

***Selected Publications as of March, 2010**

1. K. Isobe, A. Suda, M. Tanaka, F. Kannari, H. Kawano, H. Mizuno, A. Miyawaki, and K. Midorikawa, "Multifarious control of two-photon excitation of multiple fluorophores achieved by phase modulation of ultrabroadband laser pulses", *Opt. Exp.* 17, 13737 (2009). [[full text](#)]
2. Y. Nabekawa, T. Shimizu, Y. Furusawa, E. J. Takahashi, and K. Midorikawa, "Interferometry of attosecond pulse train in the extreme ultraviolet wavelength region", *Phys. Rev. Lett.* 102, 213904 (2009). [[full text](#)]
3. E. J. Takahashi, T. Kanai, K. L. Ishikawa, Y. Nabekawa, and K. Midorikawa, "Coherent water window x-ray by phase-matched high-order harmonics", *Phys. Rev. Lett.* 101, 253901 (2008). [[full text](#)]
4. S. Bohman, A. Suda, M. Kaku, M. Nurhuda, T. Kanai, s. Yamaguchi, and K. Midorikawa, "Generation of 5 fs, 0.5 TW pulses focusable to relativistic intensities at 1 kHz", *Opt. Exp.* 16, pp. 10684 (2008). [[full text](#)]
5. K. Sugioka, Y. Hanada, and K. Midorikawa, "3D integration of microcomponents in a single glass chip by femtosecond laser direct writing for biochemical analysis", *Appl. Surface Sci.* 253, 6595 (2007). [[full text](#)]
6. T. Kanai, E. J. Takahashi, Y. Nabekawa, and K. Midorikawa, "Destructive interference during high harmonic generation in mixed gases", *Phys. Rev. Lett.* 98, 153904 (2007). [[full text](#)]
7. T. Okino, K. Yamanouchi, T. Shimizu, K. Furusawa, H. Hasegawa, Y. Nabekawa, and K. Midorikawa, "Attosecond molecular Coulomb explosion", *Chem. Phys. Lett.* 432, 68 (2006). [[full text](#)]
8. Y. Nabekawa, T. Shimizu, T. Okino, K. Furusawa, H. Hasegawa, K. Yamanouchi, and K. Midorikawa, "Interferometric autocorrelation of an attosecond pulse train in the single-cycle regime", *Phys. Rev. Lett.* 97, 153904 (2006). [[full text](#)]
9. Y. Nabekawa, T. Shimizu, T. Okino, K. Furusawa, H. Hasegawa, K. Yamanouchi, and K. Midorikawa, "Conclusive evidence of an attosecond pulse train observed with the mode-resolved autocorrelation technique", *Phys. Rev. Lett.* 96, 083901 (2006). [[full text](#)]
10. Y. Nabekawa, H. Hasegawa, E. Takahashi, and K. Midorikawa, "Production of doubly-charged helium ions by two-photon absorption of an intense sub-10-fs soft x-ray pulse at 42 eV photon energy", *Phys. Rev. Lett.* 94, 043001 (2005). [[full text](#)]

List of publications (Apr. 2005 – Mar. 2011)

1. S. Nakashima, K. Sugioka, and K. Midorikawa: "Space-selective modification of magnetic properties in Fe³⁺-doped transparent glass by irradiation with femtosecond laser", *Appl. Phys. A*, in press (2011).
2. Q. Zhang, E. J. Takahashi, O. D. Mueke, P. Lu and K. Midorikawa: "Dual-chirped optical parametric amplification for generating few hundred mJ infrared pulses", *Opt. Exp.*, 19, 7190-7212 (2011).
3. T. Togashi, E. J. Takahashi, K. Midorikawa, M. Aoyama, K. Yamakawa, T. Sato, A. Iwasaki, S. Owada, T. Okino, K. Yamanouchi, F. Kannari, A. Yagishita, H. Nakano, M. E. Couprie, K. Fukami, T. Hatsui, T. Hara, T. Kameshima, H. Kitamura, N. Kumagai, S. Matsubara, M. Nagasono, H. Ohashi, T. Ohshima, Y. Otake, T. Shintake, K. Tamasaku, H. Tanaka, T. Tanaka, K. Togawa, H. Tomizawa, T. Watanabe, M. Yabashi, and T. Ishikawa Tetsuya: "Extreme ultraviolet free electron laser seeded with high-order harmonic of Ti:sapphire laser", *Opt. Exp.*, 19(1), 317-324, (2011).
4. T. Kobayashi and Y. Matsuo: "Study on the Carbon Fragment Anions Produced by Femtosecond Laser Ablation of Solid C₆₀", *J. Chem. Phys.* 134, 064320 (2011).
5. S. Nakashima, K. Sugioka, T. Ito, H. Takai and K. Midorikawa: "Fabrication of high-aspect-ratio nanohole arrays on GaN surface by using wet-chemical-assisted femtosecond laser ablation", *J. Laser Micro/Nanoengin.* 6, 15-19 (2011).
6. S. Beke, L. K?or?si, K. Sugioka, K. Midorikawa, and I. D?k?ny: "Three-dimensionally embedded indium tin oxide (ITO) films in photosensitive glass: a transparent and conductive platform for microdevices", *Appl. Phys. A*102, 265-269 (2011).

7. L. L. Qiao, F. He, C. Wang, Y. Cheng, K. Sugioka, and K. Midorikawa: "A microfluidic chip integrated with a microoptical lens fabricated by femtosecond laser micromachining", *Appl. Phys. A102*, 179-183 (2011).
8. S. Beke, T. Kobayashi, K. Sugioka, K. Midorikawa, J. Bonse: "Time-of-flight mass spectroscopy of femtosecond and nanosecond laser ablated TeO₂ crystals", *Intl. J. Mass Spectrometry*. 299, 5-8 (2011).
9. K. Katahira, H. Ohmori, J. Komotori, D. Dornfeld, Y. Akahane, H. Kotani and M. Mizutani, "Modification of surface properties on a nitride based coating films through mirror-quality finish grinding", *Annals of the CIRP*, 59/1, 593-596, (2010).
10. M. Kurata-Nishimura, Y. Ando, T. Kobayashi, Y. Matsuo, H. Suzuki, Y. Hayashizaki, and J. Kawai: "Sequencing of Isotope-Labelled Small RNA Using Femtosecond Laser Ablation Time-of-Flight Mass Spectrometry", *Appl. Phys. Express* 3, 047002 (2010).
11. F. He, Y. Cheng, L. Qiao, C. Wang, Z. Xu, K. Sugioka, K. Midorikawa, and J. Wu: "Two-photon fluorescence excitation with a microlens fabricated on the fused silica chip by femtosecond laser micromachining", *Appl. Phys. Lett.* 96, 041108 (2010).
12. Y. Kawano and K. Ishibashi, "Scanning nanoelectrometer based on a two-dimensional electron gas transistor with a probe-integrated gate electrode", *Applied Physics Letters* 96, 142109-1-3 (2010).
13. J. W. Song, G. R. Aizin, J. Mikalopas, Y. Kawano, K. Ishibashi, N. Aoki, J. L. Reno, Y. Ochiai, and J. P. Bird, "Bolometric THz detection in pinched-off quantum point contacts", *Applied Physics Letters* 97, 083109-1-3 (2010).
14. H. Hashimoto, K. Isobe, A. Suda, F. Kannari, H. Kawano, H. Mizuno, A. Miyawaki, and K. Midorikawa, "Measurement of two-photon excitation spectra of fluorescent proteins with nonlinear Fourier-transform spectroscopy", *Appl. Opt.* 49, 3323 (2010).
15. S. Nakashima, K. Sugioka, and K. Midorikawa: "Enhancement of resolution and quality of nano-hole structure on GaN substrates using the second-harmonic beam of near-infrared femtosecond laser", *Appl. Phys. A101*, 475-481 (2010).
16. E. J. Takahashi, T. Kanai and K. Midorikawa: "High-order harmonic generation by an ultrafast infrared pulse", *Appl. Phys. B* 100, 29 (2010).
17. Y. Nabekawa, Y. Furukawa, A. Amani Eilanlou, K. L. Ishikawa, H. Takahashi and K. Midorikawa: "Multi-terawatt laser system generating 12-fs pulses at 100 Hz repetition rate", *Appl. Phys. B* 101 (3), 523-534 (2010).
18. K. Isobe, H. Hashimoto, A. Suda, F. Kannari, H. Kawano, H. Mizuno, A. Miyawaki, and K. Midorikawa, "Measurement of two-photon excitation spectrum used to photoconvert a fluorescent protein (Kaede) by nonlinear Fourier-transform spectroscopy", *Biomed. Opt. Express*, 1, 687 (2010).
19. K. Isobe, A. Suda, H. Hashimoto, F. Kannari, H. Kawano, H. Mizuno, A. Miyawaki, and K. Midorikawa, "High-resolution fluorescence microscopy based on a cyclic sequential multiphoton process", *Biomed. Opt. Express*, 1, 791 (2010).
20. Y. Liao, M. Huan, Y. Ju, F. Luo, Y. Cheng, Z. Xu, K. Sugioka, and K. Midorikawa: "Alignment of liquid crystal molecules in a micro-cell fabricated by femtosecond laser", *Chem. Phys. Lett.* 498, 188-191 (2010).
21. T. Furukawa, Y. Matsuo, A. Hatakeyama, K. Fujitake, Y. Matsuura, T. Kobayashi, T. Shimoda: "Laser Spectroscopy on Exotic RI Atoms in Superfluid Helium - OROCHI Experiment-", *Hyperfine Interaction* 196, 191 (2010).
22. K. Isobe, A. Suda, M. Tanaka, H. Hashimoto, F. Kannari, H. Kawano, H. Mizuno, A. Miyawaki, and K. Midorikawa, "Nonlinear optical microscopy and spectroscopy employing octave spanning pulses," *IEEE J. Sel. Top. Quant. Electron.* 16, 767 (2010).
23. H. Ohmori, Y. Uehara, Y. Hachisu and J. Koizumi "Nanoprecision CNC Desktop Micro-Processing Machine", *International Forum on Micro Manufacturing 2010*, 271-276, (2010).
24. H. Ohmori, Y. Uehara and K. Katahira, "Development of a Desktop Machine Tool for Mirror Surface Grinding", *International Journal of Automation Technology*, 4/2, 88-96, (2010).
25. H. Ohmori, Y. Uehara and K. Katahira, "Fabrication of Ultrafine Tools Using a Desktop Microgrinder", *International Journal of Automation Technology*, 4/2, 97-102, (2010).
26. K. Katahira, H. Ohmori, M. Mizutani and J. Komotori, "Investigation on High-Temperature Oxidization of Mirror-Quality Ground Stainless Steel", *International Journal of Modern Physics B*, 24/15-16, 3005-3010, (2010).
27. H. Ohmori, K. Katahira, M. Mizutani and J. Komotori, "Coloring of Ti Alloy by ELID-Grinding", *Journal of the Japan Society for Abrasive Technology*, 54/9, 532-535, (2010).
28. Y. Liao, J. Xu, Y. Cheng, Z. Xu, K. Sugioka, and K. Midorikawa: "Fabrication of a Y-splitter modulator embedded in LiNbO₃ with a femtosecond laser", *J. Laser Micro/Nanoengin.* 5, 25-27 (2010).
29. A. A. Eilanlou, Y. Nabekawa, K. L. Ishikawa, H. Takahashi, E. J. Takahashi, and K. Midorikawa, "Frequency modulation of high-order harmonic fields with synthesis of two-color laser fields", *Opt. Exp.*, 18 (24), (13 pages) (2010).

30. Jungwoo Song, Gregory Aizin, Yukio Kawano, Koji Ishibashi, Nobuyuki Aoki, Yuichi Ochiai, John L. Reno, and Jonathan P. Bird, "Evaluating the Performance of Quantum Point Contacts as Nanoscale Terahertz Sensors", *Opt. Exp.*, 18, 4609-4614 (2010).
31. S. Bohman, A. Suda, T. Kanai, S. Yamaguchi and K. Midorikawa: "Generation of 5.0-fs, 5.0-mJ, 1-kHz pulses using hollow-fiber pulse compression", *Opt. Lett.* 35, 1887-1889 (2010).
32. Y. Liao, Y. Ju, L. Zhang, F. He, Q. Zhang, Y. Shen, D. Chen, M. Huan, Y. Cheng, Z. Xu, K. Sugioka, and K. Midorikawa: "Three-dimensional microfluidic channel with arbitrary length and configuration fabricated inside glass by femtosecond laser direct writing", *Opt. Lett.* 35, 3225-3227 (2010).
33. Y. Kawano and K. Ishibashi, "On-chip near-field terahertz detection based on a two-dimensional electron gas", *Physica E* 42, 1188-1191 (2010).
34. P. Lan, E. J. Takahashi, and K. Midorikawa: "Wavelength scaling of efficient high-order harmonic generation by two-color infrared laser fields", *Phys. Rev. A*, 81, 061802(R), (2010)
35. Y. Furukawa, Y. Nabekawa, T. Okino, S. Saugout, K. Yamanouchi and K. Midorikawa: "Nonlinear Fourier transform spectroscopy of D2 using High-harmonic radiation", *Phys. Rev. A* 82, 013421 (2010).
36. P. Lan, E. J. Takahashi, and K. Midorikawa: "Optimization of infrared two-color multicycle field synthesis for intense-isolated-attosecond-pulse generation", *Phys. Rev. A*, 82, 053413, (2010).
37. E. J. Takahashi, P. Lan, O. D. Mueck, Y. Nabekawa and K. Midorikawa: "Infrared two-color multicycle laser field synthesis for generating an intense attosecond pulse", *Phys. Rev. Lett.* 104, 233901 (2010).
38. S. Nakashima, K. Sugioka, T. Ito, H. Takai, and K. Midorikawa: "Fabrication of periodic nano-hole array on GaN surface by fs laser for improvement of extraction efficiency in blue LED", *Physics Procedia* 5, 203-211 (2010).
39. K. L. Ishikawa, Y. Kawazura, and K. Ueda, "Two-photon ionization of atoms by ultrashort laser pulses," *J. Mod. Opt.*, accepted.
40. F.J. Chen, S.H. Yin, Y. Wang, Y.F. Fan, Y.J. Zhu, H. Ohmori, K. Katahira, "Error Compensation in One-point Inclined-axis Nanogrinding Mode for Small Aspheric Mould", *Advanced Materials Research*, Vols. 97-101, 4206-4212(2010).
41. F.J. Chen, S.H. Yin, H. Ohmori, K. Katahira, "Surface Roughness Characteristics of Fine ELID Cross Grinding for Silicon Wafers", *Advanced Materials Research*, Vols. 97-101, 4106-4110 (2010).
42. Z. Zhou, J. Xu, F. He, Y. Liao, Y. Cheng, K. Sugioka, and K. Midorikawa, "Surface-enhanced Raman scattering substrate fabricated by femtosecond laser induced co-deposition of silver nanoparticles and fluorescent molecules", *Jpn. J. Appl. Phys.* 49, 022703 (2010).
43. S. Nakashima, K. Sugioka, K. Midorikawa, "Improvement of resolution in nano-fabrication of GaN by wet-chemical-assisted femtosecond laser ablation", *J. Laser Micro/Nanoengineering*, 5, 21-24 (2010).
44. S. Beke, K. Sugioka, K. Midorikawa, Á. Péter, L. Nánai, and J. Bonse, "Characterization of the ablation of TeO₂ crystals in air with femtosecond laser pulses", *J. Phys. D : Appl. Phys.* 43, 025401 (2010).
45. K. R. Pandiri, T. Suzuki, A. Suda, K. Midorikawa and M. Katsuragawa, "Line-by-line control of 10-THz-frequency-spacing Raman sidebands", *Opt. Exp.*, 18, 732-739 (2010).
46. Y. Hanada, K. Sugioka, and K. Midorikawa, "UV waveguides light fabricated in fluoropolymer CYTOP by femtosecond laser direct writing", *Opt. Exp.* 18, 446-450 (2010).
47. F. He, H. Xu, Y. Cheng, J. Ni, H. Xiong, Z. Xu, K. Sugioka, and K. Midorikawa, "Fabrication of microfluidic channels with a circular cross section using spatiotemporally focused femtosecond laser pulses", *Opt. Lett.* 35, 1106-1108 (2010).
48. F. He, Y. Cheng, Z. Xu, Yang Liao, J. Xu, H. Sun, C. Wang, Z. Zhou, K. Sugioka, K. Midorikawa, Y. Xu and X. Chen, "Direct fabrication of homogeneous microfluidic channels embedded in fused silica using a femtosecond laser", *Opt. Lett.* 35, 282-284 (2010).
49. D. G. Arbó, K. L. Ishikawa, K. Schiessl, E. Persson, and J. Burgdörfer, "Intracycle and intercycle interferences in above-threshold ionization: The time grating," *Phys. Rev. A* 81, 021403(R) (2010), selected as Kaleidoscope Image by *Phys. Rev. A*.
50. M. Hatayama, H. Takenaka, E. M. Gullikson, A. Suda and K. Midorikawa, "Broadband EUV multilayer mirror for supercontinuum light at photon energies of 35-65 eV," *Appl. Opt.*, vol. 48, 5464-5466 (2009).
51. F. He, H. Sun, M. Huang, J. Xu, Y. Liao, Z. Zhou, Y. Cheng, Z. Xu, K. Sugioka, and K. Midorikawa. "Rapid fabrication of optical volume gratings in Foturan glass by femtosecond laser micromachining", *Appl. Phys.* A97, 853-857 (2009).
52. Y. Hanada, K. Sugioka, H. Kawano, I.S. Ishikawa, A. Miyawaki, and K. Midorikawa: "Nano-aquarium with microfluidic structures for dynamic analysis of *Cryptomonas* and *Phormidium* fabricated by femtosecond laser direct writing of photostructurable glass", *Appl. Surf. Sci.* 255, 9893-9897 (2009).
53. Y. Hanada, K. Sugioka, H. Kawano, T. Tsuchimoto, I. Miyamoto, A. Miyawaki, and K. Midorikawa: "Selective cell culture on UV transparent polymer by F2 laser surface modification", *Appl. Surf. Sci.* 255, 9885-9888 (2009).

54. S. Nakashima, K. Sugioka, and K. Midorikawa: "Fabrication of microchannels in single-crystal GaN by wet-chemical-assisted femtosecond laser ablation", *Appl. Surf. Sci.* 255, 9770-9774 (2009).
55. K. Katahira, H. Ohmori, "Nano level surface finishing technology of advanced ceramics - ELID (electrolytic in-process dressing)", *epitoanyag*, 61/4, 108-111(2009).
56. M. Hatayama, H. Takenaka, E. M. Gullikson, A. Suda and K. Midorikawa, "High-transmittance free-standing EUV aluminum filter," *Jpn. J. Appl. Phys.*, vol. 48, pp. 122202/1-4 (2009).
57. H. Kasuga, H. Ohmori, T. Mishima, Y. Watanabe and W. Lin, "Investigation on Mirror Surface Grinding Characteristics of SiC Materials", *Journal of Ceramic Processing Research*, Vol.10, No.3, pp.351-354 (2009).
58. S. Nakashima, K. Sugioka, and K. Midorikawa, "Fabrication of micro- and nano-craters on the surface of GaN substrates by using wet-chemicals assisted femtosecond laser ablation", *J. Laser Micro/Nanoengineering*, 4, 75-78 (2009).
59. H. Kasuga, H. Ohmori, W. Lin, Y. Watanabe, T. Mishima and T. Doi, "Efficient and smooth grinding characteristics of monocrystalline 4H-SiC wafer", *The Journal of Vacuum Science and Technology B*, Vol.27, No.3, pp.1578-1582 (2009).
60. H. Kasuga, H. Ohmori, W. Lin, Y. Watanabe, T. Mishima and T. Doi, "Efficient super-smooth finishing characteristics of sic materials through the use of fine-grinding", *Key Eng. Materials*, No.404, pp.137-141 (2009).
61. W. Lin, T. Kato, H. Ohmori, E. Osawa, "Study on tribo-fabrication in polishing by nano diamond colloid", *Key Eng. Mater.*, 404, 131-136 (2009).
62. J. Guo, H. Ohmori, K. Katahira, and Y. Uehara: "Comparative Study on the Materials Removal Mechanism of Ceramics and Steels", *Key Engineering Materials* 389/390 18-23 (2009).
63. Z. Zhou, J. Xu, Y. Liao, Y. Cheng, Z. Xu, K. Sugioka, and K. Midorikawa: "Fabrication of an integrated Raman sensor by selective surface metallization using a femtosecond laser oscillator", *Opt. Comm.* 282, 1370-1373 (2009).
64. K. Isobe, A. Suda, M. Tanaka, F. Kannari, H. Kawano, H. Mizuno, A. Miyawaki, and K. Midorikawa, "Multifarious control of two-photon excitation of multiple fluorophores achieved by phase modulation of ultra-broadband laser pulses," *Opt. Exp.*, **17**, 13727-13746 (2009).
65. K. Isobe, A. Suda, M. Tanaka, H. Hashimoto, F. Kannari, H. Kawano, H. Mizuno, A. Miyawaki, and K. Midorikawa, "Single-pulse coherent anti-Stokes Raman scattering microscopy employing an octave spanning pulse", *Opt. Exp.*, **17**, 11259-11266 (2009).
66. H. Xiong, H. Xu, Y. Fu, J. Yao, B. Zeng, W. Chu, Y. Cheng, Z. Xu, E. J. Takahashi, K. Midorikawa, X. Liu, and J. Chen: "Generation of a coherent x ray in the water window region at 1 kHz repetition rate using a mid-infrared pump source", *Opt. Lett.* 34, 1747 (2009)
67. K. L. Ishikawa, E. J. Takahashi, and K. Midorikawa: "Wavelength dependence of high-order harmonic generation with independently controlled ionization and ponderomotive energy", *Phys. Rev. A* 80, 011807(R) (2009).
68. K. L. Ishikawa, K. Schiessl, E. Persson, and J. Burgdörfer: "Fine-scale oscillations in the wavelength and intensity dependence of high-order harmonic generation: Connection with channel closings", *Phys. Rev. A* 79, 033411 (2009).
69. Y. Nabekawa, T. Shimizu, Y. Furukawa, E. J. Takahashi, and K. Midorikawa: "Interferometry of Attosecond Pulse Trains in the Extreme Ultraviolet Wavelength Region", *Phys. Rev. Lett.*, 102(21), 213904/1-4 (2009).
70. T. Kanai, E. J. Takahashi, Y. Nabekawa, and K. Midorikawa: "Heterodyne Interferometry Using High-Order Harmonic Generation in Mixed Gases", *Progress in Ultrafast Intense Laser Science: Volume V*, Springer, pp.65-79 (2009).
71. Y. Hanada, K. Sugioka, and K. Midorikawa: "Selective metallization of photostructurable glass by femtosecond laser direct writing for biochip application", *Appl. Phys.* A90, 603-607 (2008).
72. Z. Wang, K. Sugioka, and K. Midorikawa: "Fabrication of integrated microchip for optical sensing by femtosecond laser direct writing of Foturan glass", *Appl. Phys.* A93, 225-229 (2008).
73. T. Kanai, A. Suda, S. Bohman, M. Kaku, S. Yamaguchi, and K. Midorikawa, "Pointing stabilization of a high-repetition-rate high-power femtosecond laser for intense few-cycle pulse generation", *Appl. Phys. Lett.*, **92**(6), 061106/1-3, (2008).
74. T. Sato, T. Okino, K. Yamanouchi, A. Yagishita, F. Kannari, K. Yamakawa, K. Midorikawa, H. Nakano, M. Yabashi, M. Nagasono, and T. Ishikawa: "Dissociative two-photon ionization of N₂ in extreme ultraviolet by intense self-amplified spontaneous emission free electron light", *Appl. Phys. Lett.*, 92(15),154103/1-3(2008).
75. E. J. Takahashi, T. Kanai, Y. Nabekawa, and K. Midorikawa: "10 mJ class femtosecond optical parametric amplifier for generating soft x-ray harmonics", *Appl. Phys. Lett.* 93, 041111/1-3 (2008).
76. Y. Hanada, K. Sugioka, H. Kawano, I.S. Ishikawa, A. Miyawaki, and K. Midorikawa: "Nano-aquarium for dynamic observation of living cells fabricated by femtosecond laser direct writing of photostructurable glass", *Biomed. Microdevices* 10, 403-410 (2008).

77. A. Hishikawa, A. Matsuda, E. J. Takahashi, and M. Fushitani: "Acetylene-vinylidene isomerization in ultrashort intense laser fields studied by triple ioncoincidence momentum imaging", *J. Chem. Phys.* 128, 084302 (2008)
78. T. Okino, K. Yamanouchi, T. Shimizu, R. Ma, Y. Nabekawa, and K. Midorikawa: "Attosecond nonlinear Fourier transformation spectroscopy of CO₂ in extreme ultraviolet wavelength region", *J. Chem. Phys.* 129, 161103 (2008)
79. K. Schiessl, K. L. Ishikawa, E. Persson, and J. Burgdörfer: "Wavelength dependence of high-harmonic generation from ultrashort pulses", *J. Mod. Opt.* 55, 2617-2630 (2008).
80. Z. Zhou, J. Xu, Y. Cheng, Z. Xu, K. Sugioka, and K. Midorikawa: "Surface-enhanced Raman scattering substrate fabricated by femtosecond laser direct writing", *Jpn. J. Appl. Phys.* 47(1), 189-192 (2008).
81. H. Kasuga, Y. Watanabe, T. Mishima, and H. Ohmori: "Grinding characteristics in functional ceramic materials for dentistry", *Journal of the Japan Society for Abrasive Technology* 52, 152-157 (2008). in Japanese.
82. H. Kasuga, W. Lin, Y. Watanabe, T. Mishima, T. Doi, and H. Ohmori: "Efficient grinding of a 4H-SiC (0001) surface", *Journal of the Japan Society for Abrasive Technology* 52, 645-650, (2008). in Japanese.
83. Y. Nabekawa, and K. Midorikawa, "Interferometric autocorrelation of an attosecond pulse train calculated using feasible formulae", *New J. Phys.*, **10**(2), 025034/1-25, (2008).
84. T. Kanai, E. J. Takahashi, Y. Nabekawa, and K. Midorikawa: "Observing attosecond dynamics of nuclear wavepackets in molecules by using high harmonic generation in mixed gases", *New J. Phys.* 10, 025036/1-8, (2008).
85. M. Nurhuda, A. Suda, and K. Midorikawa: "Generalization of the Kerr effect for high intensity, ultrashort laser pulses," *New J. Phys.*, 10, 053006/1-10, (2008).
86. J. Xu, Y. Liao, H. Zeng, Y. Cheng, Z. Xu, K. Sugioka, and K. Midorikawa: "Mechanism study of femtosecond laser induced selective metallization (FLISM) on glass surfaces", *Opt. Comm.*, 281, 3505-3509 (2008).
87. S. Bohman, A. Suda, M. Kaku, M. Nurhuda, T. Kanai, S. Yamaguchi and K. Midorikawa: "Generation of 5 fs, 0.5 TW pulses focusable to relativistic intensities at 1 kHz," *Opt. Exp.*, 16, 10684-10689 (2008).
88. A. Amani Eilanlou, Y. Nabekawa, K. L. Ishikawa, H. Takahashi, and K. Midorikawa: "Direct amplification of terawatt sub-10-fs pulses in a CPA system of Ti:sapphire laser", *Opt. Exp.* 16, 13431-13438 (2008).
89. Y. Liao, J. Xu, Y. Cheng, Z. Zhou, F. He, H. Sun, J. Song, X. Wang, Z. Xu, K. Sugioka, and K. Midorikawa: "Electro-optic integration of embedded electrodes and waveguides in LiNbO₃ using a femtosecond laser", *Opt. Lett.* 33, 2281-2283 (2008).
90. J. Chen, A. Suda, E. J. Takahashi, M. Nurhuda, and K. Midorikawa: "Compression of intense ultrashort laser pulses in a gas-filled planar waveguide," *Opt. Lett.*, 33, 2992-2994, (2008).
91. S. Minemoto, T. Kanai, and H. Sakai, "Alignment dependence of the structural deformation of CO₂ molecules in an intense femtosecond laser field", *Phys. Rev. A*, **77**(4), 041401(R), (2008).
92. T. Kanai, E. J. Takahashi, Y. Nabekawa, and K. Midorikawa: "Observing molecular structures by using high harmonic generation in mixed gases", *Phys. Rev. A* 77(4), 041402(R) (2008).
93. K. Isobe, A. Suda, M. Tanaka, F. Kannari, H. Kawano, H. Mizuno, A. Miyawaki, and K. Midorikawa: "Fourier transform spectroscopy combined with a 5-fs broadband pulse for multispectral nonlinear microscopy", *Phys. Rev. A*, 77, 063832/1-13 (2008).
94. P. Antoine, E. Fomouo, B. Piraux, T. Shimizu, H. Hasegawa, Y. Nabekawa, and K. Midorikawa: "Two-photon double ionization of helium: an experimental lower bound of the total cross section", *Phys. Rev. A*. 78, 023415 (2008).
95. E. J. Takahashi, T. Kanai, K. L. Ishikawa, Y. Nabekawa, and K. Midorikawa: "Coherent water window x-ray by phase-matched high-order harmonic generation in neutral media", *Phys. Rev. Lett.* 101, 253901 (2008).
96. T. Kanai, S. Bohman, A. Suda, S. Yamaguchi and K. Midorikawa: "Development of a pointing and power stabilization system for intense few-cycle lasers," *Proceedings of The 6th Asia Pacific Laser Symposium, (The Laser Society of Japan, Osaka, 2008)*, pp. 1109-1112 (2008).
97. K. Isobe, A. Suda, M. Tanaka, F. Kannari, H. Kawano, H. Mizuno, A. Miyawaki and K. Midorikawa: "Fourier-transform spectroscopic technique for multi-spectral nonlinear microscopy using a 5-fs broadband light source", *Proceedings of The 6th Asia Pacific Laser Symposium, (The Laser Society of Japan, Osaka, 2008)*, pp. 1335-1338 (2008).
98. J. Guo, H. Ohmori, Y. Uehara, S. Morita, and K. Katahira: "Diamond Cutting of a Large Off-axis Fresnel Lens Mould", *Proceeding of the 1st International Conference on Nanomanufacturing (nanoMan2008), Singapore, Singapore, 2008-7*, 125-131 (2008).
99. J. Guo, H. Ohmori, Y. Uehara, and S. Morita: "Fundamental Study on the Fabrication of a Large Fresnel Lens of the Extreme Universe Space Observatory", *Proceeding of the 8th International Conference on Frontiers of Design and Manufacturing, Tianjin, China 2008-9*, 2616-2620 (2008).

100. A. Amani Eilanlou, Y. Nabekawa, K. L. Ishikawa, H. Takahashi, and K. Midorikawa, "Development of a terawatt class sub-10 fs laser system", Proceedings of the 6th Asia Pacific Laser Symposium, The Review of Laser Engineering • Suppl. Vol. 36, 1102-1104 (2008).
101. J. Tada, T. Kono, A. Suda A., H. Mizuno, A. Miyawaki, K. Midorikawa, and F. Kannari, "Adaptively controlled supercontinuum pulse from a microstructure fiber for two-photon excited fluorescence microscopy", Appl. Opt., 46(15), 3023-3030(2007).
102. Z. Wang, K. Sugioka, Y. Hanada, and K. Midorikawa, "Optical waveguide fabrication and integration with a micro-mirror inside photosensitive glass by femtosecond laser direct writing", Appl. Phys. A, 88, 699-704 (2007).
103. Z. Wang, K. Sugioka, K. Midorikawa, "Three-dimensional integration of microoptical components buried inside photosensitive glass by femtosecond laser direct writing", Appl. Phys. A, **89**, 951-955 (2007).
104. H. Mashiko, A. Suda, and K. Midorikawa, "Second-order Autocorrelation Functions for All-reflective Interferometric Autocorrelator", Appl. Phys., B, 87(2), 221-226 (2007).
105. M. Nurhuda, A. Suda, M. Kaku, and K. Midorikawa, "Optimization of hollow fiber pulse compression using pressure gradients", Appl. Phys. B, **89**, 209-215 (2007).
106. K. Sugioka, Y. Hanada, and K. Midorikawa, "3D integration of microcomponents in a single glass chip by femtosecond laser direct writing for biochemical analysis" Appl. Surf. Sci. **253**, 6595-6598 (2007).
107. S. Yin, W. Lin, Y. Uehara, H. Ohmori, "Study of nano-precisionsynergistic finishing process of ELID-grinding and MRF for silicon mirror", Advances in Abrasive Technology **9** (Key Engineerig Materials 329), 255-260 (2007).
108. R. Itakura, P. Liu, Y. Furukawa, T. Okino, K.. Yamanouchi, and H. Nakano, "Two-body Coulomb explosion and hydrogen migration in methanol induced by intense 7- and 21-fs laser pulses", J. Chem. Phys., **127**, 104306 (2007).
109. A. Matsuda, E.J. Takahashi, and A. Hishikawa, "Dalitz plot analysis of Coulomb exploding O3 in ultrashort intense laser fields", J. Chem. Phys., **127**, 114318 (2007).
110. H. Yazawa, T. Shioyama, Y. Suda, M. Yamanaka, F. Kannari, R. Itakura, and K. Yamanouchi, "Controlling the dissociative ionization of ethanol molecule by 800 nm and 400 nm two-color femtosecond laser pulses", J. Chem. Phys. **127**, 124312 (2007).
111. K. Sugioka, Y. Cheng, and K. Midorikawa, "All-in-one chip fabrication by 3D femtosecond laser microprocessing for biophotonics", J. Phys.: Con. Ser., 59, 533-538 ((2007).
112. Y. Hanada, K. Sugioka, M. Mera, H. Takai, I. Miyamoto, and K. Midorikawa, "Color Marking of Transparent Materials by Laser-Induced Plasma-Assisted Ablation (LIPAA)", J. Phys.: Con. Ser. 59, 687-690 (2007).
113. A. Hishikawa, A. Matsuda, M. Fushitani, and E.J. Takahashi, "Visualizing recurrently migrating hydrogen by few-cycle intense laser pulses", J. Phys.: Con. Ser., **88**, 012056 (2007).
114. K. Sugioka, B. Gu, and A. Holmes, "The State of The Art and Future Perspective of Laser-Direct Writing for Industrial and Commercial Applications", MRS Bulletin, **32**, 47-54 (2007).
115. J. Guo, H. Ohmori, et al.: "Experiment and Theoretical Analyses on the ELID Grinding Forces", Proceedings of 4th International Conference on Leading Edge Manufacturing in 21st Century (LEM21), 571-576 (2007).
116. Y. Oishi, A. Suda, F. Kannari, and K. Midorikawa, "Intense femtosecond pulse shaping using a fused-silica spatial light modulator", Opt. Commun., **270**, 305-309 (2007).
117. J. Xu, Y. Liao, H. Zeng, Z. Zhou, H. Sun, J. Song, X. Wang, Y. Cheng, Z. Xu, K Sugioka, and K. Midorikawa, "Selective metallization on insulator surfaces with femtosecond laser pulses", Opt. Exp., **15**(20), 12743-12748 (2007).
118. Y. Nagata, K. Furusawa, Y. Nabekawa, and K. Midorikawa, "Single-shot spatial-coherence measurement of 13 nm high-order harmonic beam by a Youn's souble-slit measuremt", Opt. Lett., **32**(6), 722-724 (2007).
119. H. Sun, Z. Zhou, Y. Cheng, Z. Xu, K. Sugioka, and K. Midorikawa, "Fabrication of microfluidic optical waveguides on glass chips with femtosecond laser pulses", Opt. Lett., 32(11), 1536-1538 (2007).
120. K. L. Ishikawa, E. J. Takahashi, and K. Midorikawa, "Single-attosecond pulse generation using a seed harmonic pulse train", Phys. Rev., A **75**, 021801(R) (2007).
121. T. Shimizu, T. Okino, K. Furusawa, H. Hasegawa, Y. Nabekawa, K. Yamanouchi, and K. Midorikawa, "Observation and analysis of interferometric autocorrelation race of an attosecond pulse train", Phys. Rev., A **75**, 033817 (2007).
122. Y. Nomura, T. Kanai, S. Minemoto, and H. Sakai, "Efficient generation of high-order sum and difference frequencies in the xuv region by combining a weak longer-wavelength field", Phys. Rev. A, **75**(4), 041801(R), (2007).
123. T. Kanai, S. Minemoto, and H. Sakai, "Ellipticity dependence of high harmonic generation from aligned molecules", Phys. Rev. Lett., **98**, 053002 (2007).
124. T. Kanai, S. Minemoto, and H. Sakai, "Ellipticity dependence of high harmonic generation from aligned molecules", Phys. Rev. Lett., **98**, 069903 (2007).

125. T. Kanai, E. J. Takahashi, Y. Nabekawa, and K. Midorikawa, "Destructive Interference during High Harmonic Generation in Mixed Gases", *Phys. Rev. Lett.*, **98**, 153904/1-4, (2007).
126. E. J. Takahashi, T. Kanai, K. L. Ishikawa, Y. Nabekawa, and K. Midorikawa, "Dramatic Enhancement of High-Order Harmonic Generation", *Phys. Rev. Lett.*, **99**, 053904, (2007).
127. K. Schiessl, K. L. Ishikawa, E. Persson, and J. Burgdörfer, "Quantum path interference in the wavelength dependence of high-harmonic generation", *Phys. Rev. Lett.* **99**, 253903 (2007).
128. A. Hishikawa, A. Matsuda, M. Fushitani, and E.J. Takahashi, "Visualizing recurrently migrating hydrogen in acetylene dication by intense ultrashort laser pulses", *Phys. Rev. Lett.*, **99**, 258302 (2007).
129. T. Kanai, S. Minemoto, and H. Sakai, "Ellipticity dependence of high-order harmonics generated in aligned molecules", *Springer Series in Optical Sciences 132: Ultrafast Optics V*, 367-370 (2007).
130. M. Kaku, Y. Oishi, A. Suda, F. Kannari, and K. Midorikawa, "Generation of extreme ultraviolet continuum radiation driven by sub-10-fs two-color field", *Springer Series in Optical Sciences 132: Ultrafast Optics V*, 413-419, (2007).
131. T. Kanai, S. Minemoto, and H. Sakai, "Basis for Ultrafast Imaging of Molecular Orbitals with High-Order Harmonic Generation", *Ultrafast Phenomena XV*, 15, 27-29, (2007).
132. T. Shimizu, T. Okino, K. Yamanouchi, Y. Nabekawa, and K. Midorikawa, "Direct Temporal Characterization of Attosecond Pulse Trains", *Proc. SPIE-Int. Soc. Opt. Eng.*, **6460**, 64600Q/1-8, (2007).
133. K. Midorikawa, T. Shimizu, and Y. Nabekawa, "Nonlinear interaction of intense attosecond xuv pulses with atoms and molecules", *Springer Proceedings in Physics 115: X-Ray Lasers 2006*, Springer, 367-374, (2007).
134. H. Mashiko, A. Suda, and K. Midorikawa, "Focusing multiple high-order harmonics in the extreme-ultraviolet and soft-x-ray regions by a platinum-coated ellipsoidal mirror", *Appl. Opt.* **45**, 573 (2006).
135. K. Obata, K. Sugioka, K. Midorikawa, T. Inamura, and H. Takai, "Deep etching of epitaxial gallium nitride film by multiwavelength excitation process using F₂ and KrF excimer lasers", *Appl. Phys., A* **82**, 479-483 (2006).
136. K. Obata, K. Sugioka, N. Shimazawa, and K. Midorikawa, "Fabrication of microchip based on UV transparent polymer for DNA electrophoresis by F₂ laser ablation", *Appl. Phys., A* **84**, 251-255 (2006).
137. Y. Cheng, H.-L. Tsai, K. Sugioka, and K. Midorikawa, "Fabrication of 3D microoptical lenses in photosensitive glass using femtosecond laser micromachining", *Appl. Phys., A* **85**, 11 (2006).
138. K. Furusawa, T. Okino, T. Shimizu, H. Hasegawa, Y. Nabekawa, K. Yamanouchi, and K. Midorikawa, "Photoelectron spectroscopy of two-photon ionisation of rare-gas atoms by multiple high order harmonics", *Appl. Phys., B* **83**, 203-211 (2006).
139. J. Chen H. Mizuno, H. Kawano, and K. Midorikawa, "Two-photon pumping of random lasers by picosecond and nanosecond lasers", *Appl. Phys., B* **85**, 45-48 (2006).
140. T. Okino, Y. Furukawa, P. Liu, T. Ichikawa, R. Itakura, K. Hoshina, K. Yamanouchi, H. Nakano, "Coincidence momentum imaging of ejection of hydrogen molecular ions from methanol in intense laser fields", *Chem. Phys. Lett.* **419**, 223-227 (2006).
141. P. Liu, T. Okino, Y. Furukawa, T. Ichikawa, R. Itakura, K. Hoshina, K. Yamanouchi, H. Nakano, "Three-body sequential Coulomb explosion of CH₃OD³⁺ induced by intense laser fields", *Chem. Phys. Lett.*, **423**, 187-191 (2006).
142. T. Okino, Y. Furukawa, P. Liu, T. Ichikawa, R. Itakura, K. Hoshina, K. Yamanouchi, H. Nakano, "Coincidence momentum imaging of ultrafast hydrogen migration in methanol and its isotopomers in intense laser fields", *Chem. Phys. Lett.*, **423**, 220-224 (2006).
143. T. Okino, K. Yamanouchi, T. Shimizu, K. Furusawa, H. Hasegawa, Y. Nabekawa, and K. Midorikawa, "Attosecond molecular Coulomb explosion", *Chem. Phys. Lett.*, **432**, 68-73 (2006).
144. Y. Hanada, K. Sugioka, I. Miyamoto, and K. Midorikawa, "Transient electron excitation in transparent materials for high efficiency ablation by laser-induced plasma-assisted ablation (LIPAA)", *J. Appl. Phys.*, **99**, 043301 (2006).
145. C. Wochnowski, Y. Hanada, Y. Cheng, S. Metev, F. Vollersten, K. Sugioka, and K. Midorikawa, "Femtosecond-laser-assisted wet chemical etching of polymer materials", *J. Appl. Polymer Sci.*, **100**, 1229-1238 (2006).
146. H. Yazawa, T. Shioyama, Y. Suda, F. Kannari, R. Itakura, K. Yamanouchi, "Dissociative Ionization of Ethanol by 400 nm Femtosecond Laser Pulses", *J. Chem. Phys.*, **125**, 184311 (2006).
147. C. Wochnowski, K. Meteva, S. Metev, G. Sepold, F. Vollertsen, Y. Cheng, Y. Hanada, K. Sugioka, K. Midorikawa, "Fs-laser-induced Fabrication of Polymeric Optical and Fluidic Microstructures", *J. Laser Micro/Nanoeng.*, **1**, 195-200 (2006).
148. M. Nurhuda, A. Suda, and K. Midorikawa, "Plasma-induced spectral broadening of high-energy ultrashort laser pulses in a helium-filled multiple-pas cell", *J. Opt. Soc. Am., B* **23**, 1946-1953 (2006).
149. I.G. Koprinkov, A. Suda, P. Wang, and K. Midorikawa, "Generation of a completely dense femtosecond

- optical supercontinuum", *J. Phys.*, B **39**, L203-L209 (2006).
150. K. Hoshina, A. Hishikawa, K. Kato, T. Sako, K. Yamanouchi, E.J. Takahashi, Y. Nabekawa, K. Midorikawa, "Dissociative ATI of H₂ and D₂ in intense soft x-ray laser fields", *J. Phys.*, B **39**, 813-829 (2006).
 151. Y. Oishi, M. Kaku, A. Suda, F. Kannari, and K. Midorikawa, "Generation of extreme ultraviolet continuum radiation driven by a sub-10-fs two-color field", *Opt. Exp.*, **14**, 7230-7237 (2006).
 152. K. Sugioka, Y. Cheng, K. Midorikawa, F. Takase, and H. Takai, "Femtosecond laser microprocessing with three-dimensionally isotropic spatial resolution using crossed-beam irradiation", *Opt. Lett.*, **31**, 208-210 (2006).
 153. Y. Nagata, Y. Nabekawa, and K. Midorikawa, "Development of high-throughput, high-damage-threshold beam separator for 13 nm high-order harmonics", *Opt. Lett.*, **31**, 1316-1318 (2006).
 154. K.L. Ishikawa, "Temporal Young's interference experiment by attosecond double and triple soft-x-ray pulses", *Phys. Rev.*, A **74**, 023806 (2006).
 155. I.G. Koprnikov, A. Suda, M. Nurhuda, P. Wang and K. Midorikawa, "Observation of two different types of optical supercontinuum: Structured and structureless", *Phys. Rev.*, A **74**, 053819/1-11 (2006).
 156. Y. Nabekawa, T. Shimizu, T. Okino, K. Furusawa, H. Hasegawa, K. Yamanouchi, and K. Midorikawa, "Conclusive evidence of attosecond pulse train observed with mode-resolved autocorrelation technique", *Phys. Rev. Lett.*, **96**(8), 083901/1-4(2006).
 157. M. Nurhuda, A. Suda, S. Bohman, S. Yamaguchi, and K. Midorikawa, "Optical pulse compression of ultrashort laser pulses in an argon-filled planar waveguide", *Phys. Rev. Lett.*, **97**, 153902 (2006).
 158. Y. Nabekawa, T. Shimizu, T. Okino, K. Furusawa, H. Hasegawa, K. Yamanouchi, and K. Midorikawa, "Interferometric autocorrelation of an attosecond pulse train in the single-cycle regime", *Phys. Rev. Lett.*, **97**, 153904 (2006).
 159. Y. Nabekawa, H. Hasegawa, E. J. Takahashi, and K. Midorikawa, "Nabekawa et al. Reply", *Phys. Rev. Lett.*, **97**, 169302 (2006).
 160. A. Hishikawa, E.J. Takahashi, and A. Matsuda, "Electronic and Nuclear Responses of Fixed-in-Space H₂S to Ultrashort Intense Laser Fields", *Phys. Rev. Lett.*, **97**, 243002 (2006).
 161. W. Lin, H. Ohmori, Y. Uehara, Y. Watanabe, T. Suzuki, and S. Yin, "Development of Optical Elements with ELID-grinding and MRF Synergistic Finishing Process", *Towards the Synthesis of Micro-/Nano-systems*, 301-304 (2006).
 162. T. Suzuki, Y. Karaki, D. Deng, M. Tanaka; K-induced surface structural change of Si(111)-7×7 probed by second-harmonic generation, *Appl. Surf. Sci.*, **252**, 5296-5299 (2006).
 163. K. Sugioka, Y. Cheng, and K. Midorikawa, "Three-dimensional micromachining of glass using femtosecond laser for lab-on-a-chip device manufacture", *Appl. Phys. A81*, 1-10 (2005).(Invited Paper)
 164. A. Suda, M. Hatayama, K. Nagasaka, and K. Midorikawa, "Generation of sub-10-fs, 5-mj-optical pulses using a hollow fiber with a pressure gradient", *Appl. Phys. Lett.* **86**, 111116 (2005).
 165. K. Sugioka, T. Hongo, H. Takai, and K. Midorikawa, "Selective metallization of internal walls of hollow structures inside glass using femtosecond laser", *Appl. Phys. Lett.* **86**, 171910 (2005).
 166. Y. Cheng, K. Sugioka, and K. Midorikawa, "Microfabrication of 3-D hollow structures embedded in glass by femtosecond laser for Lab-on-a-chip applications", *Appl. Surf. Sci.* **248**, 172-176 (2005).
 167. H. Hanada, K. Sugioka, F. Takase, H. Takai, I. Miyamoto, and K. Midorikawa, "Double-pulse irradiation in laser-induced plasma-assisted ablation (LIPAA) processing for mechanism study", *Appl. Surf. Sci.* **248**, 276-280 (2005).
 168. Y. Furukawa, K. Hoshina, K. Yamanouchi, H. Nakano, "Ejection of triatomic hydrogen molecular ion from methanol in intense laser fields", *Chem. Phys. Lett.* **414**, 117-121 (2005).
 169. T. Hongo, K. Sugioka, H. Niino, Y. Cheng, M. Masuda, I. Miyamoto, H. Takai, and K. Midorikawa, "Investigation of photoreaction mechanism of photosensitive glass by femtosecond laser", *J. Appl. Phys.* **97**, 063517 (2005).
 170. H. Hirayama, "Quaternary InAlGaN-based high-efficiency ultraviolet light-emitting diodes", *J. Appl. Phys.* **97**, 091101/1-19 (2005).
 171. A. Hishikawa, M. Ueyama, K. Yamanouchi, "Probing the ultrafast nuclear motion in CS₂⁺ in intense laser fields", *J. Chem. Phys.* **122**, 151104 (2005).
 172. M. Ueyama, H. Hasegawa, A. Hishikawa, K. Yamanouchi, "Concerted and sequential Coulomb explosion processes of N₂O in intense laser fields by coincidence momentum imaging", *J. Chem. Phys.* **123**, 154305 (2005).
 173. K. Obata, K. Sugioka, and K. Midorikawa, "F₂ laser ablation of UV transparent polymer material", *J. Laser Micro Nano Engin.* **1**, 28-32 (2005).
 174. C. Wochnowski, Y. Cheng, K. Mete, K. Sugioka, K. Midorikawa, and S. Metev, "Femtosecond-laser induced formation of grating structures in planar polymer substrates", *J. Opt. Appl.* **7**, 493-501 (2005).

175. M. Nurhuda, A. Suda, K. Midorikawa, and H. Budiono, "Control of self-phase modulation and plasma-induced blueshifting of high-energy, ultrashort laser pulses in an argon-filled hollow fiber using conjugate pressure-gradient method", *J. Opt. Soc. Am. B* 22, 1757-1762 (2005).
176. H. Hasegawa, E. Takahashi, Y. Nabekawa, and K. Midorikawa, "Nonlinear multiphoton process of He at 42 eV by high-order harmonics in soft x-ray region", *Laser Phys.* 15, 812 (2005).
177. S. Shimizu, Y. Nabekawa, M. Obara, and K. Midorikawa, "Spectral phase transfer for indirect phase control of sub-20-fs deep UV pulses", *Opt. Exp.* 13, 6345 (2005).
178. Y. Cheng, K. Sugioka, and K. Midorikawa, "Freestanding optical fibers fabricated in a glass chip using femtosecond laser micromachining for lab-on-a-chip application", *Opt. Exp.* 13, 7225-7232 (2005).
179. K. Ishikawa and K. Midorikawa, "Above-threshold double ionization of helium with attosecond intense soft x-ray pulses", *Phys. Rev. A* 72, 013407 (2005).
180. D. Deng and T. Suzuki, Nucleation and growth of Si(111)- $\sqrt{3}\times\sqrt{3}$ -Ag investigated in situ by second-harmonic generation, *Phys. Rev. B* 72, 085308-1 - 5 (2005).
181. Y. Oishi, A. Suda, K. Midorikawa, and F. Kannari, "Sub-10 fs, multimillijoule laser system", *Rev. Sci. Instrum.* 76, 093114 (2005).
182. K. Midorikawa, H. Hasegawa, and Y. Nabekawa, "Nonlinear multiphoton processes with soft x-ray photons and its application to autocorrelation measurement", *SPIE paper* 592005 (2005).
183. K. Midorikawa, J. Chen, H. Kawano, Y. Nabekawa, A. Suda, H. Mizuno, and A. Miyawaki, "Coherent control of multiphoton excitation process for biological fluorescence imaging", *SPIE paper* 5714, 99-106 (2005).
184. K. Ohtomi, T. Kato, T. Suzuki, "Dynamical Monte Carlo simulation on response of DAS domain in quenched Si(111) surface", *Surf. Sci.* 588, 127-134 (2005).
185. 花田修賢、杉岡幸次、緑川克美、"レーザー生成プラズマ支援アブレーション(LIPAA)による透明材料の微細加工に関する研究"、レーザー加工学会誌、**15**, 50-55 (2007).
186. 石川颯一、"媒質中を伝播するフェムト秒レーザーパルスのシミュレーション"、レーザー加工学会誌、**13**、166-171 (2006).
187. 山崎智高、多田潤二、河野太貴、神成文彦、須田亮、緑川克美、河野弘幸、水野秀昭、宮脇敦史、"フェムト秒レーザー励起パルスの波形整形による2光子励起蛍光顕微計測の高性能化"、レーザー研究、**34**、833-837 (2006).
188. 大森 整、尹 韶輝、林 偉民、上原 嘉宏、"ELID 研削と MRF 磁性流体研磨を相乗した超精密複合プロセスの研究——第一報：ガラスレンズ加工への試み"、砥粒加工学会誌、**50**(1)、39-44 (2006).
189. 尹 韶輝、林 偉民、大森 整、上原 嘉宏、浅見 宗明、"ELID 研削と MRF 磁性流体研磨を相乗した超精密複合プロセスの研究——第二報：CVD-SiC ミラー加工の試み"、砥粒加工学会誌、**50**(6)、154-157 (2006).
190. 林偉民、尹韶輝、大森整、上原嘉宏、鈴木亨:" ELID 研削と磁性流体研磨 (MRF) を相乗した超精密仕上げ加工プロセスによるシリコンミラーの製作" , 砥粒加工学会誌, **49**, 701-702(2005).

Books, Proceedings

1. Y. Kawano, "Terahertz Technology Based on Nano-Electronic Devices", 1 chapter in "Integrated Microsystems: Materials, MEMs, Photonics, Bio Interfaces", edited by Kris Iniewski, (Taylor & Francis Group), in press.
2. Y. Kawano, "Highly Sensitive Detector for On-Chip Near-Field THz imaging", *IEEE Journal of Selected Topics in Quantum Electronics* **17**, 67-78 (2011). (Invited paper)
3. K. Midorikawa: "Nonlinear interaction of intense xuv fields with atoms and molecules", *Springer Series in Chemical Physics* 94, *Lectures on Ultrafast Intense Laser Science* 1, Springer, (2010).
4. K. Sugioka, M. Meunier, and A. Pique (Eds.): "Laser Precision Micorfabrication", (Springer, Berlin). (2010).
5. K. Sugioka and S. Nolte: "3D fabrication of embedded microcomponents", K. Sugioka, M. Meunier, and A. Pique (Eds.), *Laser Precision Micorfabrication*, (Springer, Berlin, 2010) p. 215-238.
6. K. Sugioka and K. Midorikawa: "Major accomplishments in 2009 on femtosecond laser fabrication: fabrication of bio-microchips", *IEEE Photonics Journal* 2, 253-255 (2010).
7. Y. Kawano, "Scanning Electrometer: Mapping of Electric Potential and Its Fluctuation", *Japanese Journal of Applied Physics* **49**, 08LA02-1-8 (2010). (Review paper) (Selected for SPOTLIGHTS: Editors' Choice)
8. K. L. Ishikawa, "High-Harmonic Generation", in *Advances in Solid-State Lasers*, pp. 439-464 (Intech, 2010).
9. K. Sugioka, Y. Hanada, and K. Midorikawa, "Three-dimensional femtosecond laser micromachining of photosensitive glass for biomicrochips", *Laser & Photonics Review*, 4(3), 386-400(2010).

10. K. Isobe, A. Suda, M. Tanaka, F. Kannari, H. Kawano, H. Mizuno, A. Miyawaki, and K. Midorikawa, "Multifarious two-photon fluorescence microscopy employing ultrabroadband femtosecond laser pulses," AIP Conference Proceedings, vol. 1150, Frontiers in Physics: 3rd International Meeting, (Springer, Berlin, 2009) pp. 43-49.
11. K. Sugioka, "Ultrafast laser processing of glass down to the nano-scale", Laser –Surface Interactions for new materials production, (Springer, Berlin, 2009) p. 279-293.
12. K. Isobe, A. Suda, M. Tanaka, F. Kannari, H. Kawano, H. Mizuno, A. Miyawaki, and K. Midorikawa, "Selective excitation in nonlinear microscopy by using an ultra-broadband pulse," Ultrafast Phenomena XVI, (Springer, Berlin, 2009) pp. 1006-1008.
13. E. J. Takahashi and K. Midorikawa: "Coherent water-window x-ray generation by phase-matched high harmonics in neutral media", X-ray Lasers 2008, Proceedings of the 11th International Conference on X-Ray Lasers, Springer, 299-306, (2009).
14. Y. Nabekawa, and K. Midorikawa, "Nonlinear optics for characterizing XUV/soft x-ray high-order harmonic fields in attosecond regime", Advances in Multi-photon Processes and Spectroscopy Vol.18, World Scientific, 1-67, (2008).
15. K. Midorikawa, Y. Nabekawa, and A. Suda: "XUV multiphoton processes with intense high-order harmonics", Progress in Quantum Electron., vol.32, pp. 43-88, (2008).
16. K. Midorikawa and Y. Nabekawa, "Nonlinear multiphoton process in the XUV region and its application to autocorrelation measurement", Progress in Ultrafast Intense Laser Science III, Springer Series in Chemical Physics 89, 207-218, (2008).
17. A. Suda, H. Mashiko, and K. Midorikawa, "Focusing intense high-order harmonics to a micron spot size", Progress in Ultrafast Intense Laser Science: Volume II, Springer, 183-198, (2007).
18. Y. Cheng, K. Sugioka, K. Midorikawa, and Z. Xu, "Integrating 3D photonics and microfluidics using ultrashort laser pulses", SPIE Newsroom, 10.1117/2.1200611.0484/1-3, (2007).
19. K. Midorikawa, "X-ray and EUV sources", Springer Handbook of Lasers and Optics, Springer, 819-827, (2007).
20. M. Kaku, Y. Oishi, A. Suda, F. Kannari, and K. Midorikawa, "Continuum harmonic radiation in the extreme ultraviolet region using synthesized sub-10-fs wo-color field", Ultrafast Phenomena XV, OSA, Springer, 24-26, (2007).
21. K. Midorikawa, "Springer Series in Optical Sciences 132: Ultrafast Optics V", (2007).
22. Y. Cheng, Z. Xu, K. Sugioka, and K. Midorikawa, "Integration of multifunctions in glasses using 3D femtosecond laser microfabrication", Proceedings of LPM2007, 1-9, (2007).
23. Z. Wang, K. Sugioka, and K. Midorikawa, "Femtosecond laser direct fabrication of 3D microoptical components buried inside of photosensitive glass", Proc. LPM2007, 1-5, (2007).
24. K. Sugioka, Y. Hanada, and K. Midorikawa, "3D femtosecond laser microfabrication of photonic biochips", Proc. SPIE-Int. Soc. Opt. Eng., **6619**, 66190A/1-6, (2007).
25. J. Xu, Y. Liao, H. Zeng, Z. Zhou, H. Sun, J. Song, X. Wang, Y. Cheng, Z. Xu, K. Sugioka, K. Midorikawa, "Selective deposition of conductive copper films on glass surfaces using femtosecond laser surface modification and electroless plating", Proc. SPIE-Int. Soc. Opt. Eng., **6825**, 68250L/1-5, (2007).
26. J. Guo, H. Ohmori, Y. Watanabe, S. Morita, and Y. Uehara: "Study on the Key Technology of ELID Grinding on a Large Telescope Mirror", Advances in Abrasive Technology X, SME, JSAT, **9**, 327-333 (2007).
27. T. Kanai, E. J. Takahashi, Y. Nabekawa and K. Midorikawa: "High harmonic generation in mixed gases and its application to attosecond physics", Kogaku 40, 136 (2011).
28. 磯部圭佑, 須田亮, 緑川克美, "超広帯域パルスの非線形光学顕微鏡への応用", レーザー協会誌, **36**, 20 (2011).
29. 杉岡幸次, 花田修賢, 河野弘幸, 石川依久子: "ナノ水族館-微生物の未知なる動態の解明", 応用物理 **80**, 137-140 (2011).
30. 河野行雄, 石橋幸治, "カーボンナノチューブ量子ドットによる超高感度 THz 波センサ", 応用物理, 第 **80** 巻, 第 **3** 号 226-230 (2011) .
31. 石橋幸治 (分担執筆), "量子ドットデバイス", 知識ベース, 知識の森 (電子通信学会, 2011)
32. 青柳克信, 石橋幸治, 高柳英明, 中ノ勇人, 平山祥郎 共著 「基礎からわかるナノデバイス」 (コロナ社 2011 年)
33. 国村伸祐: 全反射蛍光 X 線分析法の発展, X 線分析の進歩 **42**, 59-74 (2011).
34. 金井恒人, 高橋栄治, 鍋川康夫, 緑川克美 「混合ガス中の高次高調波発生とそのアト秒物理学への応用」, 光学 **40** 巻 第 **3** 号, 136-141 (2011).
35. 杉岡幸次, "2.7 レーザ加工分野の市場動向: 2.7.1 はじめに", 光産業の動向 ((財) 光産業技術振興協会編) p.176-179 (2010).
36. 杉岡幸次: "2.7 レーザ加工分野の市場動向: 2.7.3 おわりに", 光産業の動向 ((財) 光産業技術振興協会編) p.200 (2010).

37. 杉岡幸次, 小関泰之, 細川陽一郎, 西山宏昭, 片山聖二, 川人洋介: "LAMP2009 参加報告", レーザ加工学会誌 17, 51-64 (2010).
38. E. J. Takahashi and K. Midorikawa: "Generation of XUV to soft x-ray radiation by high-order harmonics and its application. ", Rev. Laser Eng., vol.38, no.12, pp.937-943 2010 (in Japanese).
39. 杉岡幸次, "最新のマイクロ・ナノレーザ加工技術の動向", 機会の研究 62, 301-308 (2010).
40. 須田亮, "位相制御による蛍光タンパク質の選択的励起・発光," 光科学研究の最前線 2, p. 227 (2009).
41. 杉岡幸次, "超短パルスレーザによる微細加工技術の進展", レーザ加工学会誌 16, 124-129 (2009).
42. 鍋川康夫, 緑川克美: "高強度アト秒パルス列", 化学と工業, vol.62, No. 7, pp. 800-803 (2009).
43. 須田亮, 神成文彦: "高強度レーザー利用のための時空間レーザーパルス制御技術", レーザー研究, vol.37, 408-419 (2009).
44. 杉岡 幸次, 花田 修賢, 緑川 克美, "フェムト秒レーザーによるガラス内部加工とナノ水族館の実現", 材料と科学, 46, 75-80 (2009).
45. 石川 顕一 「アト秒現象と高次高調波発生の理論」 in 「光科学研究の最前線 2」 ed. by 「光科学研究の最前線」編集委員会 (強光子場科学研究懇談会, 2009) .
46. 緑川克美: "高次高調波とアト秒科学", 応用物理, 78(2), 107-117(2009).
47. 金井 恒人, 高橋栄治, 鍋川康夫, 緑川克美: "混合ガス中の高次高調波発生を用いたヘテロダイナミクスとそのアト秒物理学への応用", 原子衝突研究会誌しようつつ 5, 3-10 (2008).
48. 大森整, 上原嘉宏, 成瀬哲也, 片平和俊, 水谷正義: "超精密デスクトップ加工システムによるマイクロ加工", 機械と工具 52, 7, 15-19 (2008).
49. 大森整, 片平和俊, 林偉民, 上原嘉宏, 水谷正義, 渡邊裕, 森田晋也: "ELID 研削法による光学材料、電子材料、キーパーツの加工効果", 第 115 回研究会資料, 10-15 (2008).
50. 杉岡幸次: "フェムト秒レーザーによる水棲微生物観察用ナノ水族館の作製", O plus E, 30, 470-474 (2008).
51. 杉岡幸次: "フェムト秒レーザーを用いたガラス加工", エレクトロニクス用途におけるガラスの超精密加工【技術全集】(技術情報協会, 東京) 233-242, (2008).
52. 高橋栄治, 金井恒人, 緑川克美, 混合ガスを用いた高次高調波発生: アト秒ダイナミクスの観測と制御", レーザー研究, 36(1), 5-11, (2008).
53. 石川 顕一, "アト秒現象の理論", レーザー研究, 36(1), 25-30 (2008).
54. 大森 整, 片平 和俊, 林 偉民, 森田 晋也, 上原 嘉宏, 渡邊 裕, 惠藤 浩朗, 伊藤 伸英: "硬脆材料の ELID 研削加工", 機械の研究, 60(1), 145-150 (2008).
55. R. R. Alfano, 須田亮, "超白色光レーザー", 日経サイエンス, 3, 72-79, (2007).
56. 鍋川康夫, "チタンサファ高強度超短パルスレーザーシステムとその光学素子", レーザー研究, 35(3), 136-141 (2007).
57. 鍋川康夫, 緑川克美, "アト秒パルス列の計測", 応用物理, 76(2), 133-140 (2007).
58. 大森 整, 林 偉民, 上原 嘉宏, "磁性流体研磨(MRF)の効果と適用", 機械の研究, 59(4), 437-444 (2007).
59. 杉岡幸次, "レーザー加工の物理 2: 光波長と加工", 光学, 36(8), 454-458, (2007)
60. 杉岡幸次, "レーザーを用いた光学ガラスの微細加工技術", 光学ガラスレンズの設計・成形加工ノウハウ集, 技術情報協会, 183-193, (2007).
61. 杉岡幸次, "レーザープロセッシングの最近の動向", 光アライアンス, 18(4), 5-10, (2007).
62. 杉岡幸次, "レーザーマイクロプロセスの 20 年", レーザー研究, 35(5), 297, (2007)
63. 山内薫, "「強レーザー場による分子制御」特集号によせて -強光子場科学研究の現状と将来展望-", レーザー研究, 35(11), 680-684 (2007).
64. 緑川克美, 清水俊彦, 沖野友哉, 山内薫, 鍋川康夫, "アト秒 XUV 光と原子・分子の非線形相互作用", レーザー研究, 35(11), 697-704 (2007).
65. 矢澤洋紀, 神成文彦, 板倉隆二, 山内薫, "高強度レーザーによる量子放出と物質ダイナミクス研究への応用", レーザー研究, 35(11), 710-719 (2007).
66. 杉岡幸次, "最新レーザプロセッシングの基礎と産業応用", 電気学会, (2007).
67. 杉岡幸次, "はじめに", 最新レーザプロセッシングの基礎と産業応用, 電気学会, iii, (2007).
68. 杉岡幸次, "立体造形プロセス", 最新レーザプロセッシングの基礎と産業応用, 電気学会, 148-159, (2007).
69. 緑川克美 (訳), "極限的非線形光学: コヒーレント軟 X 線の発生", パリティ 21, pp. 4-12 (2006).
70. 大森 整, 林 偉民, 森田 晋也, 片平 和俊, 上原 嘉宏, 渡邊 裕, "光学材料の先進超精密加工プロセス〜ナノ精度を目指す ELID 研削, 超平滑研磨, 超精密切削〜", NEW GLASS(ニューガラスフォーラム), 21(2), 53-59 (2006).
71. 大森 整, 森田晋也, 浅見宗明, 渡邊 裕, 上原嘉宏, 林 偉民, "ナノ精度・計測融合ファブリケーションを目指す加工機上測定システム", 機械と工具, 50(12), 26-31 (2006).

72. 林 偉民, 渡邊 裕, 大森 整, 河西 敏雄, “連携加工プロセスによる光学素子のナノ精度鏡面加工”、成形加工, 18(12), 842-847 (2006).
73. 森田, 渡邊, 大森, 林, 上原, “小型超精密非接触式机上形状測定システムによる微細形状計測”、2006 年度精密工学会秋季大会学術講演会講演論文集, 215-216 (2006).
74. 須田亮, 緑川克美, “極超短パルスレーザーを用いた軟 X 線発生とその応用”, 光アライアンス, vol. 17, No. 3, pp. 4-8(2006).
75. 緑川克美, 先端光科学研究「エクストリームフォトンクス、レーザー研究 33, 491 (2005).
76. 緑川克美, フェムト秒高強度軟 X 線パルスの発生と応用,” フェムト秒テクノロジー “化学同人、pp. 322-327(2005)
77. 緑川克美, 強光子場科学研究分野の現況 (1), “強光子場科学の最前線 1”、強光子場科学懇談会、pp.139-148(2005).
78. 緑川克美, 高次高調波とその応用、“光科学研究の最前線”、「光科学研究の最前線」編集委員会、pp. 82-83(2005)
79. 大森 整, 林 偉民, 渡邊 裕, 上原 嘉宏, 鈴木 亨, 尹 韶輝: “磁性流体研磨法によるレンズ金型材の仕上げ加工——ELID と MRF の融合連携の提案——” , ツールエンジニア, 45, 9, 172-178(2004).
80. 大森 整, 林 偉民, 森田晋也, 上原嘉宏, 渡邊 裕, 片平和俊: “究極の ELID ファブリケーションを目指して——ナノプレシジョン化とマルチプロセス技術——” , 機械技術, 52, 9, 22-25(2004).