメージングのための空間重なり変調顕微鏡”、レーザ顕微鏡研究会第 39 回講演会、和光、2013/07/31
40. 緑川克美：“レーザー電場のサブサイクル制御による分子内電子の局在化”、第 10 回原子・分子・光科学討論会、調布、2013.06.15
41. 杉岡幸次、緑川克美：“フェムト秒レーザによるバイオチップの作製”、第 79 回レーザ加工学会講演会、大阪、May 8, 2013
42. 杉岡幸次：“レーザー微細加工の最前線 - 難加工材への展開やマイクロ・ナノ加工事例”、第 6 回レーザー加工技術展専門技術セミナー、東京、Apr.10, 2013