

主要論文一覽

タイトル	著者	掲載誌
Dual-comb spectroscopic ellipsometry	Takeo Minamikawa, Yi-Da Hsieh, Kyuki Shibuya, Eiji Hase, Yoshiaki Kaneoka, Sho Okubo, Hajime Inaba, Yasuhiro Mizutani, Hirotsugu Yamamoto, Tetsuo Iwata, and Takeshi Yasui	Nature Communications (in press)
No-scanning 3D measurement method using ultrafast dimensional conversion with a chirped optical frequency comb	Takashi Kato, Megumi Uchida, and Kaoru Minoshima	Scientific Reports, 7, 3670 (2017)
Fully stabilized 750-MHz Yb: fiber frequency comb	Bo Xu, Hideaki Yasui, Yoshiaki Nakajima, Yuxuan Ma, Zhigang Zhang, and Kaoru Minoshima	Optics Express, Vol. 25, Issue 10, pp. 11910-11918 (2017)
Arbitrary manipulation of amplitude and phase of a set of highly discrete coherent spectra	Masayuki Katsuragawa and Kazumichi Yoshii	Physical Review A 95, 033846 (2017)
Development of ultrafast time-resolved dual-comb spectroscopy	Akifumi Asahara and Kaoru Minoshima	APL Photonics 2, 041301 (2017)
Optical frequency standards for time and length applications	Feng-Lei Hong	Measurement Science and Technology, vol. 28, issue 1, 012002 (2017)
High brightness, low coherence, digital holographic microscopy for 3D visualization of an in-vitro sandwiched biological sample	D. G. Abdelsalam and Takeshi Yasui	Applied Optics, Vol.56, Issue 13, pp. F1-F6 (2017)
Measurement of absolute frequency of continuous-wave terahertz radiation in real time using a free-running, dual-wavelength mode-locked, erbium-doped fibre laser	Guoqing Hu, Tatsuya Mizuguchi, Xin Zhao, Takeo Minamikawa, Takahiko Mizuno, Yuli Yang, Cui Li, Ming Bai, Zheng Zheng & Takeshi Yasui	Scientific Reports, 7, 42082 (2017)
Dual-comb spectroscopy for rapid characterization of complex optical properties of solids	Akifumi Asahara, Akiko Nishiyama, Satoru Yoshida, Ken-ichi Kondo, Yoshiaki Nakajima, and Kaoru Minoshima	Optics Letters, Vol. 41, No. 21, pp. 4971 – 4974 (2016)
Doppler-free dual-comb spectroscopy of Rb using optical-optical double resonance technique	Akiko Nishiyama, Satoru Yoshida, Yoshiaki Nakajima, Hiroyuki Sasada, Ken'ichi Nakagawa, Atsushi Onae, and Kaoru Minoshima	Optics Express, Vol. 24, No. 22, pp. 25894-25904 (2016)
Ortho-Para-Dependent Pressure Effects Observed in the Near Infrared Band of Acetylene by Dual-Comb Spectroscopy	Kana Iwakuni, Sho Okubo, Koichi M. T. Yamada, Hajime Inaba, Atsushi Onae, Feng-Lei Hong, and Hiroyuki Sasada	Physical Review Letters, vol. 117, issue 14, 143902 (2016)
Picometer-resolution dual-comb spectroscopy with a free-running fiber laser	Xin Zhao, Guoqing Hu, Bofeng Zhao, Cui Li, Yingling Pan, Ya Liu, Takeshi Yasui, and Zheng Zheng	Optics Express, Vol. 24, Issue 19, pp. 21833-21845 (2016)
Terahertz Frequency-Domain Spectroscopy of Low-Pressure Acetonitrile Gas by a Photomixing Terahertz Synthesizer Referenced to Dual Optical Frequency Combs	Yi-Da Hsieh, Hiroto Kimura, Kenta Hayashi, Takeo Minamikawa, Yasuhiro Mizutani, Hirotsugu Yamamoto, Tetsuo Iwata, Hajime Inaba, Kaoru Minoshima, Francis Hindle, and Takeshi Yasui	Journal of Infrared, Millimeter, and Terahertz Waves, Vol. 37, Issue 9, pp. 903-915 (2016)
Dual-frequency injection-locked continuous-wave near-infrared laser	Trivikramarao Gavara, Takeru Ohashi, Yusuke Sasaki, Takuya Kawashima, Hiroaki Hamano, Ryo Yoshizaki, Yuki Fujimura, Kazumichi Yoshii, Chiaki Ohae, and Masayuki Katsuragawa	Optics Letters. Vol. 41, No. 13, 2994 – 2997 (2016)
Dynamic terahertz spectroscopy of gas molecules mixed with unwanted aerosol under atmospheric pressure using fibre-based asynchronous-optical-sampling terahertz time-domain spectroscopy	Yi-Da Hsieh, Shota Nakamura, Dahi Ghareab Abdelsalam, Takeo Minamikawa, Yasuhiro Mizutani, Hirotsugu Yamamoto, Tetsuo Iwata, Francis Hindle, and Takeshi Yasui	Scientific Reports, 6, 28114 (2016)
Real-Time Determination of Absolute Frequency in Continuous-Wave Terahertz Radiation with a Photocarrier Terahertz Frequency Comb Induced by an Unstabilized Femtosecond Laser	Takeo Minamikawa, Kenta Hayashi, Tatsuya Mizuguchi, Yi-Da Hsieh, Dahi Ghareab Abdelsalam, Yasuhiro Mizutani, Hirotsugu Yamamoto, Tetsuo Iwata, and Takeshi Yasui	Journal of Infrared, Millimeter, and Terahertz Waves, Vol. 37, Issue 5, PP. 473-485 (2016)
Absolute frequency measurements and hyperfine structures of the molecular iodine transitions at 578 nm	Takumi Kobayashi, Daisuke Akamatsu, Kazumoto Hosaka, Hajime Inaba, Sho Okubo, Takehiko Tanabe, Masami Yasuda, Atsushi Onae, and Feng-Lei Hong	Journal of the Optical Society of America B, Vol. 33, No. 4, pp. 725-734 (2016)
Sub-Doppler resolution mid-infrared spectroscopy using a difference-frequency-generation source spectrally narrowed by laser linewidth transfer	Hideyuki Sera, Masashi Abe, Kana Iwakuni, Sho Okubo, Hajime Inaba, Feng-Lei Hong, and Hiroyuki Sasada	Optics Letters, vol. 40, Issue 23, pp. 5467-5470 (2015)
Near-infrared broadband dual-frequency-comb spectroscopy with a resolution beyond the Fourier limit determined by the observation time window	Sho Okubo, Yi-Da Hsieh, Hajime Inaba, Atsushi Onae, Mamoru Hashimoto, and Takeshi Yasui	Optics Express, Vol. 23, Issue 26, pp. 33184-33193 (2015)
Generation of five phase-locked harmonics by implementing a divide-by-three optical frequency divider	Nurul Sheeda Suhaimi, Chiaki Ohae, Trivikramarao Gavara, Ken'ichi Nakagawa, Feng Lei Hong, and Masayuki Katsuragawa	Optics Letters, Vol. 40, Issue 24, pp. 5802–5805 (2015)
All-optically stabilized frequency comb	Sho Okubo, Kenta Gunji, Atsushi Onae, Malte Schramm, Keisuke Nakamura, Feng-Lei Hong, Toshiaki Hattori, Kazumoto Hosaka, and Hajime Inaba	Applied Physics Express, vol. 8, page 122701 (2015)
Novel phase-locking schemes for the carrier envelope offset frequency of an optical frequency comb	Sho Okubo, Atsushi Onae, Kazumoto Hosaka, Hideyuki Sera, Hajime Inaba, and Feng-Lei Hong	Applied Physics Express, vol. 8, page 122402 (2015)
Size dependent nanomechanics of coil spring shaped polymer nanowires	Shota Ushiba, Kyoko Masui, Natsuo Taguchi, Tomoki Hamano, Satoshi Kawata, and Satoru Shoji	Scientific Reports, 5, 17152 (2015)
Highly stabilized optical frequency comb interferometer with a long fiber-based reference path towards arbitrary distance measurement	Yoshiaki Nakajima and Kaoru Minoshima	Optics Express, Vol. 23, Issue 20, pp. 25979-25987 (2015)
Ultra-broadband dual-comb spectroscopy across 1.0-1.9 μm	Sho Okubo, Kana Iwakuni, Hajime Inaba, Kazumoto Hosaka, Atsushi Onae, Hiroyuki Sasada, and Feng-Lei Hong	Applied Physics Express, Vol. 8, page 082402 (2015)
Compact iodine-stabilized laser operating at 531 nm with stability at the 10^{-12} level and using a coin-sized laser module	Takumi Kobayashi, Daisuke Akamatsu, Kazumoto Hosaka, Hajime Inaba, Sho Okubo, Takehiko Tanabe, Masami Yasuda, Atsushi Onae, and Feng-Lei Hong	Optics Express, Vol. 23, Issue 16, pp. 20749-20759 (2015)
Adaptive sampling dual terahertz comb spectroscopy using dual free-running femtosecond lasers	Takeshi Yasui, Ryuji Ichikawa, Yi-Da Hsieh, Kenta Hayashi, Harsono Cahyadi, Francis Hindle, Yoshiyuki Sakaguchi, Tetsuo Iwata, Yasuhiro Mizutani, Hirotsugu Yamamoto, Kaoru Minoshima, and Hajime Inaba	Scientific Reports, 5, 10786 (2015)
Real-time absolute frequency measurement of continuous-wave terahertz radiation based on dual terahertz combs of photocarriers with different frequency spacings	Takeshi Yasui, Kenta Hayashi, Ryuji Ichikawa, Harsono Cahyadi, Yi-Da Hsieh, Yasuhiro Mizutani, Hirotsugu Yamamoto, Tetsuo Iwata, Hajime Inaba, and Kaoru Minoshima	Optics Express, Vol. 23, Issue 9, pp. 11367-11377 (2015)
Super-resolution discrete Fourier transform spectroscopy beyond time-window size limitation using precisely periodic pulsed radiation	Takeshi Yasui, Yuki Iyonaga, Yi-Da Hsieh, Yoshiyuki Sakaguchi, Francis Hindle, Shuko Yokoyama, Tsutomu Araki, and Mamoru Hashimoto	Optica, Vol. 2, Issue 5, pp. 460-467 (2015)
A1–A2 splitting of CH_3D	Masashi Abe, Hideyuki Sera, and Hiroyuki Sasada	Journal of Molecular Spectroscopy, Vol. 312, pp. 90-96 (2015)
Chirality-Selective Optical Scattering Force on Single-Walled Carbon Nanotubes	Susan E. Skelton Spesytsseva, Satoru Shoji, and Satoshi Kawata	Physical Review Applied 3, 044003 (2015)
Freely designable optical frequency conversion in Raman-resonant four-wave-mixing process	Jian Zheng and Masayuki Katsuragawa	Scientific Reports, 5, 8874 (2015)
Design of cavity-enhanced absorption cell for reducing transit-time broadening	Masashi Abe, Kana Iwakuni, Sho Okubo, and Hiroyuki Sasada	Optics Letters, Vol. 39, Issue 18, pp. 5277-5280 (2014)
Double-modulation reflection-type terahertz ellipsometer for measuring the thickness of a thin paint coating	Tetsuo Iwata, Hiroaki Uemura, Yasuhiro Mizutani, and Takeshi Yasui	Optics Express, Vol. 22, Issue 17, pp. 20595-20606 (2014)
Phase-slope and phase measurements of tunable CW-THz radiation with terahertz comb for wide-dynamic-range, high-resolution, distance measurement of optically rough object	Takeshi Yasui, Makoto Fujio, Shuko Yokoyama, and Tsutomu Araki	Optics Express, Vol. 22, Issue 14, pp. 17349-17359 (2014)
Spectrally interleaved, comb-mode-resolved spectroscopy using swept dual terahertz combs	Yi-Da Hsieh, Yuki Iyonaga, Yoshiyuki Sakaguchi, Shuko Yokoyama, Hajime Inaba, Kaoru Minoshima, Francis Hindle, Tsutomu Araki, and Takeshi Yasui	Scientific Reports, 4, 3816 (2014)

主要講演一覧 (国際会議のみ)

基調講演、特別講演、チュートリアル

年	月	タイトル	発表者	会議
2017	5	Overview of femto second laser based technology for distance measurements	Kaoru Minoshima	Lorentz Center International center for scientific workshops
2017	5	Optical Frequency Comb Applications beyond Frequency Metrology	Kaoru Minoshima	CLEO: 2017
2017	4	Ultra-precision control of optical waves by use of fiber-based frequency combs and its metrology application	Kaoru Minoshima	OPTICS & PHOTONICS International 2017 Congress (OPIC)
2016	10	Applications of precisely controlled optical waves by use of frequency combs	Kaoru Minoshima	OPJ 2016
2016	10	Ultra-precision control of optical waves by use of fiber-based frequency combs and its application	Kaoru Minoshima	APOS2016
2016	5	Optical length metrology with extreme precision using fully controlled fiber-based frequency combs	Kaoru Minoshima	ICO/DGaO 2016
2015	8	Optical Frequency Comb and its Applications to Metrology	Kaoru Minoshima	CLEO-PR 2015

招待講演

年	月	タイトル	発表者	会議
2017	8	Dual-Comb Optical Synthesizer for Arbitrary Coherent Measurement	Akifumi Asahara and Kaoru Minoshima	ICO-24
2017	8	Application of dual comb technique for scan-less confocal phase microscopy	Eiji Hase and Takeshi Yasui	ICO-24
2017	8	Tailored optics with a highly-discrete optical frequency comb	Masayuki Katsuragawa, Chiaki Ohae, Jian Zheng, Chuan Zhang, Trivikramarao Gavara, Masaru Suzuki, and Kaoru Minoshima	ICO-24
2017	8	Adaptive Sampling Dual THz Comb Spectroscopy	Takeshi Yasui	ICO-24
2017	8	Absolute frequency measurement using terahertz frequency comb	Takeo Minamikawa and Takeshi Yasui	URSI2017
2017	8	Dual THz comb spectroscopy	Takeshi Yasui	SPIE Optics + Photonics 2017
2017	6	Gapless dual THz comb spectroscopy	Takeshi Yasui	9th THz Days
2017	1	Designability of optical processes composed of discrete spectrum	M. Katsuragawa, J. Zheng, and C. Ohae	47-th Winter Colloquium on the Physics of Quantum Electronics (PQE-2017)
2017	1	High-precision and large range one-shot 3D imaging with chirped fiber-based optical frequency comb	Kaoru Minoshima	SPIE Photonics West, Biomedical Optics (BIOS 2016)
2016	11	Dual-comb Spectroscopy in the THz Region	Takeshi Yasui	Fourier Transform Spectroscopy (FTS)
2016	11	Mechanical properties of nanostructured polymer	Satoru Shoji	ISOT2016
2016	11	Chirality Selective Photo-bleaching of Single-wall Carbon Nanotubes by Femtosecond Laser	Satoru Shoji	ICFPAM 2016
2016	10	Illumination pattern analysis of fluorescent Ghost imaging	Yasuhiro Mizutani, Hiroki Taguchi, Kyuki Shibuya, Yasuhiro Takaya, and Takeshi Yasui	ISOM 2016
2016	10	Single-pixel imaging by Hadamard transform and ghost imaging and its application for hyperspectral imaging	Yasuhiro Mizutani, Kyuki Shibuya, Yasuhiro Takaya, and Takeshi Yasui	SPIE Photonics ASIA 2016
2016	9	Gapless Dual THz Comb Spectroscopy	Takeshi Yasui	IRMMW-THz2016
2016	8	Excitation of polymerization reaction and optical gradient force through local surface plasmon resonance of gold nanorods	Satoru Shoji	PIERS 2016
2016	8	Mechanical properties of polymer micro/nano structures fabricated by two-photon lithography	Satoru Shoji	PIERS 2016
2016	7	Generation and application of five phase-locked harmonics in the continuous wave regime	C. Ohae, N. S. Suhaimi, T. Gavara, K. Nakagawa, F.-L. Hong, K. Minoshima, and M. Katsuragawa	The 4th International Conference "Frontiers of Nonlinear Physics"
2016	6	Fully stabilized narrow linewidth 750-MHz Yb fiber laser frequency comb	Bo Xu, Hideaki Yasui, Yoshiaki Nakajima, Yuxuan Ma, Zhigang Zhang, and Kaoru Minoshima	CLEO: 2016
2016	5	Super-resolution discrete Fourier transform spectroscopy beyond time window size limitation using precisely periodic THz pulse train	Takeshi Yasui	EMN (Energy Materials Nanotechnology) Meeting on Terahertz
2016	5	Nanomechanics of methacrylate polymer investigated by two-photon nanolithography	Satoru Shoji	APLS 2016
2016	5	Erbium-based mode-locked fiber laser with a broad servo bandwidth for optical frequency comb with a narrow relative linewidth	Hajime Inaba	APLS 2016
2016	5	Precision Length Metrology with Phase Control of Fiber-based Optical Frequency Combs	Kaoru Minoshima	APLS 2016
2016	1	Precise frequency measurement using optical frequency comb	Hajime Inaba	ERATO International Workshop: Challenges in Precision Science
2016	1	Attractive natures in linear and nonlinear optical processes composed of a discrete spectrum	M. Katsuragawa, J. Zheng, C. Ohae, K. Itoh, K. Yoshii, and M. Suzuki	46-th Winter Colloquium on the Physics of Quantum Electronics (PQE-2016)
2015	12	Optical frequency comb and its application on Fundamental Physics	Hajime Inaba	8th International Workshop on "Fundamental Physics Using Atoms" (FPUA2015)
2015	8	Length metrology with ultra-high precision using fiber-based optical frequency combs	Kaoru Minoshima	CLEO-PR 2015
2015	8	Generation of broad phase-locked harmonics	C. Ohae, S. N. Suhaimi, K. Nakagawa, F. L. Hong, and M. Katsuragawa	24th International Laser Physics Workshop (LPHYS'15)
2015	7	Adaptive sampling dual THz comb spectroscopy using unstabilized dual fs lasers	Takeshi Yasui	3rd International Symposium on Microwave/Terahertz Science and Applications
2015	7	Ultraprecision optical metrology using fiber-based frequency combs	Kaoru Minoshima	ISUPT/EXAT 2015
2015	6	Comb-referenced sub-Doppler resolution infrared spectrometer	Hiroyuki Sasada	70th International Symposium on Molecular Spectroscopy
2015	6	Ultra-precision optical metrology using highly controlled fiber-based frequency combs	Kaoru Minoshima	SPIE Optical Metrology 2015
2015	3	Development of Fiber-based Frequency Combs and Their Application in Precision Metrology	Kaoru Minoshima	China-Korea-Japan Joint Workshop for Ultrafast Photonics Technology 2015
2015	1	Generation of a 1.8 fs pulse train by simply controlling transparent plate thickness placed on the optical path	K. Yoshii, Y. Nakamura, K. Hagihara, and M. Katsuragawa	45-th Winter Colloquium on the Physics of Quantum Electronics (PQE-2015)
2014	12	Aerial Display of Light, Heat, and Sound	Hirotsugu Yamamoto, Ryosuke Kujime, and Shiro Suyama	DHIP2014 (The Fourth Japan-Korea Workshop on Digital Holography and Information Photonics)
2014	8	Ultra-high-accuracy optical metrology using fiber-based frequency combs	Kaoru Minoshima	International Summer Course and Workshop on Ultrafast Lasers and Applications in Quantum Matters
2014	8	Fundamentals and applications of frequency combs for high-accuracy optical metrology	Kaoru Minoshima	International Summer Course and Workshop on Ultrafast Lasers and Applications in Quantum Matters