

**研究業績**  
**数物科学系**

# 研究論文

## 数学コース

Y. Ohno, T. Taniguchi and S. Wakatsuki

Relations among Dirichlet series whose coefficients are class numbers of binary cubic forms, *Amer. J. Math.*, **131** (2009), 1525–1541.

T. Ibukiyama and S. Wakatsuki

Siegel modular forms of small weight and the Witt operator, *Contemp. Math.*, **493** (2009), 189–209.

Y. Nakagawa

On Generalized Kähler–Ricci solitons, *Osaka Journal of Mathematics*, **48** (2011), 515–540.

A. Ushijima

Generic fundamental polygons for Fuchsian groups, *Pacific J. Math.*, **251** (2011), no.2, 453–468.

T. Hattori and A. Kasue

Functions of finite Dirichlet sums and compactifications of infinite graphs, *Advanced Studies in Pure Math.*, **57** (2010), Probabilistic Approach to Geometry, pp. 144–153.

A. Kasue

Convergence of metric graphs and energy forms, *Revista Matematica Iberoamericana*, **26** (2010) 367–448.

R. Diaz and A. Ushijima

On the properness of some algebraic equations appearing in Fuchsian groups, *Topology Proceedings*, **33** (2009), 81–106.

K. Ichihara and A. Ushijima

Strongly invertible knots, rational-fold branched coverings and hyperbolic spatial graphs, *Revista Matematica Complutense*, **21** (2008), 435–451.

J. Byun, A. Kodama and S. Shimizu

A group-theoretic characterization of the direct product of a ball and punctured planes, *Tohoku Math. J.*, **62** (2010), 485–507.

A. Kodama and S. Shimizu

Addendum to our characterization of the unit polydisc, *Kodai Math. J.*, **33** (2010), 182–191.

H. Ishi and C. Kai

The representative domain of a homogeneous bounded domain, *Kyushu Journal of Mathematics*, **64** (2010), 35–47.

M.T. Tun and T. Miyakawa

On existence and space-time behavior of dissipative 2D quasi-geostrophic flows, *Funkcial. Ekvac.*, **53** (2010), no. 2, 169–212.

J. Kase and S. Nakao

Topological transitivity and sensitive dependence on initial conditions in discrete dynamical systems, *Sci. Rep. Kanazawa Univ.*, **54** (2010), 31–48.

A.A. Win and S. Nakao

Young-type integrals with respect to measurable processes, *Sci. Rep. Kanazawa Univ.*, **54** (2010),

1–29.

K. Kobayashi

On the global uniqueness of Stokes' wave of extreme form, *IMA J. Appl. Math.*, **75** (2010), no. 5, 647–675.

A. Kodama and S. Shimizu

An intrinsic characterization of the direct product of balls, *J. Math. Kyoto Univ.*, **49** (2009), 619–630.

H. Ito

Birkhoff normalization and superintegrability of Hamiltonian systems, *Ergod. Th. & Dynam. Sys.*, **29** (2009), 1853–1880.

C. He and T. Miyakawa

On weighted-norm estimates for nonstationary incompressible Navier–Stokes flows in a 3D exterior domain, *J. Differential Equations*, **246** (2009), no. 6, 2355–2386.

K. Kobayashi

A constructive a priori error estimation for finite element discretizations in a non-convex domain using singular functions, *Japan J. Indust. Appl. Math.*, **26** (2009), no. 2–3, 493–516.

K. Kobayashi

On the critical case of Okamoto's continuous non-differentiable functions, *Proc. Japan Acad. Ser. A Math. Sci.*, **85** (2009), no. 8, 101–104.

A. Kodama and S. Shimizu

An intrinsic characterization of the direct product of the unit polydisc, *Michigan Math. J.*, **56** (2008), 173–181.

B. Kodama and S. Shimizu

Standardization of certain compact group actions and the automorphism group of the complex Euclidean space, *Complex Variables and Elliptic Equations*, **53** (2008), 215–220.

H. Ito

Birkhoff normal forms for superintegrable systems, *RIMS Kokyuroku Bessatsu* **10** (2008), 115–131.

C. Kai

A characterization of symmetric cones by an order-reversing property of the pseudoinverse maps, *Journal of the Mathematical Society of Japan*, **60** (2008), 1107–1134.

M.T. Tun and T. Miyakawa

A proof of the Helmholtz decomposition of vector fields over the half-space, *Adv. Math. Sci. Appl.*, **18** (2008), no. 1, 199–217.

## 物理学コース

Y. Zhu, K. Asamoto, Y. Nishimura, T. Kouen, S. Abe, K. Matsumoto and T. Numazawa

Magnetocaloric Effect of  $(\text{Er}_x\text{R}_{1-x})\text{Co}_2$  ( $\text{R} = \text{Ho}, \text{Dy}$ ) for Magnetic Refrigeration between 20 and 80 K, *Cryogenics*, **51** (2011), 494–498.

K. Matsumoto and T. Numazawa

Magnetic refrigerator for hydrogen liquefaction,

- Proc. 23rd International Cryogenic Engineering Conference and International Cryogenic Materials Conference 2010, p359.
- K. Matsumoto, T. Kondo, M. Ikeda and T. Numazawa Numerical Analysis of Active Magnetic Regenerators for Hydrogen Magnetic Refrigeration between 20 and 77 K, *Cryogenics* **51** (2011), 353–357.
- J. Li, T. Numazawa, H. Nakagome and K. Matsumoto Numerical Modeling on a Reciprocating Active Magnetic Regenerator Refrigeration in Room Temperature, *Cryogenics* **51** (2011), 347–352.
- K. Matsumoto, M. Sobue, K. Asamoto, Y. Nishimura, S. Abe and T. Numazawa Capacitive Level Meter for Liquid Hydrogen, *Cryogenics* **51** (2011), 114–115.
- Y. Hirayama, H. Okada, T. Nakagawa, T.A. Yamamoto, T. Kusunose, T. Numazawa, K. Mastumoto, T. Irie, and E. Nakamura Experimental Study of Active Magnetic Regenerator (AMR) Composed of Spherical GdN, *CRYOCOOLERS* **16** (2010), 531–535.
- K. Matsumoto, A. Matsuzaki, K. Kamiya and T. Numazawa Magnetocaloric Effect, Specific Heat and Entropy of Iron-substituted Gadolinium Gallium GarnetsGd<sub>3</sub>(Ga<sub>1-x</sub>Fe<sub>x</sub>)<sub>5</sub>O<sub>12</sub>, *Japanese Journal of Applied Physics*, vol. **48**, no. 11 (2009), 113002.
- J. Yoshida, S. Abe, A. Tada, H. Tsujii, K. Matsumoto, H. Suzuki and H. S. Suzuki Magnetic Susceptibility of PrMg<sub>3</sub> at Ultra Low Temperatures, *Journal of Physics: Conference Series*, vol. **150** (2009), 042241.
- D. A. Tayurskii, A. O. Badrutdinov and K. Matsumoto About Anomalous Ultrasound Attenuation in Aerogels Filled in by Liquid <sup>4</sup>He below T<sub>c</sub>, *Journal of Physics: Conference Series*, vol. **150** (2009), 032109.
- N. Kuwata, K. Ohno, S. Abe, K. Matsumoto and H. Suzuki Magnetic Properties of Enriched <sup>195</sup>Pt Metals, *Journal of Physics: Conference Series*, vol. **150** (2009), 042107.
- H. Tsujii, S. Mihara, S. Abe, H. Suzuki and K. Matsumoto Acoustic Properties of Superfluid <sup>3</sup>He in 97% Aerogel, *Journal of Physics: Conference Series*, vol. **150** (2009), 032114.
- K. Matsumoto, H. Tsuboya, K. Ohmori, S. Abe, H. Suzuki and D. A. Tayurskii Frequency Dependence of Fast Mode Ultrasound Attenuation of Liquid <sup>4</sup>He in Aerogel, *Journal of Physics: Conference Series*, vol. **150** (2009), 032054.
- K. Matsumoto, T. Kondo, S. Yoshioka, K Kamiya and T. Numazawa Magnetic Refrigerator for Hydrogen Liquefaction, *Journal of Physics: Conference Series*, vol. **150** (2009), 012028.
- K. Matsumoto, H. Tsuboya, K. Yoshino, S. Abe, H. Tsujii and H. Suzuki Ultrasound Study of the Solid-Liquid Transition and Solid-Liquid Interface of <sup>4</sup>He in Aerogels, *Journal of the Physical Society of Japan*, Vol. **78**, No. 3 (2009), 034601.
- J. Yoshida, S. Abe, D. Takahashi, Y. Segawa, Y. Komai, H. Tsujii, K. Matsumoto, H. Suzuki and Y. Onuki Novel Quantum Criticality in CeRu<sub>2</sub>Si<sub>2</sub> near Absolute Zero Observed by Thermal Expansion and Magnetostriction, *Phys. Rev. Lett.*, Vol. **101** (2008), 256402.
- D. I. Abubakirov, K. Matsumoto, H. Suzuki and M. S. Tagirov Anisotropic Magnetization of the Van Vleck Paramagnet LiTmF<sub>4</sub> at Low Temperatures and High Magnetic Fields, *Journal of Physics: Condensed Matter*, Vol. **20** (2008), 395223.
- T. Numazawa, Kamiya, S. Yoshioka, H. Nakagome and K. Matsumoto Development of a Magnetic Refrigerator for Hydrogen Liquefaction, *Advances in Cryogenic Engineering*, vol. **53**: AIP Conference Proceedings, vol. **985** (2008), P.1183–1189.
- H. Fujishita, Y. Hayashi, M. Saito, H. Unno, H. Kaneko, H. Okamoto, M. Ohashi, Y. Kobayashi and M. Sato X-ray Diffraction Study of Spontaneous Strain in Fe-Pnictide Superconductor, NdFeAsO<sub>0.89</sub>F<sub>0.11</sub>, *European Physical Journal B* (2011.12 accepted).
- H. Kaneko, Y. Yun, N. Shumsun, A. Savinkov, H. Suzuki, Y.K. Li, Q. Tao, G.H. Cao and Z.A. Xu Quantum Criticality and Superconductivity in SmFe<sub>1-x</sub>CoxAsO, *Journal of Physics: Conference Series* (2011.10 accepted).
- H. Suzuki, H. Kaneko, Y. Yun, N. Shumsun, A. Savinkov, H. Xing, Z.A. Xu, S. Zhang and Y. Isikawa Low temperature x-ray diffraction study on phase transitions, *Journal of Physics: Conference Series* (2011.12 accepted).
- H. Fujishita, M. Hayashi, T. Kanai, T. Yamada, N. Igawa and K. Kihara Study of quantum effects on atomic displacements in quartz, *Journal of Physics and Chemistry of Solids*, Vol.71, No.9, pp. 1285–1289 (2010.9).
- H. Fujishita, T. Yamada, S. Nakada, H. Okamoto, S. Shitara, M. Kato and Y. Koike X-ray Diffraction Study of Spontaneous Strain in Superconducting Ba<sub>0.6</sub>K<sub>0.4</sub>BiO<sub>3</sub>, *Solid State Communications*, Vol.150, No.15&16, pp. 711–714, (2010.3).
- H. Fujishita, T. Yamada, S. Nakada, H. Okamoto, S. Shitara, M. Kato and Y. Koike Spontaneous Strain in Ba<sub>0.6</sub>K<sub>0.4</sub>BiO<sub>3</sub>, *Physica C*, Vol.470, pp. S770–S771, (2010.1).
- Y. Luo, Q. Tao, Y. Li, X. Lin, L. Li, G. Cao, Z. Xu, Y.

- Xue, H. Kaneko, A.V. Savinkov, H. Suzuki, C. Fang and J. Hu  
 Evidence of magnetically driven structural phase transition in RFeAsO (R = La, Sm, Gd, and Tb): A low-temperature x-ray diffraction study, Physical Review B, Vol.80, No.22, pp. 224511-1-5, (2009.12).
- K. Mizuno, T. Kanai, K. Hirano and H. Okamoto  
 Distribution of Hydride in Titanium Determination by X-Ray Diffraction-Enhanced Imaging Method with Asymmetric Reflection Analyzer, Transactions of the Materials Research Society of Japan, Vol.34, No.2, pp. 229-232, (2009.6).
- Y. Xue, H. Kaneko, Q. Tao, Z. Xu, N. Takeda, Y. Nemoto, T. Goto and H. Suzuki  
 Low temperature x-ray diffraction study on superconductivity, Journal of Physics: Conference Series, Vol.150, pp. 052284-1-4, (2009.3).
- H. Fujishita, S. Murakami, N. Nakamura, Y. Kanou and H. Okamoto  
 Spontaneous strain in high-temperature superconductor  $\text{La}_{1.85}\text{Sr}_{0.15}\text{CuO}_4$ , Solid State Communications, Vol.145, No.5, pp.246-249, (2008.12).
- M. Hayashi, H. Fujishita, T. Kanai, T. Yamada, N. Igawa and K. Kihara  
 Neutron diffraction study of quantum effects on structural phase transition in quartz, Acta crystallographica. Section A, Vol.64, pp. C430-C430, (2008.8).
- H. Fujishita, T. Yamada, H. Okamoto, S. Shitara, M. Kato and Y. Koike  
 Spontaneous strain in superconductors, Acta crystallographica. Section A, Vol.64, pp. C429-C430, (2008.8).
- H. Fujishita, A. Ogawaguchi and S. Katano  
 Analysis of Structures and Order Parameters in Antiferroelectric PbHfO<sub>3</sub> Using Neutron Diffraction, Journal of the Physical Society of Japan, Vol.77, No.6, pp. 0646011-1-7, (2008.6).
- Y. Xue, S. Naher, F. Hata, H. Kaneko, H. Suzuki and Y. Kino  
 Low temperature x-ray diffraction study of  $\text{ZnCr}_2\text{O}_4$  and  $\text{Ni}_{0.5}\text{Zn}_{0.5}\text{Cr}_2\text{O}_4$ , Journal of Low Temperature Physics, Vol.151, pp.1193-1204, (2008.3).
- T. Arai, S. Gritschneider, L. Tröger and M. Reichling  
 Atomic resolution force microscopy imaging on a strongly ionic surface with differently functionalized tips, J. Vac. Sci. Technol. B, 28 (2010), 1279-1283.
- T. Nishimura, A. Itabashi, A. Sasahara, H. Murata, T. Arai and M. Tomitori  
 Adsorption State of 4,4"-Diamino-p-terphenyl through an Amino Group Bound to Si (111)-7x7 Surface Examined by X-ray Photoelectron Spectroscopy and Scanning Tunneling Microscopy, J. Phys. Chem. C, 114 (2010), 11109-11114.
- Z.A. Ansari, T. Arai and M. Tomitori  
 Low-flux elucidation of initial growth of Ge clusters deposited on Si (111)-7x7 observed by scanning tunneling microscopy", Phys. Rev. B, 79 (2009), 033302-1-033302-4.
- M. Kato, Y. Soga, R. Tsuchiya, Y. Kato, R. Ando, K. Kamada, M. Yoshida and S. Ohsawa  
 Interdigital back-ward oscillator for 100 GHz and 1W class, Proceedings of Plasma 2011, 23P174.
- T. Mimura, Y. Soga, Y. Kato, Y. Paku, K. Kamada, Y. Kawai, T. Takada and Y. Kiwamoto  
 Parallel energy distribution of an electron vortex during ExB drift rotation, Proceedings of Plasma 2011, 24P136.
- Y. Soga, M. Kato, T. Mimura, K. Kamada and M. Yoshida  
 Particle Simulation Study of Backward Wave Oscillator using CST Studio Suite, Proceedings of Frontiers of particle beam and high energy density plasma science using pulse power technology, 2011, pp.50-54.
- Y. Soga, M. Kato, T. Mimura, M. Yoshida and K. Kamada  
 Particle Simulation Study of 100 GHz Interdigital BWO, Proceedings of The 3rd International Workshop on Far Infrared Technologies 2010, P-4.
- F. Kondo, K. Nose, K. Misawa, S. Yanagi, Y. Soga, K. Kamada and N. S. Ginzburg  
 Effect of Bragg Resonator for Free Electron Maser, Proceedings of The 3rd International Workshop on Far Infrared Technologies 2010, P-3.
- N. S. Ginzburg, A.M. Malkin, N.Yu. Peskov, A.S. Sergeev, V.Yu. Zaslavsky, K. Kamada and Y. Soga  
 Tunable terahertz band planar Bragg reflectors, Appl. Phys Lett. 95, 043504 (2009).
- N. S. Ginzburg, A.M. Malkin, N.Yu. Peskov, A.S. Sergeev, V.Yu.Zaslavsky, K. Kamada and R. Ando  
 Free electron laser with terahertz band Bragg reflectors, Phys Rev. ST Accel. Beams 12, 060702 -1-7 (2009).
- K. Kamada, M. Kawamura, K. Aizawa, S. Odawara, R. Ando, N.S.Ginzburg, A.M. Malkin, N.Yu. Peskov, A.S. Sergeev and V.Yu. Zaslavsky  
 Theory and design of the free electron MASER with advanced Bragg resonator, Proc. of Global conf. On Microwave Energy Applications (GCMEA 2008 MAJIC 1st), pp577-580, 2008.
- K. Kamada, M. Kawamura, K. Aizawa, S. Odawara, R. Ando, N.S. Ginzburg, I.V. Zotova, A.M. Malkin, N.Yu. Peskov, A.S. Sergeev and V.Yu. Zaslavsky  
 Development of high-power microwave sources in Kanazawa University (Topical Lecture), Proc. of 7th International Workshop "Strong Microwaves: Sources and Applications" (Nizhny Novgorod, Russia-July. 2008) pp215-223.
- M. Sato, S. Imai, N. Fujita, S. Nishimura, Y. Takao, Y.

- Sada, B. E. Hubbard, B. Ilic and A. J. Sievers,  
Experimental observation of the bifurcation dynamics of an intrinsic localized mode in a driven 1-D nonlinear lattice, *Phys. Rev. Lett.* **107** (2011), 234101
- M. Sato, N. Fujita, S. Imai, S. Nishimura, Y. Hori and A. J. Sievers  
Manipulation of autoresonant intrinsic localized modes in MEMS arrays, International Conference on Applications in Nonlinear Dynamics, ICAND 2010; Lake Louise, ed. by V. In, P. Longhini and A. Palacios, AIP Conference Proceedings v. 1339, pp 118–127 (2011).
- M. Sato, N. Fujita and A. J. Sievers  
Logic operations demonstrated with localized vibrations in a micromechanical cantilever array, *DCDS-S* (special volume of LENCOS conference, July 14–17, Seville), Volume: 4, Number: 5, 1287–1298 (2011).
- M. Sato, Y. Nagata, N. Fujita and A. J. Sievers  
Possibility of logic operations in a micro-mechanical cantilever array, *Proceedings of NOLTA2009*, pp.284–287 (2009).
- M. Sato and A. J. Sievers  
Experimental and numerical exploration of intrinsic localized modes in an atomic lattice, *J. Biol. Phys.*, **35**, pp.57–72 (2009).
- M. Sato and A. J. Sievers  
Visualization intrinsic localized modes with a nonlinear micromechanical array, *Low Temperature Physics (Fizika Nizkikh Temperatur)* Vol. 34, N7, pp.687–694 (2008).
- B. R. Lewis, K. G. H. Baldwin, A. N. Heays, S. T. Gibson, J. P. Sprengers, W. Ubachs and M. Fujitake  
Structure and predissociation of the  $3p\sigma_u^-D^3\Sigma_u^+$  Rydberg state of  $N_2$ : First extreme-ultraviolet and new near-infrared observations, with coupled-channels analysis, *The Journal of Chemical Physics*, Vol.129, 204303 (12pages) (2008).
- K. Igårashi, T. Uchihashi, A. Koivula, M. Wada, S. Kimura, T. Okamoto, M. Penttilä, T. Ando and M. Samejima  
Traffic jams reduce hydrolytic efficiency of cellulase on cellulose surface, *Science*, Vol.333, No.6047, pp.1279–1282 (2011.9).
- A. Laisne, M. Ewald, T. Ando, E. Lesniewska and D. Pompon  
Self-assembly properties and dynamic of synthetic proteo-nucleic building blocks in solution and on surfaces, *Bioconjugate Chem.* Vol.22, No.9, pp.1824–1834 (2011.8).
- A. Miyagi, T. Ando and Y. L. Lyubchenko  
Dynamics of nucleosomes assessed with time-lapse high speed atomic force microscopy, *Biochemistry*, Vol.50, No.37, pp.7901–7908 (2011.8).
- T. Uchihashi, R. Iino, T. Ando and H. Noji, High-speed atomic force microscopy reveals rotary catalysis of rotorless F1-ATPase, *Science*, Vol.333, No.6043, pp.755–758 (2011.8).
- M. Shibata, T. Uchihashi, H. Yamashita, H. Kandori and T. Ando  
Structural changes in bacteriorhodopsin in response to alternate illumination observed by high-speed atomic force microscopy, *Angew. Chem. Int. Ed.*, Vol.50, No.19, pp.4410–4413 (2011.4).
- S. Inoue, T. Uchihashi, D. Yamamoto and T. Ando  
Direct Observation of Surfactant Aggregate Behavior on a Mica Surface using High-Speed Atomic Force Microscopy, *Chem. Commun.* Vol.47, No.17, pp.4974–4976 (2011.3).
- Y. L. Lyubchenko, L. S. Shlyakhtenko and T. Ando  
Imaging of nucleic acids with atomic force microscopy, *Methods*, Vol.54, No.2, pp.274–283 (2011.2).
- T. Ando  
Video imaging of biomolecular processes by high-speed AFM, *Proc. MEMS 2011 IEEE 24th Int. Conf.* pp.57–62, (2011.1).
- N. Kodera, D. Yamamoto, R. Ishikawa and T. Ando  
Video imaging of walking myosin V by high-speed atomic force microscopy, *Nature* **468**, No.7320, pp.72–76 (2010.11).
- P.-E. Milhiet, D. Yamamoto, O. Berthoumieu, P. Dosset, Ch. Le Grimellec, J.-M. Verdier, S. Marchal and T. Ando  
Deciphering the structure, growth and assembly of amyloid-like fibrils using high-speed atomic force microscopy, *PLoS One*, Vol.5, No.11, e13240 (8 pp), (2010.10).
- K. Shinohara, N. Kodera and T. Oohashi  
Single-Molecule Imaging of Photodegradation Reaction in a Chiral Helical  $\pi$ -Conjugated Polymer Chain, *J. Polym. Sci. Part A: Polym. Chem.* Vol.48, No. 18, pp.4103–4107 (2010.9).
- D. Yamamoto, T. Uchihashi, N. Kodera, H. Yamashita, S. Nishikori, T. Ogura, M. Shibata and T. Ando  
High-speed atomic force microscopy techniques for observing dynamic biomolecular processes, *Methods Enzymol.*, Vol.475, pp.541–564 (2010.7).
- D. Yamamoto, A. Taoka, T. Uchihashi, H. Sasaki, H. Watanabe, T. Ando and Y. Fukumori  
Visualization and structural analysis of the bacterial magnetic organelle magnetosome using atomic force microscopy, *Proc. Natl. Acad. Sci. USA*, Vol.107, No.20, pp.9382–9387 (2010.5).
- S. Sugimoto, K. Yamanaka, S. Nishikori, A. Miyagi, T. Ando and T. Ogura  
AAA+ chaperone ClpX regulates dynamics of prokaryotic cytoskeletal protein FtsZ, *J. Biol. Chem.*, Vol.285, No.9, pp.6648–6657 (2010.2).
- M.-C. Giocondi, D. Yamamoto, E. Lesniewska, P.-E. Milhiet, T. Ando and Ch. Le Grimellec  
Surface topography of membrane domains, *Bio-*

- chim. Biophys. Acta-Biomembranes Vol.1978, No.4, pp.703-718 (2010.9).
- M. Shibata, H. Yamashita, T. Uchihashi, H. Kandori and T. Ando  
High-speed atomic force microscopy shows dynamic molecular processes in photo-activated bacteriorhodopsin, Nature Nanotechnol., Vol.5, No.3, pp.208-212 (2010.2).
- D. Yamamoto, N. Nagura, S. Omote, M. Taniguchi and T. Ando  
Streptavidin 2D crystal substrates for visualizing biomolecular processes by atomic force microscopy, Biophys. J., Vol.97, No.8, pp.2358-2367 (2009.10).
- I. Casuso, N. Kodera, C. Le Grimellec, T. Ando and S. Scheuring  
High-resolution high-speed contact mode atomic force microscopy movies of purple membrane, Biophys. J., Vol.97, No.5, pp.1354-1361 (2009.9).
- K. Shinohara, N. Kodera and T. Ando, Single-molecule imaging of a micro-Brownian motion of a chiral helical  $\pi$ -conjugated polymer as a molecular spring driven by thermal fluctuations, Chem. Lett., Vol.38, No.7, pp.690-691 (2009.9).
- H. Yamashita, K. Voitchovsky, T. Uchihashi, S. Antoranz Contera, J. F. Ryan and T. Ando  
Dynamics of bacteriorhodopsin 2D crystal observed by high-speed atomic force microscopy, J. Struct. Biol., Vol.167, No.2, pp.153-158 (2009.8).
- T. Ando, T. Uchihashi and T. Fukuma  
High-speed atomic force microscopy for nano-visualization of dynamic biomolecular processes, Prog. Surf. Sci., Vol.83, No.7-9, pp.337-437 (2008.11).
- T. Ando, T. Uchihashi, N. Kodera, D. Yamamoto, M. Taniguchi, A. Miyagi and H. Yamashita  
High-speed AFM and nano-visualization of biomolecular processes, Pflügers Archiv -Eur. J. Physiol., Vol.456, No.7-9, pp.211-225 (2008.11).
- D. Yamamoto, T. Uchihashi, N. Kodera and T. Ando Anisotropic diffusion of point defects in two-dimensional crystal of streptavidin observed by high-speed atomic force microscopy, Nanotechnology, Vol.19, No.38, 384009 (9pp) (2008.9).
- A. Miyagi, Y. Tsunaka, T. Uchihashi, K. Mayanagi, S. Hirose, K. Morikawa and T. Ando  
Visualization of intrinsically disordered regions of proteins by high-speed atomic force microscopy, Chem. Phys. Chem. Vol.9, No.13, pp.1859-1866 (2008.8).
- T. Fukuma, Y. Okazaki, N. Kodera, T. Uchihashi and T. Ando  
High resonance frequency force microscope scanner using inertia balance support, Appl. Phys. Lett., Vol.92, No.24, 243119 (3pp) (2008.7).
- T. Ando  
Control techniques in high-speed atomic force microscopy, Proc. Amer. Control Conf., art. no. 4586984, pp.3194-3200 (2008.7).
- H. Iwase, H. Choi, M. Akabori, T. Suzuki, S. Yamada, D. Yamamoto and T. Ando  
Fabrication of 3D micro-cantilevers based on MBE-grown strained semiconductor layers, Physica E: Low-dimensional Systems and Nanostructures, Vol.40, No.6, pp.2210-2213 (2008.4).
- D. Yonetoku, T. Murakami, S. Gunji, T. Mihara, K. Toma, Kenji, T. Sakashita, Y. Morihara, T. Takahashi, N. Toukairin, H. Fujimoto, Y. Kodama, S. Kubo and IKAROS Demonstration Team  
Detection of Gamma-Ray Polarization in Prompt Emission of GRB 100826A, Astrophysical Journal, 743, L30 (2011).
- D. Yonetoku, T. Murakami, S. Gunji, T. Mihara, T. Sakashita, Y. Morihara, Y. Kikuchi, T. Takahashi, H. Fujimoto, N. Toukairin, Y. Kodama, S. Kubo and IKAROS Demonstration Team  
Gamma-Ray Burst Polarimeter - GAP - aboard the Small Solar Power Sail Demonstrator IKAROS, PASJ Vol.63, No.3, pp.625-638 (2011).
- D. Yonetoku, T. Murakami, T. Sakashita, Y. Morihara, Y. Kikuchi, T. Takahashi, S. Gunji, T. Mihara and S. Kubo  
Gamma-Ray Polarimetry of the Prompt Emission by IKAROS-GAP, Gamma Ray Bursts 2010 Conference: Annapolis, November 1-4, 2010, GAMMA RAY BURSTS 2010, AIP Conference Proceedings, Volume 1358, pp. 408-411 (2011).
- D. Yonetoku, T. Murakami, R. Tsutsui, T. Nakamura, Y. Morihara and K. Takahashi  
Possible Origins of Dispersion of the Peak Energy-Brightness Correlations of Gamma-Ray Bursts, Publications of the Astronomical Society of Japan, Vol.62, No.6, (2010)
- D. Yonetoku, T. Murakami, R. Tsutsui, T. Nakamura, K. Takahashi and Y. Morihara  
The Spectral Epeak-Luminosity and the Epeak-Eiso Relation: the Origin of Dispersion and Its Improvement, DECIPHERING THE ANCIENT UNIVERSE WITH GAMMA-RAY BURSTS: Kyoto, April 19-23, 2010, AIP Conference Proceedings, Volume 1279, pp. 24-27 (2010).
- T. Murakami, D. Yonetoku, T. Sakashita, Y. Morihara, S. Gunji, N. Toukairin and T. Mihara  
Gamma-Ray Burst Polarimeter aboard IKAROS, DECIPHERING THE ANCIENT UNIVERSE WITH GAMMA-RAY BURSTS: Kyoto, April 19-23, 2010, AIP Conference Proceedings Volume 1279, 227-230 (2010).
- D. Yonetoku, T. Murakami, H. Fujimoto, T. Sakashita, S. Gunji, N. Toukairin, Y. Tanaka, T. Mihara and S. Kubo  
Gamma-Ray Burst Polarimeter - GAP - aboard the Solar Powered Sail Mission, Proceedings of

- "The Coming of Age of X-ray Polarimetry": Rome, April 27–30, 2009, X-ray Polarimetry "A New Window in Astrophysics" (2010).
- R. Fujimoto, K. Sato, A. Wada, T. Yatsu, A. Hoshino, T. Murakami and K. Shinozaki
- Development of an Adiabatic Demagnetization Refrigerator for X-ray Microcalorimeter Operations, DECIPHERING THE ANCIENT UNIVERSE WITH GAMMA-RAY BURSTS: Kyoto, April 19–23, 2010, AIP Conference Proceedings 1279, 309–311 (2010).
- R. Fujimoto, K. Mitsuda, N. Yamasaki, Y. Takei, M. Tsujimoto, H. Sugita, Y. Sato, K. Shinozaki, T. Ohashi, Y. Ishisaki, Y. Ezoe, M. Murakami, S. Kitamoto, H. Murakami, T. Tamagawa, M. Kawaharada, H. Yamaguchi, K. Sato, K. Kanao, S. Yoshida, M. DiPirro, P. Shirron, G. Sneiderman, R.L. Kelley, F.S. Porter, C.A. Kilbourne, J. Crow, A. Mattern, A. Kashani, D. McCammon and J.W. den Herder
- Cooling system for the soft X-ray spectrometer onboard Astro-H, Cryogenics 50, 488–493 (2010).
- R. Fujimoto, K. Mitsuda, N. Yamasaki, Y. Takei, M. Tsujimoto, H. Sugita, Y. Sato, K. Shinozaki, A. Okamoto, T. Ohashi, Y. Ishisaki, Y. Ezoe, K. Ishikawa, M. Murakami, S. Kitamoto, H. Murakami, T. Tamagawa, M. Kawaharada, H. Yamaguchi, K. Sato, A. Hoshino, K. Kanao, S. Yoshida, M. Miyaoka, M. Dipirro, P. Shirron, G. Sneiderman, R.L. Kelley, F.S. Porter, C.A. Kilbourne, J. Crow, A. Mattern, A. Kashani and D. McCammon
- Cooling system for the soft x-ray spectrometer (SXS) onboard ASTRO-H, Space Telescopes and Instrumentation 2010: Ultraviolet to Gamma Ray. Edited by Arnaud, Monique; Murray, Stephen S.; Takahashi, Tadayuki, SPIE 7732, 77323H-77323H-7 (2010).
- R. Tsutsui, T. Nakamura, D. Yonetoku, T. Murakami, Y. Kodama and K. Takahashi
- Cosmological constraints from calibrated Yonetoku and Amati relation suggest fundamental plane of gamma-ray bursts, Journal of Cosmology and Astroparticle Physics, Issue 08, pp. 015 (2009).
- R. Tsutsui, T. Nakamura, D. Yonetoku, T. Murakami, S. Tanabe, Y. Kodama and K. Takahashi
- Constraints on  $w_0$  and  $w_a$  of dark energy from high-redshift gamma-ray bursts, Monthly Notices of the Royal Astronomical Society: Letters, Volume 394, Issue 1, pp. L31–L35 (2009).
- K. Sato, A. Wada, T. Yatsu, R. Fujimoto, T. Murakami and K. Shinozaki
- Development of Adiabatic Demagnetization Refrigerator for X - ray mirocalorimeter experiments, THE THIRTEENTH INTERNATIONAL WORKSHOP ON LOW TEMPERATURE DETECTORS—LTD13, Date: 20–24 July 2009, Stanford (California), AIP Conference Proceedings 1185, 669–672 (2009).
- Y. Ishisaki, H. Akamatsu, A. Hoshino, T. Numazawa, K. Kamiya, R. Fujimoto, Y. Kojima, K. Shinozaki, K. Mitsuda, and P. Shirron
- Performance test of Ti/Au bilayer TES microcalorimeter in combination with continuous ADR, THE THIRTEENTH INTERNATIONAL WORKSHOP ON LOW TEMPERATURE DETECTORS—LTD13, Date: 20–24 July 2009, Stanford (California), AIP Conference Proceedings 1185, 442–445 (2009).
- F.S. Porter, R. Fujimoto, R.L. Kelley, C.A. Kilbourne, K. Mitsuda, T. Ohashi, and the Astro-H/SXS collaboration
- The Astro-H Soft X-ray Spectrometer (SXS), THE THIRTEENTH INTERNATIONAL WORKSHOP ON LOW TEMPERATURE DETECTORS—LTD13, Date: 20–24 July 2009, tanford (California), AIP Conference Proceedings 1185, 91–94 (2009).
- Y. Kodama, D. Yonetoku, T. Murakami, S. Tanabe, R. Tsutsui, and T. Nakamura
- Gamma-ray bursts in  $1.8 < z < 5.6$  suggest that the time variation of the dark energy is small, Monthly Notices of the Royal Astronomical Society: Letters, Volume 391, Issue 1, pp. L1–L4. (2008).
- R. Tsutsui, T. Nakamura, D. Yonetoku, T. Murakami, S. Tanabe and Y. Kodama
- Redshift Dependent Lag–Luminosity Relation in 565 BASTE Gamma Ray Bursts, Monthly Notices of the Royal Astronomical Society: Letters, Volume 386, Issue 1, pp. L33–L37. (2008).
- D. Yonetoku, S. Tanabe, T. Murakami, N. Emura, Y. Aoyama, T. Kidamura, H. Kodaira, Y. Kodama, R. Kozaka, T. Nashimoto, S. Okuno, S. Yokota, S. Yoshinari, K. Abe, K. Onda, M.S. Tashiro, Y. Urata, Y.E. Nakagawa, S. Sugita, K. Yamaoka, A. Yoshida, T. Ishimura, N. Kawai, T. Shimokawabe, K. Kinugasa, T. Kohmura, K. Kubota, K. Sugiyasu, Y. Ueda, K. Masui, K. Nakazawa, T. Takahashi, S. Maeno, E. Sonoda, M. Yamauchi, M. Kuwahara, T. Tamagawa, D. Matsuura, M. Suzuki, S. Barthelmy, N. Gehrels and J. Nousek,
- Spectral evolution of GRB 060904A observed with Swift and Suzaku – Possibility of Inefficient Electron Acceleration, Publications of the Astronomical Society of Japan, Vol.60, No.SP1, pp.S352–S360 (2008).
- D. Yonetoku, S. Tanabe, T. Murakami, N. Emura, Y. Aoyama, T. Kidamura, H. Kodaira, Y. Kodama, R. Kozaka, T. Nashimoto, S. Okuno, S. Yokota, S. Yoshinari, K. Abe, K. Onda, M. Tashiro, Y. Urata, Y.E. Nakagawa, S. Sugita, K. Yamaoka, A. Yoshida, T. Ishimura, N. Kawai, T. Shimokawabe, K. Kinugasa, T. Kohmura, K. Kubota, K. Sugiyasu, Y. Ueda, K. Masui, K. Nakazawa, T. Takahashi, S. Maeno, E.

- Sonoda, M. Yamauchi, M. Kuwahara, T. Tamagawa, D. Matsura, M. Suzuki, N. Gehrels and J. Nousek  
 Suzaku and Swift observations for X-ray afterglows; Investigation into the electron acceleration in the internal/external shocks, GAMMARAY BURSTS 2007: Proceedings of the Santa Fe Conference. Santa Fe, November 5–9, 2007, AIP Conference Proceedings, Volume 1000, pp. 603–606 (2008).
- M. Kato, Y. Soga, R. Tsuchiya, Y. Kato, R. Ando, K. Kamada, M. Yoshida and S. Ohsawa  
 Interdigital back-ward oscillator for 100 GHz and 1W class, Proceedings of Plasma 2011, 23P174.
- T. Mimura, Y. Soga, Y. Kato, Y. Paku, K. Kamada, Y. Kawai, T. Takada and Y. Kiwamoto  
 Parallel energy distribution of an electron vortex during ExB drift rotation, Proceedings of Plasma 2011, 24P136.
- M. Sato, N. Fujita, Y. Takao, S. Nishimura, W. Shi, Y. Sada, Y. Soga and A.J.Sievers  
 Precise velocity measurements for driven intrinsic localized modes in the acoustic spectrum of small cantilever arrays, NOLTA, IEICE (accepted).
- Y. Soga, M. Kato, T. Mimura, M. Yoshida and K. Kamada  
 Particle Simulation Study of 100 GHz Interdigital BWO, Proceedings of The 3rd International Workshop on Far Infrared Technologies 2010, P-4.
- F. Kondo, K. Nose, K. Misawa, S. Yanagi, Y. Soga, K. Kamada and N. S. Ginzburg  
 Effect of Bragg Resonator for Free Electron Maser, Proceedings of The 3rd International Workshop on Far Infrared Technologies 2010, P-3.
- Y. Kiwamoto, Y. Kawai, Y. Soga and J. Aoki  
 Turbulence and Structure Formation Associated with Vortex Dynamics in Non-Neutral Plasma Flow, Plasma and Fusion Research, Vol.5, (2010), S2002.
- A. Yamawaki, M. Fukumoto, Y. Soga, Y. Ohtsuka, Y. Ueda and K.Ohya  
 Temperature dependence of carbon deposition on Tungsten, Fusion Science and Technology, Vol.56 (2009), 1038–1042.
- N.S. Ginzburg, A.M. Malkin, N.Yu.Peskov, A.S. Sergeev, V.Yu. Zaslavsky, K. Kamada and Y.Soga  
 Tunable terahertz band planar Bragg reflectors, Appl. Phys. Lett. 95, (2009), 043504.
- Y. Ueda, M. Fukumoto, A. Yamawaki, Y. Soga et al.  
 Effect of tungsten surface conditions on carbon deposition, Journal of Nuclear Materials, Vol.390–391 (2009), 44–48.
- Ken-Ichi Aoki, D. Sato and K. Miyashita  
 Analysis of chiral phase transition by evaluating the Wilsonian effective potential in thermal gauge theories, Proceedings of “Thermal Quantum Field Theory and Their Applications 2011”.
- Ken-Ichi Aoki and T. Kobayashi  
 Phase Transition due to Quantum Dissipation, Proceedings of “Thermal Quantum Field Theory and Their Applications 2011”.
- Mayumi Aoki, J. Kubo, T. Okawa and H. Takano  
 Impact of Inert Higgsino Dark Matter, to appear in Phys. Lett. B.
- Mayumi Aoki, S. Kanemura, T. Shindou and K..Yagyu  
 Decoupling property of the supersymmetric Higgs sector with four doublets, JHEP 1111 (2011), 038.
- Mayumi Aoki, S. Kanemura and K. Yagyu  
 Doubly-charged scalar bosons from the doublet, Phys. Lett. B 702 (2011), 355–358.
- Mayumi Aoki, R. Guedes, S. Kanemura, S. Moretti, R. Santos and K. Yagyu  
 Light Charged Higgs bosons at the LHC in 2HDMs, Phys. Rev. D 84 (2011), 055028.
- Mayumi Aoki, S. Kanemura and K. Yagyu  
 Triviality and vacuum stability bounds in the three-loop neutrino mass model, Phys. Rev. D 83 (2011), 075016.
- Mayumi Aoki, S. Kanemura and O. Seto  
 Higgs decay in Higgs portal dark matter models, J. Phys. Conf. Ser. 315 (2011), 012024.
- K.S. Babu, K. Kawashima and J. Kubo  
 Variations on the Supersymmetric Q6 Model of Flavor, Phys. Rev. D 83 (2011), 095008.
- Y. Kaburaki, K. Konya, J. Kubo and A. Lenz  
 Triangle Relation of Dark Matter, EDM and CP Violation in B0 Mixing in a Supersymmetric Q6 Model, Phys. Rev. D 84 (2011), 016007.
- D. Suematsu  
 Leptogenesis in a TeV scale model for neutrino masses, arXiv: 1103.0857 [hep-ph].
- H. Higashi, T. Ishima and D. Suematsu  
 Affleck–Dine leptogenesis in the radiative neutrino mass model, Int. J. Mod. Phys. A 26 (2011), 995–1009.
- H. Fukuoka, D. Suematsu and T. Toma  
 Signals of dark matter in a supersymmetric two dark matter model, JCAP 1107 (2011), 001.
- D. Suematsu and T. Toma  
 Dark matter in the supersymmetric radiative seesaw model with an anomalous U (1) symmetry, Nucl. Phys. B 847 (2011), 567–589.
- S. Takeda, Y. Kuramashi and A. Ukawa  
 On the phase of quark determinant in lattice QCD with finite chemical potential, arXiv: 1111.6363 [hep-lat].
- P. Perez-Rubio, S. Sint and S. Takeda  
 An O (a) modified lattice set-up of the Schrödinger functional in SU (3) gauge theory, JHEP 1107 (2011), 116.
- M. Hayakawa, K.-I. Ishikawa, Y. Osaki, S. Takeda, S. Uno.and N. Yamada  
 Running coupling constant of ten-flavor QCD with

- the Schrödinger functional method, Phys. Rev. D **83** (2011), 074509.
- Ken-Ichi Aoki, K. Miyashita and D. Sato  
A new method of evaluating the dynamical chiral symmetry breaking scale and the chiral restoration temperature by using the non-perturbative renormalization group analyses with general 4-fermi effective interaction space, Proceedings of “International Workshop on Strong Coupling Gauge Theories in LHC Era: SCGT 09”.
- Ken-Ichi Aoki, Y. Fujii and T. Kobayashi  
Analysis of the Quantum Decoherence due to Dissipation, Proceedings of “10th Asian Conference on Quantum Information Science”.
- Ken-Ichi Aoki, K. Miyashita and D. Sato  
Analysis of the chiral phase transition in finite temperature QCD by using non-perturbative renormalization group, Proceedings of “Thermal Field Theory 2010”.
- Mayumi Aoki, S. Kanemura and O. Seto  
ILC phenomenology in a TeV scale radiative seesaw model for neutrino mass, dark matter and baryon asymmetry, arXiv: 1008.2407 [hep-ph].
- Mayumi Aoki and S. Kanemura  
Probing the Majorana nature of TeV-scale radiative seesaw models at the ILC, arXiv: 1007.0706 [hep-ph].
- Mayumi Aoki, S. Kanemura, T. Shindou and K. Yagyu  
An R-parity conserving radiative neutrino mass model without right-handed neutrinos, JHEP **1007** (2010), 084.
- Mayumi Aoki and S. Kanemura  
Probing the Majorana nature of TeV-scale radiative seesaw models at collider experiments, Phys. Lett. B **689** (2010), 28–35.
- Mayumi Aoki, S. Kanemura and O. Seto  
Multi-Higgs portal dark matter under the CDMS II results, Phys. Lett. B **685** (2010), 313–317.
- J. Kubo and A. Lenz  
Large loop effects of extra SUSY Higgs doublets to CP violation in  $B^0$  mixing, Phys. Rev. D **82** (2010), 075001.
- D. Suematsu, T. Toma and T. Yoshida  
Enhancement of the annihilation of dark matter in a radiative seesaw model, Phys. Rev. D **82** (2010), 013012.
- D. Suematsu  
Neutrino mass models and dark matter, Prog. Part. Nucl. Phys. **64** (2010), 454–456.
- D. Suematsu, T. Toma and T. Yoshida  
Neutrino masses and  $\mu$  terms in a supersymmetric extra U(1) model, Int. J. Mod. Phys. A **25** (2010), 4033–4053.
- S. Takeda  
A formulation of domain-wall fermions in the Schrödinger functional, arXiv: 1010.3504 [hep-lat].
- M. Hayakawa, K.-I. Ishikawa, Y. Osaki, S. Takeda, S. Uno and N. Yamada  
Improving many flavor QCD simulations using multiple GPUs, PoS LATTICE2010 (2010) 325, arXiv: 1009.5169 [hep-lat].
- N. Yamada, M. Hayakawa, K.-I. Ishikawa, Y. Osaki, S. Takeda and S. Uno  
Study of the running coupling constant in 10-flavor QCD with the Schrödinger functional method, arXiv: 1003.3288 [hep-lat].
- Ken-Ichi Aoki, T. Kobayashi and H. Tomita  
Domain Wall Renormalization Group Analysis of 2-dimensional Ising Model, Int. J. Mod. Phys. B **23**–**18** (2009), 3739–3751.
- Ken-Ichi Aoki and K. Miyashita  
Evaluation of the spontaneous chiral symmetry breaking scale in general gauge theories with non-perturbative renormalization group, Prog. Theor. Phys. **121** (2009), 875–884.
- Mayumi Aoki and S. Kanemura and O. Seto  
A TeV scale model for neutrino mass, dark matter and baryon asymmetry, arXiv: 0905.3958 [hep-ph].
- Mayumi Aoki, S. Kanemura and O. Seto  
A Model of TeV Scale Physics for Neutrino Mass, Dark Matter and Baryon Asymmetry and its Phenomenology, Phys. Rev. D **80** (2009), 033007.
- A.G. Akeroyd, Mayumi Aoki and H. Sugiyama  
Lepton Flavour Violating Decays  $\tau \rightarrow \text{anti-}l l$  and  $\mu \rightarrow e \gamma$  in the Higgs Triplet Model, Phys. Rev. D **79** (2009), 113010.
- Mayumi Aoki, S. Kanemura, K. Tsumura and K. Yagyu  
Models of Yukawa interaction in the two Higgs doublet model, and their collider phenomenology, Phys. Rev. D **80** (2009), 015017.
- Mayumi Aoki, S. Kanemura and O. Seto  
An Extended Higgs sector for neutrino mass, dark matter and baryon asymmetry, Proceedings of Conference, arXiv: 0902.3155 [hep-ph].
- Mayumi Aoki, S. Kanemura and O. Seto  
Neutrino mass, Dark Matter and Baryon Asymmetry via TeV-Scale Physics without Fine-Tuning, Phys. Rev. Lett., **102** (2009), 051805.
- K. Kawashima, J. Kubo and A. Lenz  
Testing the new CP phase in a Supersymmetric Model with Q(6) Family Symmetry by B(s) Mixing, Phys. Lett. B **681** (2009), 60–67.
- H. Fukuoka, J. Kubo and D. Suematsu  
Anomaly Induced Dark Matter Decay and PAMELA/ATIC Experiments, Phys. Lett. B **678** (2009), 401–406.
- T. Araki and J. Kubo  
Testing Flavor Symmetries by B-Factory, Int. J. Mod. Phys. A **24** (2009), 5831–5844.
- D. Aristizabal Sierra, J. Kubo, D. Restrepo, D.

- Suematsu and O. Zapata  
Radiative seesaw: Warm dark matter, collider and lepton flavour violating signals, Phys. Rev. D **79** (2009), 013011.
- D. Suematsu, T. Toma and T. Yoshida  
Reconciliation of CDM abundance and mu -> e gamma in a radiative seesaw model, Phys. Rev. D **79** (2009), 093004.
- E. Ma and D. Suematsu  
Fermion Triplet Dark Matter and Radiative Neutrino Mass, Mod. Phys. Lett. A **24** (2009), 583–589.
- N. Yamada, M. Hayakawa, K.-I. Ishikawa, Y. Osaki, S. Takeda and S. Uno  
Study of the running coupling constant in 10-flavor QCD with the Schrödinger functional method, PoS LAT2009 (2009) 066, arXiv: 0910.4218 [hep-lat].
- S. Takeda  
A Formulation of domain wall fermions in the Schrödinger functional, PoS LAT2009 (2009) 204, arXiv: 0910.2485 [hep-lat].
- S. Takeda  
Automatic generation of Feynman rules in the Schrödinger functional, Nucl. Phys. B **811** (2009), 36–65.
- M.D. Morte and S. Takeda  
On cutoff effects in lattice QCD from short to long distances, Phys. Lett. B **672** (2009), 407–412.
- Ken-Ichi Aoki, T. Kobayashi and H. Tomita  
A Finite-Range Scaling Method to Analyze Systems with Infinite-Range Interactions, Prog. Theor. Phys. **119**–**3** (2008), 509–514.
- Ken-Ichi Aoki, T. Kobayashi and H. Tomita  
Analysis of 1D Systems with Long Range Interactions by Finite Range Scaling, RIMS Koukyuroku **1600** (2008), 1–20.
- Ken-Ichi Aoki, T. Kobayashi and H. Tomita  
Estimate of the critical dissipation of the quantum classical phase transition due to decoherence, QIT2008–48–93 (2008), 172–175.
- Ken-ichi Aoki, T. Kobayashi, H. Tomita  
Finite Range Scaling Approach to Quantum Dissipative Systems, Proceedings of “Novel aspects of phase transitions with long-range interactions (2008)” 17–17.
- Mayumi Aoki, S. Kanemura and O. Seto  
A TeV-scale model for neutrino mass, DM and baryon asymmetry, Proceedings of Prospects for Charged Higgs Conference, PoS CHARGED2008 (2008) 009.
- Mayumi Aok and S. Kanemura  
Unitarity bounds in the Higgs model including triplet fields with custodial symmetry, Phys. Rev. D **77** (2008), 095009.
- A.G. Akeroyd, Mayumi Aoki and H. Sugiyama  
Probing Majorana Phases and Neutrino Mass Spectrum in the Higgs Triplet Model at the CERN LHC, Phys. Rev. D **77** (2008), 075010.
- T. Araki, T. Kobayashi, J. Kubo, Saul Ramos-Sanchez, M. Ratz and Patrick K.S. Vaudrevange  
(Non-)Abelian discrete anomalies, Nucl. Phys. B **805** (2008), 124–147.
- J. Kubo  
The dihedral group as a family group, Proceedings of the Symposium in Honor of Wolfhart Zimmermann’s 80th Birthday on Quantum Field Theory and Beyond, Tegernsee 2008.
- N. Kifune, J. Kubo and A. Lenz  
Flavor Changing Neutral Higgs Bosons in a Supersymmetric Extension based on a Q6 Family Symmetry, Phys. Rev. D **77** (2008), 076010.
- D. Suematsu  
Dark matter and leptogenesis in a non-SUSY model for neutrino masses, J. Phys. Conf. Ser. **136** (2008), 042025.
- D. Suematsu  
Leptogenesis and dark matter unified in a non-SUSY model for neutrino masses, Eur. Phys. J. C **56** (2008), 379–387.
- K. Murano, Sinya Aoki, U. Taniguchi and S. Takeda  
Universality of the N (f)=2 Running Coupling in the Schrödinger Functional Scheme, PoS LATTICE2008 (2008) 228, arXiv: 0903.1154 [hep-lat].
- S. Takeda  
Universality check of the overlap fermions in the Schrödinger functional, PoS LATTICE2008 (2008) 218, arXiv: 0808.2919 [hep-lat].
- S. Takeda et al. (ALPHA Collaboration)  
Scaling test of two-flavor O (a)-improved lattice QCD, JHEP 0807 (2008) 037.
- S. Takeda  
Perturbative analysis of the Neuberger–Dirac operator in the Schrödinger functional, Nucl. Phys. B **796** (2008), 402–421.
- ### 計算科学コース
- T. Ito and P. Terwilliger  
Mock tridiagonal systems, Linear Algebra Appl. **435** (2011), no. 8, 1997–2006.
- T. Ito, K. Nomura and P. Terwilliger  
A classification of sharp tridiagonal pairs, Linear Algebra Appl. **435** (2011) 1857–1884.
- E. Ginder, S. Omata and K. Svadlenka  
A variational method for diffusion-generated area-preserving interface motion, Theoretical and Applied Mechanics Japan, Vol. **60**, 2011.
- K. Ishii and S. Omata  
Convergence of the approximation scheme to american option pricing via the discrete Morse semiflow, Appl. Math. Optim. Vol **64** (2011), 363–415.
- M. Yadome, K.-I. Ueda and M. Nagayama  
Chaotic motion of propagating pulses in the Gray–

- Scott model, *Physical Review E*, 83 (2011) 056207.
- M. Yamada  
Generalized extended Hamming codes over Galois rings of characteristic  $2^n$ , *Gakuto International Series, Mathematical Science and Applications*, in print (2011).
- M. Yamada  
Difference sets over Galois rings with odd extension degrees and characteristic an even power of 2, *Designs, Codes and Cryptography*, in print (2011).
- O. Ogurisu, Y. Higuchi and T. Matsumoto  
On the spectrum of a discrete Laplacian on  $\mathbb{Z}$  with finitely supported potential, *Linear and Multilinear Algebra*, 59 (2011), p.917–927.
- H. Nakayama, K. Nishiyama, M. Noro, K. Ohara, T. Sei, N. Takayama and A. Takemura  
Holonomic gradient descent and its application to the Fisher–Bingham integral, *Adv. in Appl. Math.* 47 (2011), no. 3, 639–658.
- T. Ito and P. Terwilliger  
The augmented tridiagonal algebra, *Kyushu J. Math.* 64 (2010), 81–144.
- T. Ito and P. Terwilliger  
How to sharpen a tridiagonal pair, *J. Algebra Appl.* 9 (2010), no. 4, 543–552.
- T. Ito and P. Terwilliger  
An algebra generated by two sets of mutually orthogonal idempotents, *Journal of Algebra and its Applications* Vol. 9 (2010) 839–858.
- T. Ito and P. Terwilliger  
Double affine Hecke algebras of rank 1 and the  $Z_3$ -symmetric Askey–Wilson relations, *SIGMA* 6 (2010), 065, 9 pages.
- M. Nagayama, K.-I. Ueda and M. Yadome  
Numerical approach for transient dynamics of oscillatory pulses in a bistable reaction–diffusion system, *Japan Journal of Industrial and Applied Mathematics*, 27 (2) (2010), 295–322.
- N.J. Suematsu, Y. Ikura, M. Nagayama, N. Kawagishi, M. Nakamura, H. Kitahata, M. Murakami and S. Nakata  
Mode-switching of the self-motion of a camphor boat depending on the diffusion distance of camphor molecules, *Journal of Physical Chemistry*, 114 (2010), 9876–9882.
- K. Iida, N.J. Suematsu, Y. Miyahara, H. Kitahata, M. Nagayama and S. Nakata  
Experimental and theoretical studies on the self-motion of a phenanthroline disk coupled with complex formation, *Physical Chemistry Chemical Physics*, 12 (2010), 1557–1563.
- M. Tsutsumi, H. Kitahata, S. Nakata, Y. Sanno, M. Nagayama and M. Denda  
Mathematical analysis of intercellular calcium propagation induced by adenosine triphosphate, *Skin Research and Technology*, 16 (2010), 146–150.
- O. Ogurisu  
On the Number of Negative Eigenvalues of a Multi-dimensional Schroedinger Operator with Point Interactions, *Methods of Functional Analysis and Topology*, 16 (2010), p.383–392.
- O. Ogurisu  
On the Number of Negative Eigenvalues of a Schroedinger Operator with  $\delta$  Interactions, *Methods of Functional Analysis and Topology*, 16 (2010), p.42–50.
- S. Omata, M. Kazama and K. Svadlenka  
Numerical computation of coupled problems comprising elastic membrane, *Proceedings of Computational Engineering Conference JSCES*, Vol. 15, No. 2 (2010), pp. 697–700.
- T. Ito and P. Terwilliger  
Distance-regular graphs and the q-tetrahedron algebra, *European J. of Combin.*, 30 (2009), no. 3, 682–697.
- T. Ito and P. Terwilliger  
Distance-regular graphs of q-Racah type and the q-tetrahedron algebra, *Michigan Math. Journal*, 58 (2009), no. 1, 241–254.
- T. Ito and P. Terwilliger  
The Drinfel'd polynomial of a tridiagonal pair, *J. of Combinatorics, Information & System Sciences*, 34 (2009), no. 1–4, 255–292.
- T. Ito and P. Terwilliger  
Tridiagonal pairs of q-Racah type, *J. Algebra* 322 (2009), no. 1, 68–93.
- K. Svadlenka and S. Omata  
Mathematical analysis of a constrained parabolic free boundary problem describing droplet motion on a surface, *Indiana University Mathematics Journal* 58 (5), pp.2073–2102 (2009).
- S. Omata, M. Kazama and H. Nakagawa  
Variational approach to evolutionary free boundary problems, *Nonlinear Analysis* 71 (2009), pp. e1547–e1552.
- M. Kazama and S. Omata  
Modeling and computation of fluid-membrane interaction, *Nonlinear Analysis* 71 (2009), pp. e1553–e1559.
- H. Kitahata, J. Taguchi, M. Nagayama, T. Sakurai, Y. Ikura, A. Osa, Y. Sumino, M. Tanaka, E. Yokoyama and H. Miike  
Oscillation and synchronization in combustion of candles: Radiation coupling could induce synchronization of oscillatory combustion, *Journal of Physical Chemistry (A)*, 113 (29) (2009), 8164–8168.
- M. Nagayama, M. Yadome, N. Kato, J. Kirisaka, M. Murakami and S. Nakata  
Bifurcation of self-motion depending on the reaction order, *Physical Chemistry Chemical Physics*, 11 (2009), 1085–1090.

- M. Yamada  
Perfect difference systems of sets and Jacobi sums, *Discrete Mathematics*, **309** (2009), 3954–3961.
- K. Ohara and S. Tajima  
Spectral decomposition and eigenvectors of matrices by residue calculus, *The Joint Conference of ASCM 2009 and MACIS 2009*, 137–140, COE Lect. Note, **22**, *Kyushu Univ. Fac. Math., Fukuoka*, 2009.
- K. Matsumoto and K. Ohara  
Some transformation formulas for Lauricella's hypergeometric functions  $F_D$ , *Funkcial. Ekvac.* **52** (2009), no. 2, 203–212.
- K. Ohara and N. Takayama  
Holonomic rank of  $A$ -hypergeometric differential-difference equations, *J. Pure Appl. Algebra* **213** (2009), no. 8, 1536–1544.
- E. Ginder and K. Svadlenka  
A variational approach to a constrained hyperbolic free boundary problem, *Nonlinear Anal., Theory Methods Appl.*, Vol. 71, No. 12 (2009), pp. 1527–1537.
- K. Svadlenka and S. Omata  
Mathematical analysis of a constrained parabolic free boundary problem describing droplet motion on a surface, *Indiana Univ. Math. J.*, Vol. **58**, No. 5 (2009), pp. 2073–2102.
- T. Ito and P. Terwilliger  
Finite-dimensional irreducible modules for the three-point  $sl_2$  loop algebra, *Comm. Algebra* **36** (2008), no. 12, 4557–4598.
- K. Svadlenka and S. Omata  
Construction of weak solution to hyperbolic problem with volume constraint, *Nonlinear Analysis*, **69** (2008), 3202–3212.
- M. Yadome, K.-I. Ueda, T. Teramoto, M. Nagayama and Y. Nishiura  
Periodic transition sequences of scattering patterns in a three-component reaction-diffusion system, *Bulletin of the Institute of Mathematics, Academia Sinica New Series*, **3** (4) (2008), 585–602.
- M. Yamada  
Self-dual  $Z_4$  codes of Type IV generated by skew-Hadamard matrices, *Australasian Journal of Combinatorics*, **42** (2008), 177–188.
- O. Ogurisu  
On the Number of Negative Eigenvalues of a Schroedinger Operator with Point Interactions, *Letters in Mathematical Physics*, **85** (2008), (2–3), p.129–133.
- K. Kawagoe, M. Wakayama and Y. Yamasaki  
 $q$ -Analogue of the Riemann zeta, the Dirichlet L-functions, and a crystal zeta function, *Forum Math.* **20**, no.1 (2008), 1–26.
- H. Saito and W. Shinoda  
Cholesterol Effect on Water Permeability Through DPPC and PSM Lipid Bilayers: A Molecular Dynamics Study, *J. Phys. Chem. B* *in press*.
- M. Rusmerryania, G.S. Wulandaria, S. Kawamoto, H. Saito, K. Nishikawa and Hidemi Nagao, Molecular Dynamics Studies on Structure and Dynamics of Spherical Micelles, *Recent Development in Computational Science*, **2** (2011) 59–68.
- G.S. Wulandari, M. Rusmerryani, S. Kawamoto, H. Saito, K. Nishikawa and H. Nagao Temperature Effects on Dynamics of Spherical Micelles : A Molecular Dynamics Study, *Recent Development in Computational Science*, **2** (2011) 69–77.
- H. Saito, T. Mizukami, S. Kawamoto, T. Miyakawa, M. Iwayama, M. Takasu and H. Nagao Molecular dynamics studies of lipid bilayer with gramicidin A: effects of gramicidin A on membrane structure and hydrophobic match, *Int. J. Quantum Chem.* **112** (2012), 161–170.
- T. Mizukami, H. Saito, S. Kawamoto, T. Miyakawa, M. Takasu and H. Nagao Solvation effect on the structural change of globular protein: a molecular dynamics study, *Int. J. Quantum Chem., In press*.
- S. Kawamoto, T. Miyakawa, M. Takasu, R. Morikawa, T. Oda, H. Saito, S. Futaki and H. Nagao Cell penetrating peptide induces various deformations of lipid bilayer membrane: inverted micelle, double bilayer and trans-membrane, *Int. J. Quantum Chem.* **112** (2012), 178–183.
- H. Saito, N. Matubayasi, K. Nishikawa and H. Nagao Hydration property of globular proteins: An analysis of solvation free energy by energy representation method, *Chemical Physics Letters* **497** (2010), 218–222.
- S. Nurbaiti, H. Nagao, H. Saito, R. Hertadi, M.A. Martoprawiro, Akhmaloka Domain motions of Klenow-like DNA polymerase I ITB-1 in the absence of substrate, *Int. J. Integ. Bio.* **9** (2010), 104.
- S. Tsuzuki, W. Shinoda, H. Saito, M. Mikami, H. Tokuda and M. Watanabe Molecular Dynamics Simulations of Ionic Liquids: Cation and Anion Dependence of SelfDiffusio Coefficients of Ions, *J. Phys. Chem. B*, **113** (2009), 10641–10649.
- H. Saito, W. Shinoda and M. Mikami Fluorination Effects on Structure and Dynamics of Phospholipid Bilayer: A Molecular Dynamics Study, *Chem. Phys. Lett.* **468** (2009), 260.
- H. Saito, W. Shinoda and M. Mikami Enhanced Hydrophobicity of fluorinated lipid bilayer: a molecular dynamics study, *J. Phys. Chem. B* **112** (2008), 11305.
- H. Kotaka, F. Ishii, M. Saito, T. Nagao and S.

- Yaginuma  
 Edge States of Bi Nanoribbons on Bi Substrates:  
 First-Principles Density Functional Study, in press.  
 N.S. Nurainun, J. Lin, M.S. Alam, K. Nishida and M. Saito  
 First-Principles Calculations of Hydrogen and Hydrogen-Vacancy Pairs in Graphene, Transaction of Materials Research Society of Japan., in press
- M. S. Alam, J. Lin and M. Saito  
 First-Principles Calculation of the Interlayer Distance of the Two-Layer Graphene, Japanese Journal of Applied Physics, Vol. 50, No. 8 (2011.8), pp.0802133 (1)-0802133 (3).
- K. Sawada, F. Ishii, and M. Saito  
 Magnetism in Dehydrogenated Armchair Graphene Nanoribbon, Journal of Physical Society of Japan, Vol. 80, No. 4 (2011.4), pp. 044712819-0447125 (5).
- J. Gotou, S. Haraguchi, M. Tsujikawa and T. Oda  
 Time benchmarks for the OpenMP and GPU parallelized calculation in the planewave pseudopotential density functional approach, Recent Development in Computational Science (ISSN 2223-0785), 2 (2011), pp.17-25.
- A.M. Hanna, T. Yoshizaki, M.A. Martoprawiro and T. Oda  
 High-pressure crystal structure prediction, using evolutionary algorithm simulation, Recent Development in Computational Science (ISSN 2223-0785), 2 (2011), pp.37-45.
- M. Tsujikawa, S. Haraguchi, T. Oda, Y. Miura and M. Shirai  
 A comparative ab initio study on electric-field dependence of magnetic anisotropy in MgO/Fe/Pt and MgO/Fe/Au films, Journal of Applied Physics, 109, art.no.07C107 (2011), pp.1-3.
- S. Haraguchi, M. Tsujikawa, J. Gotou and T. Oda  
 Electric-field effects on magnetic anisotropy in Pd/Fe/Pd (001) surface, Journal of Physics D: Applied Physics, 44, art.no.064005 (2011), pp.1-8.
- S. Kawamoto, M. Takasu, T. Miyakawa, R. Morikawa, T. Oda, S. Futaki and H. Nagao  
 Binding of Tat peptides on DOPC and DOPG lipid bilayer membrane studied by molecular dynamics simulations, Molecular Simulation, DOI:10.1080/08927022.2010.536546 (2011), <http://www.tandfonline.com/doi/abs/10.1080/08927022.2010.536546>.
- S. Kawamoto, M. Takasu, T. Miyakawa, R. Morikawa, T. Oda, S. Futaki and H. Nagao  
 Inverted micelle formation of cell-penetrating peptide studied by coarse-grained simulation: Importance of attractive force between cell-penetrating peptides and lipid head group, Journal of Chemical Physics, 134, art.no.095103 (2011) pp.1-6.
- S. Miura  
 A variational path integral molecular dynamics study of a solid helium-4, Computer Physics Communications, 182 (2011), pp.274-276.
- H. Katsuno, K. Katsuno and Masahide Sato  
 Effect of impurities on two-dimensional nucleation, Physical Review E, 84, art.no.021605 (2011), pp.1-5.
- S. Kondo, Masahide Sato, M. Uwaha and H. Hibino  
 Pattern formation of a step induced by a moving linear source, Physical Review B, 84, art.no.045420 (2011), pp.1-7.
- Masahide Sato,  
 Two-dimensional motion of Unstable Steps Induced by a Flow in Solution, Journal of the Physical Society of Japan, 80, art.no.0704604 (2011), pp.1-6.
- M. Inaba and Masahide Sato  
 Effect of flow in solution on motion of steps during solution growth, Journal of the Physical Society of Japan, 80, art.no.0704606 (2011), pp.1-4.
- Masahide Sato  
 Growth Law of Bunch Size in Step Bunching Induced by Flow in Solution, Journal of the Physical Society of Japan, 80, art. no. 024604 (2011), pp.1-4.
- Masahide Sato, S. Kondo and M. Uwaha  
 Formation of finger-like step patterns on a Si (111) Vicinal Face, Journal of Crystal Growth, 381 (2011), pp.14-17.
- Masahide Sato  
 Step bunching induced by flow in solution, Journal of the Crystal Growth, 381 (2011), pp.5-9.
- 森祥寛, 堀井祐介, 佐藤正英, 鈴木恒雄  
 金沢大学におけるICT教材の著作権譲渡と二次利用, リメデイアル教育学会誌, 第6巻, 第2号 (2011), pp.19-24.
- A. Araki, T. Nishijima, M. Tsujikawa and T. Oda  
 Spin-splitting band dispersions of the heavy elements on Si (111)-(1×1) surface, Journal of Physics: Conference Series, 200, art. no. 062001 (2010), pp.1-4.
- Y. Hashimoto, M. Takasu, S. Kawamoto, T. Oda, H. Nagao, T. Sakai and Ung-il Chung  
 Structure and dynamics of tetra-PEG gel by Brownian dynamics, Transactions of the Materials Research Society of Japan, 35 (2010), pp.547-553.
- Masahide Sato  
 Step Instabilities on a Vicinal Face induced by Flow of Solution, Journal of the Physical Society of Japan, 79, art. no. 064606 (2010), pp.1-5.
- M. Tsujikawa and T. Oda  
 Electronic structure and magnetic anisotropy of a constrained Fe chain in electric field, Journal of Physics: Condensed Matter, 21, art. no. 064213 (2009), pp.1-6.
- K. Sakamoto, T. Oda, A. Kimura, K. Miyamoto, M. Tsujikawa, A. Imai, N. Ueno, H. Namatame, M. Taniguchi, P. E. J. Eriksson and R. I. G. Uhrberg  
 Abrupt rotation of the Rashba spin to the direction

- perpendicular to the surface, Physical Review Letters, **102**, art. no. 096805 (2009), pp.1-4.
- N. Fujima and T. Oda  
Bonding properties and structures of titanium clusters on (10, 0) single wall carbon nano capsule, The European Physical Journal D., **52** (2009), pp.87-90.
- M. Tsujikawa and T. Oda  
Finite electric field effects in the large perpendicular magnetic anisotropy surface Pt/Fe/Pt (001): a first principles study, Physical Review Letters, **102**, art. no. 247203 (2009), pp.1-4.
- I. Hamada, T. Oda, N. Suzuki and Hiroshi Katayama-Yoshida  
Variational Density-Functional Perturbation Theory with Ultrasoft Pseudopotentials, Journal of Computational and Theoretical Nanoscience, **6** (2009), pp.2550-2558.
- M. Tsujikawa and T. Oda  
Electronic Structure and Magnetic Anisotropy in Iron Chains from a First-Principles Study, Journal of Computational and Theoretical Nanoscience, **6** (2009), pp.2597-2602.
- T. Oda, Y. Yokoo, H. Sakashita and M. Tsujikawa  
Magnetic Anisotropy in Small Clusters FePt, Fe<sub>2</sub>Pt, and FePt<sub>2</sub>; from a First-Principles Study, Journal of Computational and Theoretical Nanoscience, **6** (2009), pp.2603-2607.
- S. Miura  
Molecular dynamics algorithms for quantum Monte Carlo methods, Chemical Physics Letters, **482** (2009), pp.165-170.
- K. Ikawa and Masahide Sato  
Step Instabilities on Si (111) Vicinal Face near 1 × 1 <-> 7 × 7 Transition Temperature during Sublimation, Journal of the Physical Society of Japan, **78**, art. no. 124602 (2009), pp.1-6.
- M. Tsujikawa, A. Hosokawa and T. Oda  
Magnetic Anisotropy of Fe/Pt (001) and Pt/Fe/Pt (001) Using a First-Principles Approach, Physical Review B, **77**, art.no.054413 (2008), pp.1-10.
- K. Wako, T. Oda, M. Tachibana and Ken-ichi Kojima  
Bending Deformation of Single-Walled Carbon Nanotubes Caused by a Five-Seven Pair Couple Defect, Japanese Journal of Applied Physics, **47** (2008), pp.6601-6605.
- S. Miura  
Quantum rotational fluctuation of a linear molecule doped in superfluid helium clusters, Journal of Physics: Condensed Matter, **20** (2008), pp.494205-494208.
- S. Miura  
Quantum fluctuations of an OCS molecule in superfluid helium-4 clusters, AIP Conference Proceedings, **1046** (2008), pp.11-14.
- K. Ikawa and Masahide Sato  
Step wandering on Si (111) vicinal face near the 1 × 1 <-> 7 × 7 transition temperature with drift of adatoms parallel to steps, Physical Review E, **18**, art. no. 062601 (2008), pp.1-4.
- K. Ikawa and Masahide Sato  
Effect of alternation of kinetic coefficients on step instabilities on Si (001) vicinal face, Journal of Crystal Growth, **310** (2008), pp.1371-1375.
- Masahide Sato and K. Deura  
Effect of impingement and evaporation on drift - induced step instabilities on Si (111) vicinal face near transition temperature, Journal of Crystal Growth, **310** (2008), pp.1376-1379.
- T. Matsumoto, T. Suzuki, Masahide Sato and T. Imachi  
Development of an e-Learning Environment Across all Departments and a Model Class, Proceedings of the seventh IASTED International Conference on Web-Based Education, pp.39-44, 2008
- M. Koyimata and K. Nishikawa  
Quantum control of high harmonic generation in anharmonic potential, Recent Development in Computational Science 2 (2011), 47-58.
- M. Rusmerryani, G.S. Wulandari, S. Kawamoto, H. Saito, K. Nishikawa and H. Nagao  
Molecular Dynamics Studies on Structure and Dynamics of Spherical Micelles, Recent Development in Computational Science 2 (2011), 59-68.
- G.S. Wulandari, M. Rusmerryani, S. Kawamoto, H. Saito, K. Nishikawa and H. Nagao  
Temperature Effects on Dynamics of Spherical Micelles: A Molecular Dynamics Study, Recent Development in Computational Science 2 (2011), 69-77.
- H. Saito, N. Matubayasi, K. Nishikawa and H. Nagao  
Hydration property of globular proteins: An analysis of solvation free energy by energy representation method Original Research Article Chemical Physics Letters, **497** (2010), 218-222.
- A. Tawada, K. Sugimori, M. Sano, S. Taniguchi, H. Nagao and K. Nishikawa  
Laser Control of Photodissociation Process in Diatomic Molecule, Int. J. Quantum Chem. **109** (2009), 3416-3422.
- A. Purqon, T. Yamamoto, K. Nishikawa and H. Nagao  
Effects of Salty Water and Temperature on The Shape Fluctuation of A Few Correlated Phospholipids, Progress of Theoretical Physics (Supplement) **178** (2009),187-192.
- T.V.B. Phung, T. Hashimoto, K. Nishikawa and H. Nagao  
Theoretical Studies on Ionization Potential of Alminium Clusters, Int. J. Quantum Chem. **109** (2009), 3457-3465.

- A. Purqon, A. Sugiyama, T. Mizukami, K. Nishikawa and H. Nagao  
Fuzzy Cluster Modes in Micellar Dynamics, J. Mol. Liquids. 147 (2009), 17–23.
- K. Sugimori, H. Kawabe, H. Nagao and K. Nishikawa  
Ab initio and DFT study of 31P-NMR chemical shifts of sphingomyelin and dihydrosphingomyelin lipid molecule, Int. J. Quantum Chem. 109 (2009), 3685–3693.
- A. Purqon, A. Sugiyama, H. Nagao, M. Takasu and K. Nishikawa  
Geometrical Classification of Spaghetti-like Nano-clusters, AIP conference proceedings, 982 (2008), 331–336.
- K. Nishikawa, T. Yamamoto, A. Sugiyama, A. Purqon, T. Mizukami, H. Shimahara, H. Nagao, K. Nishikawa  
Free Energy Calculation of Docking Structure of Azurin (I)-Cytochrome c551 (III) Complex Systems by using The Energetic Representation, AIP conference proceedings, 982 (2008), 780–783.
- T. Yamamoto, K. Nishikawa, A. Sugiyama, A. Purqon, T. Mizukami, H. Shimahara, H. Nagao, K. Nishikawa  
Theoretical Study of Free Energy in Docking Stability of Azurin (II)-Cytochrome c551 (II), AIP conference proceedings, 982 (2008), 784–787.
- T.V.B. Phung, K. Nishikawa and H. Nagao  
Theoretical studies on stable structure and noncollinear magnetism of aluminum clusters, AIP Conference Proceedings, 1046 (2008), 64–67.
- K. Sugimori, H. Kawabe, H. Nagao and K. Nishikawa  
A DFT study of Infrared Spectrum of Sphingomyelin Lipid Molecule With Calcium Cation, Int. J. Quantum Chem. 108 (2008), 2935–2942.
- A. Purqon, H. Nagao and K. Nishikawa  
Synchronization Modes in Spaghetti-like Nano-clusters, Int. J. Quantum Chem. 108 (2008), 2870–2880.
- 小原 功任, 岩崎 宏, 伊藤 好二  
陰解法による多次元アメリカンオプションプライシングの数値解析, 日本応用数理学会論文誌 第18巻第4号 (2008).

## 総説, 解説, 報告書

### 数学コース

若槻聰

カスプ形式の空間の次元についての法2の合同式, 数理解析研究所講究録 1767 (2011), 188–197. (日本語)

都築正男, 若槻聰

GL (2)の跡公式, 第18回 (2010年度)整数論サマースクール「アーサー・セルバーグ跡公式入門」. (日本語)

若槻聰

GL (3)の跡公式, 第18回 (2010年度)整数論サマースクール「アーサー・セルバーグ跡公式入門」. (日本語)

本語)

若槻聰

Sp (2,R)の大きな離散系列表現に関する重複度公式, 第3回福岡数論研究集会報告集 (2009), 29–38. (日本語)

若槻聰

On traces of Hecke operators on spaces of Siegel cusp forms of degree two, 数理解析研究所講究録 1617 (2008), 193–205. (日本語)

中川泰宏

Kähler · Ricci ソリトンの一般化について (その2), 福岡大学微分幾何研究会 (Geometry and Something, 2009.11.20–23) 報告集, 731–86.

A. Kodama

Characterizations of complex manifolds from the viewpoint of holomorphic automorphism groups, in "Algebraic structures in partial differential equations related to complex and Clifford analysis" edited by Le Hung Son and Wolfgang Tutschke, Ho Chi Minh City University of Education Press (2011), 131–148.

甲斐千舟

正則凸錐の順序同型写像の線型性, 第50回実函数論・函数解析学合同シンポジウム講演集, (2011.8).

甲斐千舟

正則凸錐の順序同型写像の線型性, 数理解析研究所講究録「表現論と調和解析における諸問題」(織田寛編), (2011.12).

伊藤秀一

ハミルトン方程式と幾何学, 数理科学 48 (2010), 7–13.

伊藤秀一

共鳴現象とKAM理論, 数学セミナー 48 (2009), 33–37.

### 物理学コース

松本宏一

金沢大学における低温・超伝導の研究, 低温工学 TEION KOGAKU (J. Cryo. Super. Soc. Jpn.), Vol. 46 No. 10 (2011), p588.

松本宏一

水素用磁気冷凍機の開発の現状, 超電導Web21 2009年6月号9ページ.

K. Matsumoto

Present Status of Cryocooling/Cold Energy Technology -Present Status of the Development of Magnetic Cryocooler for Hydrogen Liquefaction-, Superconductivity Web21, October 15, 2009.

阿部聰

金沢大学極低温研究室と物性研究, 低温工学 TEION KOGAKU (J. Cryo. Super. Soc. Jpn.) Vol.43 No.1 (2008), p28.

林良和, 藤下豪司, 斎藤正浩, 海野秀友, 金子浩, 岡本博之, 大橋政司, 小林義明, 佐藤正俊

X線回折によるNd1111鉄ブニクタイド超伝導体の自発歪みの研究, 日本物理学会2011年秋季大会,

- 富山, 21pGL-3, 日本物理学会講演概要集, Vol.66, No.2-3, p.486, (2011.9).
- 水野薫, 海野秀友, 増永和裕, 吉村順一, 岡本博之  
水晶中の新しいバーガースベクトルを持つ転位,  
日本物理学会2011年秋季大会, 富山, 22pGQ-5,  
日本物理学会講演概要集, Vol.66, No.2-4, p.992,  
(2011.9).
- 海野秀友, 藤下豪司, 岡本博之, 水野薫  
人工ダイヤモンド結晶中の格子欠陥, 日本物理学会  
2011年秋季大会, 富山, 22pGQ-8, 日本物理学会講  
演概要集, Vol.66, No.2-4, p.993 (2011.9).
- H. Kaneko, Y. Yun, N. Shumsun, A. Savinkov, H.  
Suzuki, Y.K. Li, Q. Tao, G.H. Cao and Z.A. Xu  
Quantum Criticality and Superconductivity in  
 $\text{SmFe}_{1-x}\text{CoxAsO}$ , 26th International Conference  
on Low Temperature Physics, 11P-B008, Beijing,  
China (2011.8).
- H. Suzuki, H. Kaneko, Y. Yun, N. Shumsun, A.  
Savinkov, H. Xing, Z.A. Xu, S. Zhang, Y. Isikawa  
Low Temperature X-ray Diffraction Study on  
Phase Transition, 26th International Conference  
on Low Temperature Physics, 13P-C005, Beijing,  
China (2011.8).
- 金子浩, 鈴木治彦, 大橋政司, H. Xing, H. Zeng, Z.A.  
Xu  
 $\text{Nd}_2\text{Ti}_2\text{O}_7$ の低温X線測定, 日本物理学会第66回年  
次大会, 新潟, 27pPSB-29, 日本物理学会講演概要  
集, Vol.66, No.1-3, p.656, (2011.3).
- 中田智士, 藤下豪司, 山田貴洋, 岡本博之  
 $\text{La}_{1.86}\text{Sr}_{0.14}\text{CuO}_4$ の構造相転移における自発歪み, 日  
本物理学会2010年秋季大会, 大阪, 25pWY-7, 日  
本物理学会講演概要集, Vol.65, No.2-4, p.919,  
(2010.9).
- 金子浩, H. Xing, H. Zeng, Z.A. Xu, 鈴木治彦  
 $\text{Nd}_2\text{Ti}_2\text{O}_7$ の低温X線測定, 2010特別推進研究・ナ  
ノエレPJ・大学発ベンチャー合同研究会, 新潟,  
(2010.8).
- 金子浩, 薛芸, 吉田潤, 多田篤, 阿部聰, 辻井宏之,  
松本宏一, 鈴木治彦  
 $\text{Ce}(\text{Ru}_{0.97}\text{Rh}_{0.03})_2\text{Si}_2$ の300mKにおける結晶歪み, 日  
本物理学会第65回年次大会, 岡山, 21aPS-59, 日本  
物理学会講演概要集, Vol.65, No.1-3, p.614, (2010.3).
- 稻葉和範, 増永和裕, 加納裕士, 藤下豪司, 岡本博之  
擬一次元導体 $\text{In}_x\text{Nb}_3\text{Te}_4$ における過渡熱起電力  
効果測定, 日本物理学会第65回年次大会, 岡山,  
20aHX-1, 日本物理学会講演概要集, Vol.65,  
No.1-4, p.811, (2010.3).
- 水野薫, 増永和裕, 吉村順一, 岡本博之  
X線断層トポグラフィによる水晶中の欠陥の三次  
元可視化II, 日本物理学会第65回年次大会, 岡山,  
23aHS-9, 日本物理学会講演概要集, Vol.65, No.1-  
4, p.1010, (2010.3).
- 水野薫, 猪上謙三, 金井貴志, 平野馨一, 岡本博之  
X線屈折コントラスト法による漆器のウルシ層  
の画像化, 日本物理学会2009年秋季大会, 熊本,  
28aYK-10, 日本物理学会講演概要集, Vol.64,  
No.2-4, p.893, (2009.9).
- H. Fujishita, T. Yamada, S. Nakada, H. Okamoto, S.  
Shitara, M. Kato and Y. Koike  
Spontaneous Strain in  $\text{Ba}_{0.6}\text{K}_{0.4}\text{BiO}_3$ , 9<sup>th</sup> Interna  
tional Conference on Materials and Mechanisms  
of Superconductivity, PS-C-264, Tokyo, Japan  
(2009.9).
- 水野薫, 金井貴志, 吉村順一, 岡本博之  
X線断層トポグラフィによる水晶中の欠陥の三次  
元可視化, 日本物理学会第64回年次大会, 東京,  
27pRB-7, 日本物理学会講演概要集, Vol.64, No.1-  
4, p.938, (2009.3).
- 猪上謙三, 岡本博之, 金井貴志, 水野薫  
DEI法における密度変化分解能定量評価の試み, 日  
本物理学会第64回年次大会, 東京, 28pRE-15, 日本  
物理学会講演概要集, Vol.64, No.1-4, p.957, (2009.3).
- H. Kaneko, Y. Xue, S. Abe, K. Matsumoto, H. Suzuki  
X-ray diffraction study of supersolid in solid  $\text{He}^4$ ,  
25th International Conference on Low Tempera  
ture Physics, PA-Tu53, Amsterdam, Netherlands  
(2008.8)
- 山田貴洋, 藤下豪司, 岡本博之, 設楽誓吾, 加藤雅恒,  
小池洋二  
 $\text{Ba}_{0.4}\text{K}_{0.6}\text{BiO}_3$ の自発歪み, 日本物理学会第63回年次  
大会, 大阪, 24aTH-4, 日本物理学会講演概要集,  
Vol.63, No.1-4, p.762, (2008.3).
- 金井貴志, 藤下豪司, 岡本博之, 平野馨一, 水野薫,  
DEI法によるチタン中の水素化物の観察, 日本物理  
学会第63回年次大会, 大阪, 23aYF-3, 日本物理  
学会講演概要集, Vol.63, No.1-4, p.913, (2008.3).
- 水野薫, 岡本博之, 金井貴志, P. Prete, N. Lovergne  
 $\text{ZnTe}$ ホモエピタキシャル半導体薄膜の放射光トポ  
グラフィによる結晶評価, 日本物理学会第63回年  
次大会, 大阪, 24aYF, 日本物理学会講演概要集,  
Vol. 63, No.1-4, p.928, (2008.3).
- 富取正彦, 新井豊子  
走査型プローブ顕微鏡にみる電圧印加のナノ力学的  
相互作用, 表面科学 29 (4) (2008) 239-245.
- 北村太郎, 加藤克将, 山田直久, 野瀬孔太, 三澤賢,  
柳晶子, 曽我之泰, 鎌田啓一, 吉田光宏, ナウム・ギ  
ンツブルグ  
ヘリカルウェーブラーー磁場を用いた自由電子メー  
ザーの設計, 電気学会研究会資料, PST-11-019-  
033, p77-82 (2011).
- 加藤真志, 曽我之泰, 三村徹也, 鎌田啓一, 佐藤政行,  
吉田光宏  
100GHz帯後進波管に用いる電子銃の設計と評価,  
電気学会研究会資料, PST-11-019-033, p71-76  
(2011).
- F. Kondo, K. Nose, K. Misawa, S. Yanagi, Y. Soga, K.  
Kamada and N. S. Ginzburg  
Bragg resonator for free electron maser using an  
intense relativistic electron beam, 平成21年度核融  
合科学研究所共同研究「パルスパワー技術を用いた  
高エネルギー密度プラズマ科学の最前線」NIFS-  
PROC-87, pp44-49.

Y. Soga, M. Kato, T. Mimura, K. Kamada and M. Yoshida

Particle simulation study of backward wave oscillator using CST studio suite, 平成21年度核融合科学研究所共同研究「パルスパワー技術を用いた高エネルギー密度プラズマ科学の最前線」NIFS-PROC-87, pp50-54.

S. Odawara, F. Kondo, K. Tamura, Y. Soga, K. Kamada and N. S. Ginzburg

Experimental study on free electron laser using advanced Bragg resonator, 平成20年度核融合科学研究所共同研究「パルスパワー技術を用いたプラズマ科学の新展開」NIFS-PROC-82, pp92-97.

K. Kawamura, S. Odawara, K. Aizawa, K. Kamada and N. S. Ginzburg

Preliminary experiment on advanced Bragg resonator for millimeter wavesource, 平成19年度核融合科学研究所共同研究「パルスパワー技術のプラズマ科学への応用」報告書, pp.88-93.

K. Aizawa, K. Kawamura, S. Odawara, K. Kamada, and N. S. Ginzburg

5 GHz Super radiance using newly designed corrugated waveguide, 平成19年度核融合科学研究所共同研究「パルスパワー技術のプラズマ科学への応用」報告書, pp94-99.

G. Asozu, R. Ando, H. Inomata, K. Mibu, T. Tanikawa and K. Yamagiwa

Development of experimental Devices for the research of self trapping and nonlinear behavior of plasma waves, Proc. of Plasma Conf. 2011, 24P164-B, (2011.11).

安藤利得, 遊津元希, 谷川隆夫, 佐藤杉弥, 山際啓一郎

新型大口径電子ビーム源を使用した電子ビーム・プラズマ不安定性の実験, 平成22年度スペースプラズマ研究会・講演集, 宇宙科学研究所 (2011.3).

安藤利得

「ギガワット級・短パルス・マイクロ波」の輸送とプラズマ生成への応用, 科研費報告書(基盤研究(C) 17540466) (2008.3).

佐藤政行

MEMS振動子アレイ中の非線形局在励起とその制御, システム／制御／情報(システム制御情報学会誌) vol.53, No.6, pp243-249 (2009).

佐藤政行, 安井智史

電気回路格子中の非線形局在励起, 信学技報, vol. 108, no. 336, NLP2008-73, pp. 17-22, 2008年12月. 石川県文教会館.

安藤敏夫

歩くタンパク質“ミオシンV”を捉えた!, 化学 Vol.66, No.3, pp.55-59 (2011.3).

安藤敏夫, 古寺哲幸

高速原子間力顕微鏡によるタンパク質の動態撮影, 生物物理 Vol.51, No.1, pp.022-025 (2011.1).

安藤敏夫

Visual Review 高速原子間力顕微鏡によるタンパク

質の高解像・動画観察, 感染・炎症・免疫, Vol.40, No.4, pp.31-37 (2010.12).

安藤敏夫

生体分子の動態を捉える高速原子間力顕微鏡, 表面科学, Vol.31, No.8, pp.405-410 (2010.8).

安藤敏夫

生体分子の動的プロセスを直接可視化する高速AFM, 顕微鏡, Vol.45, No.1, pp.22-30 (2010.1).

安藤敏夫

ビデオレート高速バイオ原子間力顕微鏡, 真空 Vol.51, No.12, pp.783-788 (2009.12).

安藤敏夫

生命科学に資する高速原子間力顕微鏡, バイオインダストリー, Vol.26, No.2, pp.21-30 (2009.1).

安藤敏夫

高速AFMによるたんぱく質の観察, 応用物理 Vol.77, No.10, pp.1181-1191 (2008.10).

米徳大輔, 村上敏夫, 筒井亮, 中村卓史, 高橋慶太郎  
ガンマ線バーストで実現! 暗黒宇宙を切り開く距離梯子, 天文月報2010年8月号(第103巻 第8号 501-510).

加藤真志, 曽我之泰, 三村徹也, 鎌田啓一, 佐藤政行, 吉田光宏

100GHz帯後進波管に用いる電子銃の設計と評価, 電気学会研究会資料, PST-11-019-033, p71-76 (2011).

北村太郎, 加藤克将, 山田尚久, 野瀬孔太, 三澤賢, 柳晶子, 曽我之泰, 鎌田啓一, 吉田光宏, ナウム・ギンツブルグ

ヘリカルウェーブラー磁場を用いた自由電子メーザーの設計, 電気学会研究会資料, PST-11-019-033, p77-82 (2011).

Y. Soga, M. Kato, T. Mimura, K. Kamada and M. Yoshida

Particle Simulation Study of Backward Wave Oscillator using CST Studio Suite, Proceedings of Frontiers of particle beam and high energy density plasma science using pulse power technology, 2011, NIFS-PROC-87, pp.50-54.

F. Kondo, K. Nose, K. Misawa, S. Yanagi, Y. Soga, K. Kamada and N.S. Ginzburg

Bragg resonator for free electron maser using an intense relativistic electron beam, Proceedings of Frontiers of particle beam and high energy density plasma science using pulse power technology, 2011, NIFS-PROC-87, pp.44-49.

S. Odawara, F. Kondo, K. Tamura, Y. Soga, K. Kamada and N.S. Ginzburg

Experimental study on free electron laser using advanced Bragg resonator, 平成20年度核融合科学研究所共同研究「パルスパワー技術を用いたプラズマ科学の新展開」NIFS-PROC-82, pp92-97.

久保治輔

「標準理論におけるバリオン数の破れ」～カイラルアノマリー～, 数理科学(サイエンス社) 570 (2010).

- 青木 健一  
基礎科学の新しい柱（ノーベル賞に寄せて），科学（岩波書店）79-1（2009）。
- 青木健一  
ファインマン・ダイアグラム，数理科学（サイエンス社）547（2008），46-51。
- 青木 健一  
湯川・朝永の「体験」，素粒子論研究（理論物理学刊行会）115-6（2008），F395。

## 計算科学コース

- 長山雅晴  
現象の数理モデル，京都大学数理解析研究所講究録，1768（2011），109-118。
- 長山雅晴，坂井昭彦，傳田光洋，堤も絵，新妻真紀子，仲谷正史，中田聰，北畠裕之  
表皮細胞間カルシウムイオン波の伝播モデルについて，京都大学数理解析研究所講究録，1748（2011），141-155。
- 長山雅晴，坂井昭彦，中田聰，北畠裕之，傳田光洋  
角層形成の数理モデル，計算工学講演会論文集，16（2011）。
- E. Ginder, S. Omata and K. Svadlenka  
体積を保存する多相平均曲率流の数値計算，計算工学講演会論文集 Vol. 16 (2011)。
- 長山雅晴，矢留雅亮，上田肇一  
Gray-Scott モデルと発熱反応拡散系に現れるパルス波ダイナミクス，京都大学数理解析研究所講究録，1680（2010），91-106。
- 長山雅晴，上田肇一，矢留雅亮  
反応拡散系に現れるカオスパルス波，計算工学講演会論文集，15（2010）。
- 長山雅晴  
角層形成の数理モデル，数学セミナー，14-18，2010年7月号。
- O. Ogurisu, Y. Higuchi and Y. Nomura  
On the eigenvalues of discrete Laplacian with finitely supported potential III (in Japanese), Proceedings of OyouSugaku Goudou Kenkyukai at Seta Campus of Ryukoku University, 2010.
- T. Ito and P. Terwilliger  
The q-Onsager algebra, RIMS講究録, No.1656 (2009)。
- 長山雅晴，参納由実，傳田光洋，堤も絵，新妻真紀子，中田聰，北畠裕之  
機械刺激による表皮細胞間カルシウム伝播の数理モデルについて，京都大学数理解析研究所講究録，1663（2009），206-211。
- 矢留雅亮，長山雅晴，上田肇一  
反応拡散系に対する大域的分岐構造の数値計算法とその応用，京都大学数理解析研究所講究録，1633（2009），39-61。
- O. Ogurisu, Y. Higuchi and T. Matsumoto  
On the eigenvalues of discrete Laplacian with finitely supported potential II (in Japanese), Proceedings of OyouSugaku Goudou Kenkyukai at Seta Campus of Ryukoku University, 2009.

- 長山雅晴  
樟脳運動の数理モデル，数理科学，12-17，2008年1月号。
- O. Ogurisu, Y. Higuchi and T. Matsumoto  
On the eigenvalues of discrete Laplacian with finitely supported potential (in Japanese), Proceedings of OyouSugaku Goudou Kenkyukai at Seta Campus of Ryukoku University, 2008.
- 斎藤大明，篠田涉，  
合成脂質膜の分子シミュレーション—フッ素化脂質，分子シミュレーション研究会会誌“アンサンブル” Vol. 11, No.4, 2225 (2009)。
- T. Oda, M. Tsujikawa, A. Araki, S. Haraguchi and J. Gotou  
Studies on practical electric field effect in atomic and electronic structures for surface/interface systems, Activity Report 2010 Supercomputer Center MDCL ISSP University of Tokyo, pp.43-44, 2011.
- R. Hertadi, S. Miura, R. Simanjuntak, Karel Svadlenka (editors)  
Recent development in computational science (International Symposium on Computational Science, Kanazawa University, Japan, February, 2011), vol.2, pp.1-78, 2011.
- T. Oda and M. Tsujikawa  
Magnetic anisotropy energy of an iron thin film on Au (001) surface and its electric-field dependence, Activity Report 2009 Supercomputer Center MDCL ISSP University of Tokyo, pp.41-41, 2010.
- T. Oda  
Electric-field induced magnetic anisotropy transition in an iron-cobalt alloy film on Au (001) surface, Activity Report 2009 Supercomputer Center MDCL ISSP University of Tokyo, pp.42-42, 2010.
- T. Oda, T. Yoshizaki and M. Tsujikawa  
Studies on practical electric field effect in atomic and electronic structures for surface/interface systems, Activity Report 2009 Supercomputer Center MDCL ISSP University of Tokyo, pp.43-44, 2010.
- T. Oda, T. Yoshizaki, Y. Yokoo, and M. Tsujikawa  
Developments and applications of a first principles molecular dynamics method with fully relativistic pseudopotentials, Activity Report 2008 Supercomputer Center MDCL ISSP University of Tokyo, pp.39-40, 2009.
- T. Oda, H. Sakashita, A. Hosokawa and M. Tsujikawa  
Structure and Magnetism of Thin Fe Layers on the Pt Surface, Activity Report 2007 Supercomputer Center MDCL ISSP University of Tokyo, pp.49-50, 2008.
- 小田竜樹，  
マルチウォール型カーボンナノチューブの欠陥とその動力学に関する理論的研究，科学研究費補助金研究成果報告書, pp.1-84, 2008.
- 小田竜樹  
電子状態をあらわに考慮した分子動力学シミュレー

ションの基礎 (4):第一原理分子動力学シミュレーションなど、分子シミュレーション研究会会誌「アンサンブル」, vol. 10, vo. 1 (通巻41号), pp.23-30, 2008.

小田竜樹

電子状態をあらわに考慮した分子動力学シミュレーションの基礎 (5):タイトバインディング分子動力学、分子シミュレーション研究会会誌「アンサンブル」, vol. 10, no. 2 (通巻42号), pp.30-35, 2008.

小田竜樹, 辻川雅人

第一原理計算による表面磁気異方性計算、表面科学, vol.29, no.10, pp.637-641, 2008.

堀井祐介, 松本豊司, 鈴木恒雄, 佐藤正英, 森祥寛, 鎌田康裕, 末本哲雄

金沢大学におけるICT活用について - 教育と学生支援の相乗効果 -, Computer & Education, 25, pp.18-23, 2008.

松本豊司, 鈴木恒雄, 佐藤正英, 堀井祐介, 井町智彦  
e-Learningの全学展開を考慮した情報処理基礎教育システムの構築、教育システム情報学会誌, vol. 25, no.1, pp.87-99, 2008.

岩崎宏

多孔質弾性体と流体の連成解析、数理解析研究所講究録 1748 (2011), 48-57.

## 著書

### 物理学コース

新井豊子

(分担執筆)「走査プローブ顕微鏡—正しい実験とデータ解析のために必要なこと—」(責任編集:重川秀実, 吉村雅満, 河津璋)発展編第10章「非接触AFMの発展」pp.357-363 (共立出版, 2009)

T. Uchihashi and T. Ando

High-speed atomic force microscopy for dynamic biological imaging, Chapter 8 in "Life at the Nanoscale - Atomic force microscopy of live cells", Y. Dufrene (Ed.), Pan Stanford Publishing Pte. Ltd. (2011.8).

T. Ando

Techniques for developing high-speed AFM, Chapter 1 in "Control Technologies for Emerging Micro and Nanoscale Systems" (Lecture Notes in Control and Information Sciences, Vol.413), E. Eleftherios & S.O.R. Moheimani (Eds.), Springer, (2011.7).

T. Uchihashi and T. Ando

High-speed Atomic Force Microscopy and Biomolecular Processes, Chapter 18 in "Atomic force microscopy in biomedical research: Methods and Protocols (Methods in Molecular Biology)", P. C. Braga & D. Ricci (Eds.), Humana Press (2011.5).

T. Ando and T. Uchihashi

High-speed atomic force microscopy, Chapter 17 in "Handbook of Single-Molecule Biophysics", P. Hinterdorfer & A. van Oijen (Eds.), Springer-Verlag

(2009.11).

T. Ando, T. Uchihashi, N. Kodera, D. Yamamoto, M. Taniguchi, A. Miyagi and H. Yamashita

High-speed atomic force microscopy for nano-visualization of biomolecular processes Chapter 12 in "Single Molecule Dynamics in Life Science", T. Yanagida & Y. Ishii (Eds.), Wiley-VCH (2008.12).

安藤敏夫

AFM高速測定, 発展編2章2節 pp.292-302 in 「実験物理科学シリーズ6 走査プローブ顕微鏡」重川秀実, 吉村雅満, 河津璋 編集 共立出版 (2009.3).

青木健一 [分担執筆]

ポスト・ドクター問題 —科学技術人材のキャリア形成と展望—, 世界思想社 (2009).

青木健一, 坂東昌子, 九後汰一郎 [編]

基礎物理学の現状と未来 —学問の系譜・湯川・朝永をうけて—, 素粒子論研究 (理論物理学刊行会) 115-6 (2008) F1-F404, 物性研究 (物性研究刊行会) 90-2/3 (2008) 131-535.

### 特許, 実用新案

#### 物理学コース

新井豊子

ポジショニング機構, 及び, それを用いた顕微鏡

特願 2006-547825

日本特許登録: 特許 4644821 (登録日 2010年12月17日)

米国特許取得 (2010年3月2日)

"Positioning mechanism and microscope with the same", US patent, US 7,672,048 B2

新井豊子

試料表面の電子エネルギー準位の測定方法

特願 2000-217532

特許番号: 第4576520号 (登録日 2010年9月3日)

新井豊子

原子または分子の同定方法

特願 2008-008513

特許番号: 第4822563号 (登録日 2011年16日)

安藤敏夫, 岡崎康孝, 内橋貴之

原子間力顕微鏡及びカンチレバー支持具, 特願 2010-126027.

安藤敏夫, 内橋貴之, 古寺哲幸, 山本哲朗

走査プローブ顕微鏡, 特願 2008-275981.

福間剛士, 安藤敏夫, 岡崎康孝

走査プローブ顕微鏡のスキャナー装置, 特願 2008-147041.

#### 計算科学コース

小俣正朗

シミュレーション装置, シミュレーション方法, 及びプログラム, 出願番号, 出願日:PCT/JP/2011/053095 (平成23年2月15日)

長山雅晴, 傳田光洋

生体内シミュレーション装置, 生体内シミュレー

ション方法、およびプログラム、特願2010-133424。