

業績リスト

相関基礎科学系

青木 貴稔 (Takatoshi Aoki)

Voigt, A.-C., Taglieber, M., Costa, L., Aoki, T., Wieser, W., Hänsch, T. W. and Dieckmann, K. Ultracold Heteronuclear Fermi-Fermi Molecules. *Phys. Rev. Lett.* **102**, 020405, 2009.

Kobayashi, J., Shibata, K., Aoki, T., Kumakura, M. and Takahashi, Y. Fictitious magnetic resonance by quasiaelectrostatic field. *Appl. Phys. B: Lasers and Opt.* **95**, 361, 2009.

青木 優 (Masaru Aoki)

Aoki, M., Toyoshima, S., Kamada, T., Sogo, M., Masuda, S., Sakurai, T., Akimoto, K. Level alignment of gap state at organic-metal interface. *J. Appl. Phys.*, **106**, 043715, 2009.

Masuda, S., Sasaki, K., Sogo, M., Aoki, M., Morikawa, Y. Electron emission spectra of thermal collisions of He metastable atoms with Au(111) and Pt(111) surfaces: evidence for Penning ionization. *Phys. Rev. A*, **80**, 040901 (R), 2009.

石原 孝二 (Kohji Ishihara)

石原 孝二. 「他者と時間——フッソールの他者論とフッソール, ベルクソン」『哲学雑誌』**124** 巻 796 号, 2009 年 10 月, pp. 1-14.

石原 孝二. 「脳機能エンハンスメントと社会」UTCP Booklet 8『エンハンスメント・社会・人間性』, 東京大学グローバルCOE「共生のための国際哲学教育研究センター」. 2009 年 3 月, pp. 39-49.

今井 良宗 (Yoshinori Imai)

Maeda, A., Ohashi, T., Kitano, H., Tanaka, R., Imai, Y., Tsukada, I., Naito M. Crossover from superconductivity fluctuation to vortex picture in the vortex state of high- T_c cuprate superconductors. *Journal of Physics: Conference Series*, **150**, 052146/1-4, 2009.

榎本 真哉 (Masaya Enomoto)

Kida, N., Hikita, M., Kashima, I., Okubo, M., Itoi, M., Enomoto, M., Kato, K., Takata, M. and Kojima, N. "Control of Charge Transfer Phase Transition and Ferromagnetism by Photoisomerization of Spiropyran for an Organic-Inorganic Hybrid System, (SP) [Fe^{II}Fe^{III}(dto)₃] (SP = spiropyran, dto = C₂O₂S₂). *J. Am. Chem. Soc.*, **131**, 212-220, 2009.

Enomoto, M. and Kojima, N. "Magnetic dilution effect on the charge transfer phase transition and the ferromagnetic transition for an iron mixed-valence complex, (n-C₃H₇)₄N[Fe^{II}_{1-x}Zn^{II}_xFe^{III}(dto)₃] (dto = C₂O₂S₂). *Polyhedron*, **28**, 1826-1829, 2009.

Kagesawa, K., Ono, Y., Enomoto, M. and Kojima, N. "Study on the valence fluctuation and the magnetism of an iron mixed-valence complex, (n-C₄H₉)₄N[Fe^{II}Fe^{III}(mto)₃] (mto = C₂O₃S). *Polyhedron*, **28**, 1822-1825, 2009.

Kida, N., Hikita, M., Kashima, I., Enomoto, M., Itoi, M. and Kojima, N. "Mössbauer spectroscopic study of photo-sensitive organic-inorganic hybrid system, (SP) [Fe(II)Fe(III)(dto)₃] (dto = C₂O₂S₂, SP = spiropyran)". *Polyhedron*, **28**, 1694-1697, 2009.

Enomoto, M., Kida, N., Watanabe, I., Suzuki, T. and Kojima, N. "Spin dynamics of the ferromagnetic transition in iron mixed-valence complexes, (n-C_nH_{2n+1})₄N[Fe^{II}Fe^{III}(dto)₃] (dto = C₂O₂S₂, n=3-5) by μ SR". *Physica B*, **404**, 642-644, 2009.

榎本 真哉. 「こんなモノ！が電気を流す」をよりよく理解するために 金属, 半導体, 絶縁体の解説. (『化学と教育』誌 編集委員会). vol. **56**, pp. 610-611. 日本化学会(東京). 2008.

遠藤 泰樹 (Yasuki Endo)

Nakajima, M., Schmidt, T.W., Miyoshi, A., Sumiyoshi, Y., and Endo, Y. Gas-phase spectroscopy of the 2³ Σ^- - X³ Σ^- electronic transition of CCS. *J. Chem. Phys.*, **130**, 014302, 2009.

Liu, J., Chen, M.-W., Melnik, D., Miller, T.A., Endo, Y., and Hirota, E. The spectroscopic characterization of the methoxy radical. Part II. Rotationally resolved A²A₁ - X²E electronic and X²E microwave spectra of the perdeuteromethoxy radical CD₃O. *J. Chem. Phys.*, **130**, 074303, 2009.

Yoshikawa, T., Sumiyoshi, Y., and Endo, Y. Fourier-transform microwave spectroscopy of the CCCl radical. *J. Chem. Phys.*, **130**, 094302, 2009.

Yoshikawa, T., Watanabe, A., Sumiyoshi, Y., and Endo, Y. Laser spectroscopy of the A²A₁ - X²A₁ system for the HSO radical. *J. Mol. Spectrosc.*, **254**, 119-125, 2009.

Yoshikawa, T., Sumiyoshi, Y., and Endo, Y. Pure rotational spectra of the CCCF radical. *J. Chem. Phys.*, **130**, 164303, 2009.

Watanabe, A., Sumiyoshi, Y., and Endo, Y. Fourier transform microwave spectroscopy of CH₂CFO. *J. Chem. Phys.*, **130**, 224304, 2009.

Mori, T., Suma, K., Sumiyoshi, Y., and Endo, Y. Spectroscopic detection of isolated carbonic acid. *J. Chem. Phys.*, **130**, 204308, 2009.

Nakajima, M., Schmidt, T.W., Sumiyoshi, Y., and Endo, Y. An experimental and theoretical study on vibrational structure in the B-X transition of CH₂CHS. *J. Chem. Phys.*, **131**, 104310, 2009.

業績リスト

大川 祐司 (Yuji Okawa)

Kiermaier, M., Okawa, Y. Exact marginality in open string field theory: a general framework. *JHEP* **0911**, 041, 2009.
Kiermaier, M., Okawa, Y. General marginal deformations in open superstring field theory. *JHEP* **0911**, 042, 2009.

岡澤 厚 (Atsushi Okazawa)

Okazawa, A., Ishida, T. Super-superexchange coupling through a hydrogen bond in a linear copper(II) complex, $[\text{Cu}(\text{LH})\text{L}]\cdot\text{BF}_4\cdot 2\text{H}_2\text{O}$ (LH = *N-tert-butyl-N-2-pyridylhydroxylamine*). *Chem. Phys. Lett.*, **480**, 198-202, 2009.
Okazawa, A., Watanabe, R., Nojiri, H., Nogami, T., Ishida, T. Magnetic Properties and Exchange Couplings of One-dimensionally Arrayed 4f-3d Heterometallic $[\text{Ln}_2\text{Cu}_2]_n$ Compounds. *Polyhedron*, **28**, 1808-1813, 2009.
Okazawa, A., Nogami, T., Ishida, T. Strong Intramolecular Ferromagnetic Couplings in Nickel(II) and Copper(II) Complexes Chelated with *tert*-Butyl 5-Methoxy-2-pyridyl Nitroxide. *Polyhedron*, **28**, 1917-1921, 2009.

岡本 拓司 (Takuji Okamoto)

岡本 拓司. 科学技術と社会の間で起こること—明治の日本の経験から—. 沙漠研究. **19**, 441-446, 2009.
岡本 拓司. 「学界警察」の周辺. 寺田寅彦全集[第2次]月報. **2**, 5-8, 2009.

小川 桂一郎 (Ogawa Keiichiro)

Fujiwara, T., Harada, J., Ogawa, K. Hydrogen-Bonded Cyclic Dimer Formation in Temperature-induced Reversal of Tautomerism of Salicylideneanilines. *J. Phys. Chem. A*, **113**, 1822-1826, 2009.
Harada, J., Harakawa, M., Ogawa, K. Crystalline-State Conformational Change of β -nitrostyrenes and its Freezing at Low Temperature. *CrystEngComm*, **11**, 638-642, 2009.
Harada, J., Harakawa, M., Sugiyama, S., Ogawa, K. Single Crystal Cis-trans Photoisomerizations of 2-(9-Anthrylmethylene)-1-indanones. *CrystEngComm*, **11**, 1235-1239, 2009.
Harada, J., Ogawa, K. Pedal Motion in Crystals. *Chem. Soc. Rev.*, **38**, 2244-2252, 2009.
原田 潤, 小川 桂一郎. 有機結晶の色変化を理解する—サリチリデンアニリン類のサーモクロミズムの真相—, 現代化学, **1**, 25-30, 2009.
基礎から学ぶ有機化合物のスペクトル解析. 榎原和久, 村田滋と共著, 1-182, 東京化学同人, 東京, 2008.

尾中 篤 (Makoto Onaka)

Wang, J.-C., Masui, Y., Watanabe, K., Onaka, M. Highly Efficient Cyanosilylation of Sterically Bulky Ketones Catalyzed by Tin Ion-exchanged Montmorillonite. *Adv. Synth. Catal.*, **351**, 553-557, 2009.
Seki, T., Onaka, M. Mesoporous Alumina: Synthesis, Characterization, and Catalysis. "Advanced Nanomaterials," ed by K. E. Geckeler, H. Nishide, Chap. 15, 481-521, Wiley-VCH Verlag, 2009.
尾中 篤. 化学オリンピック完全ガイド. (化学オリンピック日本委員会編. 渡辺正監修). 化学同人. 2008.
尾中 篤, 増井 洋一. 触媒便覧, 第5.4章「反応の選択性と支配因子」. 82-89, (触媒学会編). 講談社. 2008.
尾中 篤. 環境と化学—グリーンケミストリー入門 第2版. 第6章「役に立つ物質をつくる」. 131-158. (荻野, 竹内, 柘植編). 東京化学同人. 2009.

加藤 光裕 (Mitsuhiro Kato)

Asano, M., Kato, M. General Linear Gauges and Amplitudes in Open String Field Theory. *Nucl. Phys. B*, **807**, 348-372, 2009.
Kato, M., Sakamoto, M., So, H. No-Go Theorem of Leibniz Rule and Supersymmetry on the Lattice. *PoS(LATTICE 2008)* **233**, 2009.
加藤 光裕. 電磁気学と微積分—空間の微積分. 数理科学 2009年5月号 特集: 微積分を楽しむ. 27-32. サイエンス社(東京). 2009.
加藤 光裕. 相対性理論—光速不変の原理と等価原理. 数理科学 2009年12月号 特集: 《原理》の探求. 27-31. サイエンス社(東京). 2009.

加藤 雄介 (Yusuke Kato)

Watabe, S., Kato, Y. Reflection and refraction of Bose-Einstein-condensate excitations. *Phys. Rev. A*, **78**, 063611-1-9, 2008.
Takahashi, D., Kato, Y. Absence of Anomalous Tunneling of Bogoliubov Excitations for Arbitrary Potential Barrier under the Critical Condensate Current. *J. Phys. Soc. Jpn.* **78**, 023001-1-4, 2009.
Nakai, R., Kato, Y. Derivation of Green's function of a spin Calogero-Sutherland model by Uglov's method. *J. Phys. A: Math. Theor.* **42**, 025209-1-33, 2009.
Watabe, S., Kato, Y. Tunneling Problems between Bose-Einstein Condensates. *Journal of Physics Conference Series* **150**, 032119-1-4, 2009.
Nagai, Y., Hayashi, N., Kato, Y., Yamauchi, K., Harima, H. Field angle dependence of the zero-energy density of states in unconventional superconductors: analysis of the borocarbide superconductor $\text{YNi}_2\text{B}_2\text{C}$. *Journal of Physics: Conference Series* **150**, 052177-1-4, 2009.
Kuramoto, Y., Kato, Y. Dynamics of One-dimensional Quantum Systems: Inverse-square Interaction Models. 1-486. Cambridge University Press(Cambridge). 2009.

金子 邦彦 (Kunihiko Kaneko)

- Pfeuty, B., Kaneko, K. The combination of positive and negative feedback loops confers exquisite flexibility to biochemical switches. *Physical Biology*, **6**, 046013, 2009.
- Sakata, A., Hukushima, K., Kaneko, K. A statistical-mechanical study of evolution of robustness in noisy environment. *Phys. Rev. E*, **80**, 051919, 2009.
- Awazu, A., Kaneko, K. "Glassy" Relaxation in Catalytic Reaction Networks. *Phys Rev. E*, **80**, 041931, 2009.
- Awazu, A., Kaneko, K. Self-organized criticality of a catalytic reaction network under flow. *Phys. Rev. E*, **80**, 010902(R) (Rapid Communication), 2009.
- Tsuru, S., Ichinose, J., Sakurai, T., Kashiwagi, A., Ying, B-W., Kaneko, K., Yomo, T. Noisy cell growth rate leads to fluctuating protein concentration in bacteria. *Physical Biology*, **6**, 036015, 2009.
- Kaneko, K. Relationship among Phenotypic Plasticity, Genetic and Epigenetic Fluctuations, Robustness, and Evolvability: Waddington's Legacy revisited under the Spirit of Einstein. *J Biological Science*, **34**, 529-542, 2009.
- Furusawa, C., Kaneko, K. Chaotic Expression Dynamics Implies Pluripotency: When Theory and Experimentation Meet. *Biology Direct*, **4**, 17, 2009.
- Yoshida, H., Kaneko, K. Unified description of regeneration by coupled dynamical systems theory: Intercalary/segmented regeneration in insect legs. *Developmental Dynamics*, **238**, 1974-1983, 2009.
- Sakata, A., Hukushima, K., Kaneko, K. Funnel landscape and mutational robustness as a result of evolution under thermal noise. *Phys. Rev. Lett.*, **102**, 148101, 2009.
- Ito, Y., Toyota, H., Kaneko, K., Yomo, T. How Selection affects Phenotypic Fluctuation. *Molecular Systems Biology*, **5**, 264, 2009.
- Ito, J., Kaneko, K. Self-Organization of Network Structure in Coupled-map Systems. to appear in "Adaptive Networks", (ed. H. Sayama and T. Gross.). 2009.
- 金子 邦彦. 生命とは何か. 1944(1948) vs 2003(2009). 数理科学：特集シュレーディンガー, **555**, 45-50, 2009.
- 金子 邦彦. 細胞状態の動態, ゆらぎと適応, 分化. パリティ vol. **24** No.01, 72-74, 2009年1月号 丸善(東京)
- 金子 邦彦. 生命とは何か(第2版)—複雑系生命科学へ—. 442頁, 東京大学出版会(東京), 2009.

菊川 芳夫 (Yoshio Kikukawa)

- Kikukawa, Y., Sugino F. Ginsparg-Wilson Formulation of 2D $N=(2,2)$ SQCD with Exact Lattice Supersymmetry. *Nucl. Phys. B*, **819**, 76-115, 2009.
- Kikukawa, Y., Kohda, M., Yasuda, J. The strongly coupled fourth family and a first-order electroweak phase transition. *Prog. Theor. Phys.*, **122**, 401-426, 2009.

久我 隆弘 (Takahiro Kuga)

- Yoshikawa, Y., Nakayama, K., Torii, Y., Kuga, T. Long storage time of collective coherence in an optically trapped Bose-Einstein condensate. *Phys. Rev. A* **79**, 025601-1-4, 2009.
- 久我 隆弘. 光学の原理は本当にエレガント?, 数理科学, **558**, 39-43, 2009.

国場 敦夫 (Atsuo Kuniba)

- Arita, C., Kuniba, A., Sakai, K, Sawabe, T. Spectrum in multi-species asymmetric simple exclusion process on a ring. *J. Phys. A: Math. Theor.* **42** 345002 (41pp), 2009.
- 国場 敦夫. 力学 てこの原理からハミルトンの原理まで. 数理科学 2009年12月号 7-13. (サイエンス社).

黒田 直史 (Naofumi Kuroda)

- Knudsen, H., Kristiansen, H.-P.E., Thomsen, H.D., Uggerhøj, U.J., Ichioka, T., Møller, S.P., Hunniford, C.A., McCullough, R.W., Charlton, M., Kuroda, N., Nagata, Y., Torii, H.A., Yamazaki, Y., H. Imao, H., Andersen, H.H, Tokesi, K. On the double ionization of helium by very slow antiproton impact. *Nuclear Instruments and Methods in Physics Research B*, **267**, 244-247, 2009

小島 憲道 (Norimichi Kojima)

- Kida, N., Hikita, M., Kashima, I., Okubo, M., Itoi, M., Enomoto, M., Kato, K., Takata, M., Kojima, N. Control of Charge Transfer Phase Transition and Ferromagnetism by Photoisomerization of Spiropyran for an Organic-Inorganic Hybrid System, (SP) $[\text{Fe}^{\text{II}}\text{Fe}^{\text{III}}(\text{dto})_3]$ (SP = spiropyran, $\text{dto} = \text{C}_2\text{O}_2\text{S}_2$). *J. Am. Chem. Soc.*, **131**, 212-220, 2009.
- Kida, N., Hikita, M., Kashima, I., Enomoto, M., Itoi, M., Kojima, N. Mössbauer Spectroscopic Study of Photo-sensitive Organic-Inorganic Hybrid System, (SP) $[\text{Fe}^{\text{II}}\text{Fe}^{\text{III}}(\text{dto})_3]$ ($\text{dto} = \text{C}_2\text{O}_2\text{S}_2$ SP = spiropyran). *Polyhedron*, **28**, 1694-1697, 2009.
- Enomoto, M., Kida, N., Watanabe, I., Suzuki, T. and Kojima, N. Spin dynamics of the ferromagnetic transition in iron mixed-valence complexes, $(\text{n-C}_n\text{H}_{2n+1})_4\text{N}[\text{Fe}^{\text{II}}\text{Fe}^{\text{III}}(\text{dto})_3]$ ($\text{dto} = \text{C}_2\text{O}_2\text{S}_2$, $n=3-5$) by μSR , *Physica B*, **404**, 642-644, 2009.
- Enomoto, M., Kojima, N. Magnetic Dilution Effect on the Charge Transfer Phase Transition and the Ferromagnetic Transition for an Iron Mixed-Valence Complex, $(\text{n-C}_3\text{H}_7)_4\text{N}[\text{Fe}^{\text{II}}_{1-x}\text{Zn}^{\text{II}}_x\text{Fe}^{\text{III}}(\text{dto})_3]$ ($\text{dto} = \text{C}_2\text{O}_2\text{S}_2$). *Polyhedron*, **28**, 1826-1829, 2009.
- Kagesawa, K., Ono, Y., Enomoto, M., Kojima, N. Study on the valence fluctuation and the magnetism of an iron mixed-valence complex, $(\text{n-C}_4\text{H}_9)_4\text{N}[\text{Fe}^{\text{II}}\text{Fe}^{\text{III}}(\text{mto})_3]$ ($\text{mto} = \text{C}_2\text{O}_3\text{S}$). *Polyhedron*, **28**, 1822-1825, 2009.

業績リスト

小島 憲道. 光物性, 『配位空間の化学－最新技術と応用－』, 258-266, シーエムシー出版, 2009.

木田 紀行, 榎本 真哉, 小島 憲道. ^{57}Fe メスバウアー分光法による(SP) $[\text{Fe}(\text{II})\text{Fe}(\text{III})(\text{dto})_3]$ (SP = spiroopyran, dto = $\text{C}_2\text{O}_2\text{S}_2$)の光誘起電荷移動相転移の研究, 「短寿命核および放射線を用いた物性研究」(ISSN 1342-0852), 京都大学原子炉実験所, 41-46, 2009.

小林 未知数 (Michikazu Kobayashi)

Huhtamäki, J., Simula, T., Kobayashi, M., and Machida, K. Stable fractional vortices in the cyclic states of Bose-Einstein condensates. *Phys. Rev. A* **80**, 051601(R), 2009.

Kobayashi, M., Kawaguchi, Y., Nitta, M., and Ueda, M. Collision Dynamics and Rung Formation of Non-Abelian Vortices. *Phys. Rev. Lett.* **103**, 115301, 2009.

Kurita, Y., Kobayashi, M., Morinari, T., Tsubota, M., and Ishihara, H. Spacetime analog of Bose-Einstein condensates: Bogoliubov-de Gennes formulation. *Phys. Rev. A* **79**, 043616, 2009.

Kobayashi, M., Kurita, Y., Morinari, T., Tsubota, M., and Ishihara, H. Particle creation in Bose-Einstein condensates: Numerical analysis of the Bogoliubov-de Gennes equation for trapped ultracold atoms. *Journal of Physics: Conference Series* **150**, 032044, 2009.

小宮山 進 (Susumu Komiyama)

Pelling, S., Davis, R., Kulik, L., Tzalenchuk, A., Kubatkin, S., Ueda, T., Komiyama, S., d. Antonov, V.N. Point contact readout for a quantum dot terahertz sensor. *Appl. Phys. Lett.*, **93**, 073501(1-3), 2008.

Chen, J.C., Lin, Y., Lin, K.T., Ueda, T., Komiyama, S. Effects of impurity scattering on the quantized conductance of a quasi-one-dimensional quantum wire. *Appl. Phys. Lett.* **94**, 12105(1-3), 2009.

Chen, J.C., Tsai, Y., Lin, Y., Ueda, T., Komiyama, S. Negative differential conductivity of two-dimensional electron gas systems in high magnetic fields. *Phys. Rev. B.*, **79**, 75308(1-7), 2009.

Ueda, T., Komiyama, S., An, Z., Nagai, N., Hirakawa, K. Temperature dependence of the performance of charge-sensitive infrared phototransistors. *J. Appl. Phys.*, **105**, 64517(1-8), 2009.

Chen, J.C., Li, M.Y., Ueda, T., Komiyama, S. Transport properties of a quantum dot in Quantum Hall regimes probed by a single-electron transistor. *Appl. Phys. Lett.*, **94**, 232109(1-3), 2009.

Kajihara, Y., Komiyama, S., Nickels, P., Ueda, T. A passive long-wavelength infrared microscope with a highly sensitive phototransistor. *Rev. Sci. Instrum.*, **80**, 063702(1-4), 2009.

Wang, Z., Komiyama, S., Ueda, T., Nagai, N. A Modified Scheme of Charge Sensitive Infrared Phototransistor. *Appl. Phys. Lett.*, **95**, 022112(1-3), 2009.

An, Z., Ueda, T., Komiyama, S., Hirakawa, K., Shen, X. Lithographic quantum dot for sensitive infrared photon detection. *Physica Status Solidi (c)*, **6**, 936-939, 2009.

Kajihara, Y., Ueda, T., Nickels, P., Komiyama, S. Passive terahertz microscopy with a highly sensitive detector. *Proc. IMEKO XIX World Congress*, 158-163, 2009.

近藤 隆祐 (Ryusuke Kondo)

Kondo, R., Kagoshima, S., Tajima, N., Kato, R. Crystal and Electronic Structures of the Quasi-Two-Dimensional Organic Conductor α -(BEDT-TTF) $_2\text{I}_3$ and Its Selenium Analogue α -(BEDT-TSeF) $_2\text{I}_3$ under Hydrostatic Pressure at Room Temperature. *J. Phys. Soc. Jpn.*, **78**, 114714, 2009.

Mito, M., Kagoe, S., Deguchi, H., Takagi, S., Fujita, W., Awaga, K., Kondo, R., Kagoshima, S. Effects of Hydrostatic Pressure and Uniaxial Strain on Spin-Peierls Transition in an Organic Radical Magnet, BBDTA-InCl $_4$. *J. Phys. Soc. Jpn.*, **78**, 124705, 2009.

斎藤 文修 (Fuminori Saito)

Saito, F., Nishiyama, I., Hyodo, T. Application of nano-cutting for mechanical characterization of materials. *Materials Letters*, **63**, 2257-2259, 2009.

Wada, K., Saito, F., Hyodo, T. Development a method for measuring the ortho-positronium quenching rate in low vapor-presuure gases. *Nuclear Instruments and Methods in Physics B*, **267**, 1965-1969, 2009.

Saito, F., Saito, K., Hyodo, T. Development of a method to investigate interactions between positronium and the surface of fine particles. *Phys. Status Solidi. C*, **6**, 2507-2509, 2009.

Wada, K., Saito, F., Hyodo, T. A new method to measure the ortho-positronium quenching rate in low vapor-presuure gases. *Phys. Status Solidi. C*, **6**, 2510-2512, 2009.

Hyodo, T., Nakayama, T., Saito, H., Saito, F., Wada, K. The quenching of ortho-positronium. *Phys. Status Solidi. C*, **6**, 2497-2502, 2009.

堺 和光 (Kazumitsu Sakai)

Motegi, K., Sakai, K. Density matrix for the kink ground state of the ferromagnetic XXZ chain. *Phys. Rev., E*, **79**, 031108, 2009.

Arita, C., Kuniba, A., Sakai, K., Sawabe, T. Spectrum in multi-species asymmetric simple exclusion process on a ring. *J. Phys.*

A, 42, 345002, 2009.

酒井 邦嘉 (Kuniyoshi Sakai)

- Yasui, T., Kaga, K., Sakai, K. L. Language and music: Differential hemispheric dominance in detecting unexpected errors in the lyrics and melody of memorized songs. *Hum. Brain Mapp.* **30**, 588-601, 2009.
- Sakai, K. L., Nauchi, A., Tatsuno, Y., Hirano, K., Muraishi, Y., Kimura, M., Bostwick, M., Yusa, N. Distinct roles of left inferior frontal regions that explain individual differences in second language acquisition. *Hum. Brain Mapp.* **30**, 2440-2452, 2009.
- Iijima, K., Fukui, N., Sakai, K. L. The cortical dynamics in building syntactic structures of sentences: An MEG study in a minimal-pair paradigm. *NeuroImage* **44**, 1387-1396, 2009.
- Nauchi, A., Sakai, K. L. Greater leftward lateralization of the inferior frontal gyrus in second language learners with higher syntactic abilities. *Hum. Brain Mapp.* **30**, 3625-3635, 2009.
- Kinno, R., Muragaki, Y., Hori, T., Maruyama, T., Kawamura, M., Sakai, K. L. Agrammatic comprehension caused by a glioma in the left frontal cortex. *Brain Language* **110**, 71-80, 2009.
- Inubushi, T., Iijima, K., Koizumi, M., Sakai, K. L. The effect of canonical word orders on the neural processing of double object sentences: An MEG study. *Neurosci. Res.* **64**, Suppl. 1, O1-J2-2, 2009.
- Kinno, R., Muragaki, Y., Hori, T., Maruyama, T., Kawamura, M., Sakai, K. L. Differential reorganization of cortical activity associated with a glioma in syntax-related regions. *Neurosci. Res.* **64**, Suppl. 1, O1-J2-4, 2009.
- Kinno, R., Muragaki, Y., Hori, T., Maruyama, T., Kawamura, M., Sakai, K. L. Agrammatism revisited: Reorganization of cortical activity associated with a glioma in syntax-related regions. *The Neurobiology of Language Conference* (Chicago, USA), Abstr. Poster Session B, Program No. 96, 2009.
- 金野 竜太, 酒井 邦嘉. 失語症の機能回復の脳内機構. 総合リハビリテーション **36**, 1181-1185, 2008.
- 酒井 邦嘉. 書評『こころと言葉』. 教養学部報 No. 522, 本の棚, 東京大学教養学部, 2009.
- 酒井 邦嘉. 脳に描く言葉の地図. ことばの宇宙への旅立ち 2 - 10代からの言語学. 59-98. ひつじ書房(東京). 2009.
- 酒井 邦嘉. 脳の言語地図. 明治書院(東京). 2009.

佐々 真一 (Shin-ichi Sasa)

- Ohta H., Sasa, S. Critical phenomena in globally coupled excitable elements. *Phys. Rev. E*, **78**, 065101(R)-1-4, 2008.
- Iwata, M., Sasa, S. Singular perturbation near mode-coupling transition. *J. Phys. A: Math. Theor.*, **42**, 245001-1-13, 2009.
- Komatsu, T.S., Nakagawa, N., Sasa, S., Tasaki, H. Representation of nonequilibrium steady states in large mechanical systems. *J. Stat. Phys.*, **134**, 401-423, 2009.
- Iwata, M., Sasa, S. Dynamics of k-core percolation in a random graph. *J. Phys. A: Math. Theor.*, **42**, 075005-1-15, 2009.

澁谷 憲悟 (Kengo Shibuya)

- Kishimoto, S., Shibuya, K., Nishikido, F., Koshimizu, M., Haruki, R., Yoda, Y. Sub-nanosecond Time-Resolved X-ray Measurements Using an Organic-Inorganic Perovskite Scintillator. *Appl. Phys. Lett.*, **93**, 261901 1-3, 2008.
- Yamaya, T., Inaniwa, T., Mori, S., Yoshikawa, T., Minohara, S., Yoshida, E., Nishikido, F., Shibuya, K., Inadama, N., Murayama, H. Imaging Simulations of an 'OpenPET' Geometry with Shifting Detectors Rings. *Radiol. Phys. Technol.*, **2**, 62-69, 2008.
- Shibuya, K., Koshimizu, M., Nishikido, F., Saito, H., Kishimoto, S. Poly[bis(phenethylammonium) [dibromidoplumbate(II)]-di- μ -bromido]. *Acta Cryst.*, **E65**, pp. m1323-m1324, 2009.
- Yamaya, T., Yoshida, E., Inadama, N., Nishikido, F., Shibuya, K., Higuchi, M., Murayama, H. A Multiplex "OpenPET" Geometry to Extend Axial FOV Without Increasing the Number of Detectors. *IEEE. Trans. Nucl. Sci.*, **56**, 2644-2650, 2009.
- Koshimizu, M., Onodera, K., Shibuya, K., Saito, H., Asai, K. Timing Property of Undoped BaCl₂ Single Crystal Scintillator. *J. Appl. Phys.*, **105**, 114912 1-6, 2009.
- Yoshida, E., Kitamura, K., Nishikido, F., Shibuya, K., Hasegawa, T., Yamaya, T., Inadama, N., Murayama, H. Feasibility Study of a Highly Sensitive LaBr₃ PET Scanner Based on the DOI-Dependent Extended-Energy Window. *Nucl. Instrum. Methods A*, **604**, 363-365, 2009.
- Lam C-F., Yamaya, T., Obi, T., Yoshida, E., Inadama, N., Shibuya, K., Nishikido, F., Murayama, H. Parallel Implementation of 3-D Iterative Reconstruction with Intra-thread Update for the jPET-D4. *IEEE. Trans. Nucl. Sci.*, **56**, 129-135, 2009.
- Yamaya, T., Yoshida, E., Toramatsu, C., Nishimura, M., Shimada, K., Inadama, N., Shibuya, K., Nishikido, F., Murayama, H. Preliminary Study on Potential of the jPET-D4 Human Brain Scanner for Small Animal Imaging. *Annals Nucl. Med.*, **23**, 183-190, 2009.
- Yamaya, T., Inaniwa, T., Yoshida, E., Nishikido, F., Shibuya, K., Inadama, N., Murayama, H. Simulation Studies of a New 'OpenPET' Geometry Based on a Quad Unit of Detector Rings. *Phys. Med. Biol.*, **53**, 757-773, 2009.
- Hasegawa, T., Yoshida, E., Shibuya, K., Murayama, H. Optical Observation of Energy Loss Distribution and Practical Range of Positrons from a ¹⁸F Water Solution in a Water-Equivalent Phantom. *Med. Phys.*, **36**, 402-410, 2009.

清水 明 (Akira Shimizu)

- Yuge, T., Shimizu, A. Indications of Universal Excess Fluctuations in Nonequilibrium Systems. *J. Phys. Soc. Jpn.*, **78**, 083001-083004, 2009.

業績リスト

- Yuge, T., Shimizu, A. Long-time tail in an electric conduction system. *Prog. Theor. Phys. Supplement* **178**, 64–71, 2009.
清水 明. 物理の道しるべ. 数理科学 **555**, 71–77, 2009.
清水 明. 何を学ぶか. 蛭雪時代 4月臨時増刊全国大学学部・学科案内号. 旺文社(東京). 541–543, 2009.
清水 明. 東大教師が新入生にすすめる本 2 (文藝春秋編)120–123, 2009.

下井 守 (Mamoru Shimoi)

- Kawano, Y., Uruichi, M., Shimoi, M., Taki, S., Kawaguchi, T., Kakizawa, T., and Ogino, H. Dehydrocoupling Reactions of Borane-Secondary and -Primary Amine Adducts Catalyzed by Group-6 Carbonyl Complexes: Formation of Aminoboranes and Borazines. *J. Am. Chem. Soc.*, **131**, 14946–14957, 2009.
下井 守. イオンとは何か—イオンで育てる自然観—, 理科教室 **52**, 1月号 30–37, 2009.
下井 守. 水素エネルギーで注目のB-N結合化合物—水素の貯蔵・発生剤としての可能性, 化学, **64**(10), 74–75, 2009.
下井 守. 黒色火薬の熱化学, 現代化学, No. **465**, 54, 2009.
下井 守. 新学習指導要領における化学, 化学と教育, **57**, 305, 2009.
下井 守. 基礎無機化学 1–294. 東京化学同人(東京). 2009.
下井 守他(監修, 執筆). 国立天文台編 理科年表平成 22 年(2010) 第 83 分冊. 物理/化学部, 351–564, 丸善株式会社(東京). 2009.

菅原 正 (Tadsahi Sugawara)

- Toyota, T. Maru, N., Hanczyc, M., Ikegami, T. Sugawara, T. Self-Propelled Oil Droplets Consuming 'Fuel' Surfactant. *J. Am. Chem. Soc.*, **131**(14), 5012–5013, 2009.
Suzuki, K., Tomita, T., Toyota, T., Iwasaka, M., Sugawara, T. Hysteretic Behavior of Diamagnetic Molecular Assembly: Magnetic Field Induced Deformation of Tubular Self-assemblies Composed of Amphiphilic Molecules. *Polyhedron*, **28**, 253–256, 2009.
Komatsu, H., Mogi, R., Matsushita, M. M., Miyagi, T., Kawada, Y., Sugawara, T. Synthesis and Properties of TSF-based Spin-polarized Donor. *Polyhedron*, **28**, 1996–2000, 2009.
Ohnuma, K., Toyota, T., Sugawara, T., Asashima, M. Directional Migration of Neuronal PC12 cells in a Ratchet Wheel-Shaped Microchamber. *Journal of Bioscience and Bioengineering*, **108**(1), 76–83, 2009.
Sugawara, T. Matsushita, M.M. Spintronics in Organic π -Electronic Systems. *Journal of Materials Chemistry* **19**(12), 1738–1753, 2009. 【Feature Article】
Suzuki, K., Toyota, T., Takakura, K., Sugawara, T. Sparkling Morphological Changes and Spontaneous Movements of Self-assemblies in Water Induced by Chemical Reactions. *Chem. Lett.*, **38**(11), 1010–1015, 2009. 【Highlight Review】
菅原 正, 鈴木 健太郎, 豊田 太郎. ソフトマターがしなう・動く・生長する・増える—両親媒性分子集合体のダイナミックモルフォロジー Bending, Moving, Growing, or Breeding Soft Matters— Dynamical Morphologies of Self-assembly of Amphiphiles. 日本物理学会誌 **64**(1), 2–11, 2009.
菅原 正. 分子内・分子間スピン整列—ビラジカル反応性中間体から有機磁性・導電性共存系へ—(受賞講演). スピンサイエンス学会誌 **7**(12), 4–13, 2009.
Sugawara, T. Minimal Cell Model to Understand Origin of Life and Evolution, in *Evolutionary Biology Concept, Modeling, and Application*, Edited by Pierre Pontarotti, Springer-Verlag, Berlin, 23–50, 2009.
菅原 正. 分子の機能を引き出す化学, 化学 5月号別冊, 化学のブレイクする—[有機化学編]化学同人, 48–53, 2009.

鈴木 健太郎 (Kentaro Suzuki)

- Suzuki, K., Tomita, T., Toyota, T., Iwasaka, M., Sugawara, T. Hysteretic Behavior of Diamagnetic Molecular Assembly: Magnetic Field-induced Deformation of Tubular Self-assemblies Composed of Amphiphilic Molecules. *Polyhedron*, **28**, 253–256, 2009.
Suzuki, K., Toyota, T., Takakura, K., Sugawara, T. Sparkling Morphological Changes and Spontaneous Movements of Self-assemblies in Water Induced by Chemical Reactions. *Chem. Lett.*, **38**, 1010–1015, 2009.
菅原 正, 鈴木 健太郎, 豊田 太郎. ソフトマターがしなう, 動く, 生長する —両親媒性分子集合体のダイナミックモルフォロジー. 日本物理学会誌 2009 年 1月号 2–11.

住吉 吉英 (Yoshihiro Sumiyoshi)

- Nakajima, M., Schmidt, T.W., Sumiyoshi, Y., Endo Y. An experimental and theoretical study on vibrational structure in the $B-X$ transition of CH_2CHS . *Journal of Chemical Physics*, **131**, 104310–1–104310–7, 2009.
Watanabe, A., Sumiyoshi, Y., Endo Y. Fourier-transform microwave spectroscopy of CH_2CFO . *Journal of Chemical Physics*, **130**, 224304–1–204308–7, 2009.
Mori, T., Suma, K., Sumiyoshi, Y., Endo Y. Spectroscopic Detection of Isolated Carbonic acid. *Journal of Chemical Physics*, **130**, 204308–1–204308–7, 2009.
Yoshikawa, T., Sumiyoshi, Y., Endo Y. Pure rotational spectra of the CCCF radical. *Journal of Chemical Physics*, **130**, 164303–1–164303–5, 2009.
Yoshikawa, T., Watanabe, A., Sumiyoshi, Y., Endo Y. Laser spectroscopy of the $A^2A'-X^2A''$ system for the HSO radical.

Journal of Molecular Spectroscopy, **254**, 119–125, 2009.

Yoshikawa, T., Sumiyoshi, Y., Endo Y. Fourier-transform microwave spectroscopy of the CCCC1 radical. *Journal of Chemical Physics*, **130**, 094302-1 – 094302-5, 2009.

Nakajima, M., Schmidt, T.W., Miyoshi, A., Sumiyoshi, Y., Endo Y. Gas-phase spectroscopy of the $2^3\Sigma^- - X^3\Sigma^-$ electronic transition of CCS. *Journal of Chemical Physics*, **130**, 014302-1 – 014302-10, 2009.

今城 尚志, 住吉 吉英, 藤原 久志, 森野 勇. 分光測定入門シリーズ 第3巻 分光装置 Q&A. 1-156. 講談社サイエンティフィク(東京), 2009.

住吉 吉英, 高野 秀路, 尾関 博之. 分光測定入門シリーズ 第9巻 電波を用いる分光: 地球(惑星)大気, 宇宙を探る. 1-195. 講談社サイエンティフィク(東京), 2009.

染田 清彦 (Kiyohiko Someda)

Miyagi, H., Someda, K. Unified view of low- and high-frequency regimes of atomic ionization in intense laser fields. *Phys. Rev. A*, **80**, 023416-1-11, 2009.

高塚 和夫 (Kazuo Takatsuka)

Koh, Y. W., Takatsuka, K. Expanding memory space and reducing spurious states in neural networks by introducing coherent and collective firing. *Neural Computation*, **21**, 1-14, 2009.

Odagiri, K., Takatsuka, K. Threshold effect with stochastic fluctuation in bacteria-colony-like proliferation dynamics as analyzed through a comparative study of reaction-diffusion equations and cellular automata. *Phys. Rev E*, **79**, 026202 (10 pages), 2009.

Odagiri, K., Takatsuka, K. Traveling excitable waves successively generated in nonlinear proliferation system. *Phys. Rev E*, **79**, 056219 (13 pages), 2009.

Takatsuka, K. Toward non-Born-Oppenheimer quantum chemistry. *Intern. J. Quant. Chem.*, **109**, 2131 – 2142, 2009.

Yonehara, T., Takahashi, S., Takatsuka, K. Non-Born-Oppenheimer electronic and nuclear wavepacket dynamics. *J. Chem. Phys.*, **130**, 214113, 2009. (*Virtual Journal of Quantum Information*, **9**, Issue 6.) (*Virtual Journal of Ultrafast Science*, **8**, Issue 7.)

Okuyama, M., Takatsuka, K. Electron flux in molecules induced by nuclear motions. *Chem. Phys. Lett.*, **476**, 109–115, 2009.

Yonehara, T., Takatsuka, K. Characterization of electron-deficient chemical bonding of diborane with attosecond electron wavepacket dynamics and laser response. *Chem. Phys.*, **366**, 114–128, 2009.

Nagashima, K., Takatsuka, K. Electron-wavepacket reaction dynamics in proton transfer of formamide. *J. Phys. Chem. A*, **113**, 15240–15429, 2009.

Arasaki, Y., Takatsuka, K. Optical conversion of conical intersection to avoided crossing. *Phys. Chem. Chem. Phys.* (Communication), DOI: 10.1039/B919504A, 2009.

Takatsuka, K., Yonehara, T. Nonadiabatic chemical dynamics in intermediate and intense laser fields. *Adv. Chem. Phys.*, **144**, 93–156, 2009. (invited and reviewed by the editor).

高橋 聡 (Satoshi Takahashi)

Yonehara, T., Takahashi, S., Takatsuka, K. Non-Born-Oppenheimer electronic and nuclear wavepacket dynamics. *J. Chem. Phys.*, **130**, 214113-1-14, 2009.

鳥居 寛之 (Hiroyuki A. Torii)

Knudsen, H., Kristiansen, H.-P. E., Thomsen, H. D., Uggerhøj, U. I., Ichioka, T., Møller, S. P., Hunniford, C. A., McCullough, R. W., Charlton, M., Kuroda, N., Nagata, Y., Torii, H. A., Yamazaki, Y., Imao, H., Andersen, H. H., Tökési, K. On the double ionization of helium by very slow antiproton impact. *Nucl. Instrum. Meth. in Phys. Res. B*, **267**, 244–247, 2009.

鳥居 寛之. 物理実験のための統計学サイコロ実習. 大学の物理教育, **15**-2, 77–81, 2009.

Torii, H. A., Nagata Y., Toyoda, H., Imao, H., Kuroda, N., Varentsov, V. L., Yamazaki, Y. Cross-beam atomic collision experiment between ultra-low-energy antiprotons and a supersonic gas jet. *Hyperfine Interact.*, **194**, 37–43, 2009.

鳥井 寿夫 (Yoshio Torii)

Yoshikawa, Y., Nakayama, K., Torii, Y., Kuga, T. Long storage time of collective coherence in an optically trapped Bose-Einstein condensate. *Phys. Rev. A* **79**, 025601-1-4, 2009.

鳥井 寿夫. レーザー冷却とボース・アインシュタイン凝縮. 基礎からの量子光学(応用物理学会 量子エレクトロニクス研究会 監修)398-420. オプトロニクス社. 2009.

永田 敬 (Takashi Nagata)

Inokuchi, Y., Kobayashi, Y., Muraoka, A., Nagata, T., Ebata, T. Structures of $[\text{H}_2\text{O} \cdot (\text{CO}_2)_n]^+$ and $[\text{CH}_3\text{OH} \cdot (\text{CO}_2)_n]^+$ ($n = 1 - 7$) cluster ions studied by infrared photodissociation spectroscopy. *J. Chem. Phys.*, **130**, 154304-1-12, 2009.

Nakanishi, R., Nagata, T. Formation and photodestruction of dual dipole-bound anion $(\text{H}_2\text{O})_6[e^-] \cdot \text{CH}_3\text{NO}_2$. *J. Chem. Phys.*, **130**, 224309-1-8, 2009.

業績リスト

Muraoka, A., Inokuchi, Y., Hammer, N. I., Shin, J.-W., Johnson, M. A., Nagata, T. Structural Evolution of the $[(\text{CO}_2)_n(\text{H}_2\text{O})]^-$ Cluster Anions: Quantifying the Effect of Hydration on the Excess Charge Accommodation Motif. *J. Phys. Chem., A* **113**, 8942–8948, 2009.

中西 隆造 (Ryuzo Nakanishi)

Nakanishi, R., Nagata, T. Formation and Photodestruction of *dual dipole-bound* anion $(\text{H}_2\text{O})_6|e^-|\text{CH}_3\text{NO}_2$. *J. Chem. Phys.*, **130**, 224309–1–8, 2009.

錦織 紳一 (Shinichi Nishikiori)

Kuroda, R., Yoshida, J., Nakamura, A., Nishikiori, S. Annealing assisted mechanochemical syntheses of transition-metal coordination compounds and co-crystal formation. *CrystEngComm*, **11**, 427–432, 2009.

Sekiya, R., Nishikiori, S., Kuroda, R. Combination between metal-ligand coordination and hydrogen bond interaction: a facile route for the construction of 3D coordination networks with the ability to include relatively large aromatic molecules. *CrystEngComm*, **11**, 2251–2253, 2009.

Yoshida, J., Nishikiori, S., Kuroda, R. Formation of a Chiral Host with Axially Chiral Cationic 1D Coordination Polymers Composed of Achiral Building Blocks and Inclusion of Anionic Tris-chelate Complexes in an unbalanced Δ/Λ ratio. *Bull. Chem. Soc. Jpn.*, **82**, 1377–1385, 2009.

信原 幸弘 (Yukihiko Nobuhara)

信原 幸弘. 心・意識・人命の価値. 生命という価値. (高橋隆雄・糸和彦編)83–99. 九州大学出版会. 2009.

信原 幸弘. 認知的エンハンスメントと人間観への影響. エンハンスメント・社会・人間性. (グローバルCOE「共生のための国際哲学教育研究センター」編). 104–118, 2009.

橋本 毅彦 (Takehiko Hashimoto)

橋本 毅彦. 描かれた技術 科学のかたち—サイエンスイノベーションの世界. 1–298. 東京大学出版会(東京). 2008.

Hashimoto, T. Historical Essays on Japanese Technology. 1–213. UTCP(Tokyo). 2009.

橋本 毅彦. 初期航空工学の安定性研究—科学と技術の仲介者としてのベアストウ. 哲学・科学史論叢. **11**. 47–81, 2009.

原田 潤 (Jun Harada)

Fujiwara, T., Harada, J., Ogawa, K. Hydrogen-Bonded Cyclic Dimer Formation in Temperature-induced Reversal of Tautomerism of Salicylideneanilines. *J. Phys. Chem. A*, **113**, 1822–1826, 2009.

Harada, J., Harakawa, M., Ogawa, K. Crystalline-State Conformational Change of β -nitrostyrenes and its Freezing at Low Temperature. *CrystEngComm*, **11**, 638–642, 2009.

Harada, J., Harakawa, M., Sugiyama, S., Ogawa, K. Single Crystal Cis-trans Photoisomerizations of 2-(9-Anthrylmethylene)-1-indanones. *CrystEngComm*, **11**, 1235–1239, 2009.

Harada, J., Ogawa, K. Pedal Motion in Crystals. *Chem. Soc. Rev.*, **38**, 2244–2252, 2009.

原田 潤, 小川 桂一郎. 有機結晶の色変化を理解する—サリチリデンアニリン類のサーモクロミズムの真相—, 現代化学, **1**, 25–30, 2009.

氷上 忍 (Shinobu Hikami)

Brezin, E., Hikami, S. Computing topological invariants with one and two-matrix models. *JHEP* **04**,110, 2009.

兵頭 俊夫 (Toshio Hyodo)

Saito, F., Nishiyama, I., Hyodo, T. Application of nano-cutting for mechanical characterization of materials”. *Mat. Lett.* **63**, 2257–2259, 2009.

Wada, K., Saito F., Hyodo, T. Development of a method for measuring the *ortho*-positronium quenching rate in low vapor-pressure gases. *Nucl. Instr. and Meth. B* **267**, 1965–1969, 2009.

Hyodo, T., Nakayama, T., Saito, H. Saito, F., Wada, K. The quenching of *ortho*-positronium. *phys. stat. sol. (c)* **6**, 2497–24502, 2009.

Saito, F., Saito, K., Hyodo, T. Development of a method to investigate interactions between positronium and the surface of fine particles”. *phys. stat. sol. (c)* **6**, 24507–24509, 2009.

Wada, K., Saito, F., Hyodo, T. A new method to measure the *ortho*-positronium quenching rate in low vapor-pressure gaases. *phys. stat. sol. (c)* **6**, 24510–24512, 2009.

兵頭 俊夫. 状態量としての圧力の理解, 理科教室. 11月号, 6–13, 2009.

深津 晋 (Susumu Fukatsu)

Tayagaki, T., Fukatsu, S., Kanemitsu, Y. Photoluminescence dynamics and reduced Auger recombination in $\text{Si}_{1-x}\text{Ge}_x$ /Si superlattices under high-density photoexcitation. *Phys. Rev. B*, **79**, 041301–1–4, 2009.

Yasutake, Y., Igarashi, J., Tana-ami, N., Fukatsu, S. An electric-field-active 1377-nm narrow-line Si light-emitting diode at 150 K.

Optics Express, **17**, 16739–16744, 2009.

深津 晋. SiGe混晶光エミッタとSi光増幅器. 光アライアンス, **20**, 1月号, 23–28, 2009.

福島 孝治 (Koji Hukushima)

Sakata, A., Hukushima, K., Kaneko, K. Statistical-mechanical study of evolution of robustness in noisy environments. *Phys. Rev. E* **80**, 051919, 2009.

Nakajima, T., Hukushima, K. Thermodynamic construction of a one-step replica-symmetry-breaking solution in finite-connectivity spin glasses. *Phys. Rev. E* **80**, 011103, 2009.

Sakata, A., Hukushima, K., Kaneko, K. Funnel Landscape and Mutational Robustness as a Result of Evolution under Thermal Noise. *Phys. Rev. Lett.*, **102**, 148101, 2009.

藤井 宏次 (Hirotugu Fujii)

Sano, T., Fujii, H., Ohtani, M. $U_A(1)$ breaking and phase transition in chiral random matrix model. *Phys. Rev. D* **80**, 034007-1–9, 2009.

Fujii, H., Itakura, K., Iwazaki, A. Instabilities in non-expanding glasma. *Nucl. Phys. A* **828**, 178–190, 2009.

Fujii, H., Fukushima, K., Hidaka, Y. Initial energy density and gluon distribution from the glasma in heavy-ion collisions. *Phys. Rev. C* **79**, 024909-1–12, 2009.

前田 京剛 (Atsutaka Maeda)

Ohashi, T., Kitano, H., Tsukada, I., Maeda, A. Critical charge dynamics of superconducting $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$ thin films probed by complex microwave spectroscopy: Anomalous changes of the universality class by hole doping. *Phys. Rev. B* **79**, 184507/1–20, 2009.

Ota, K., Hamada, K., Takemura, R., Ohmaki, M., Machi, T., Tanabe, K., Suzuki, M., Maeda, A., Kitano, H. Comparative study of macroscopic quantum tunneling in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_y$ intrinsic Josephson junctions with different device structures. *Phys. Rev. B* **79**, 134505/1–11, 2009.

Nakamura, D., Kitamura, S., Maeda, A. Crossover between the classical friction and the nano-scale friction investigated by the transient dynamics of vortices in $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$ thin films. *J. Phys. Conf. Ser.*, **150**, 052181/1–4, 2009.

Maeda, A., Ohashi, Kitano, H., Tanaka, R., Imai, Y., Tsukada, I., Naito, M. Crossover from superconductivity fluctuation to vortex picture in the vortex state of high-Tc cuprate superconductors. *J. Phys. Conf. Ser.*, **150**, 052146/1–4, 2009.

Kitano, H., Ota, K., Hamada, K., Takemura, R., Ohmaki, M., Maeda, A., Suzuki, M. Macroscopic quantum tunneling and thermal activation in a small mesa structured $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_y$ intrinsic Josephson junctions. *J. Phys. Conf. Ser.*, **150**, 052110/1–4, 2009.

Maeda, A., Yonenaga, I., Tajima, S., Hiyama E., Triki, E. Recent activities of the Physical Society of Japan for the promotion of gender equality. *AIP Conf. Proc.*, **1119**, 227, 2009.

前田 京剛. 階層性を越えて－便利な摩擦の概念：量子凝縮系－. 表面科学, **30**, 580–586, 2009.

増田 茂 (Shigeru Masuda)

Aoki, M., Toyoshima, S., Kamada, T., Sogo, M., Masuda, S., Sakurai, T., Akimoto, K. Level alignment of gap state at organic-metal interface. *J. Appl. Phys.*, **106**, 043715, 2009.

Masuda, S., Sasaki, K., Sogo, M., Aoki, M., Morikawa, Y. Electron emission spectra of thermal collisions of He metastable atoms with Au(111) and Pt(111) surfaces: Evidence for Penning ionization. *Phys. Rev. A*, **80**, 040901(R), 2009.

松井 哲男 (Tetsuo Matsui)

Hattori, K., Matsui, T. Distortion of the HBT images by the meson clouds, *Prog. Theor. Phys.*, **122**, 1301–1310, 2009.

松田 恭幸 (Yasuyuki Matsuda)

Miyake, Y., Shimomura, K., Kawamura, N., Strasser, P., Makimura, S., Koda, A., Fujimori, H., Nakahara, K., Kadono, R., Kato, M., Takeshita, S., Nishiyama, K., Higemoto, W., Ishida, K., Matsuzaki, T., Matsuda, Y., Nagamine, K. Birth of an intense pulsed muon source, J-PARC MUSE. *Physica B*, **404**, 957–961, 2009.

Tomono, D., Hiyama, Y., Iio, M., Ishida, K., Iwasaki, M., Ota, H., Ohnishi, H., Matsuzaki, T., Matsuda, Y., Yamazaki, H., Kasagi, J., Klein, R., Nakamura, S.N. Development of new mu-e decay counter in new multi-channel muSR spectrometer for intense pulsed muon beam. *Nucl. Instrum. Meth. A*, **600**, 44–46, 2009.

Takaeshita, S., Hiraiishi, M., Miyazaki, M., Koda, A., Kadono, R., Suzuki, S.Y., Yasu, Y., Tanaka, M., Matsuda, Y., Ishida, K., Matsuzaki, T. Development of positron detector for muSR based on multi-pixel photon counter. *Nucl. Instrum. Meth. A*, **600**, 139–142, 2009.

Miyake, Y., Nishiyama, K., Kawamura, N., Strasser, P., Makimura, S., Koda, A., Shimomura, K., Fujimori, H., Nakahara, K., Kadono, R., Kato, M., Takeshita, S., Higemoto, W., Ishida, K., Matsuzaki, T., Matsuda, Y., Nagamine, K. J-PARC muon source, MUSE. *Nucl. Instrum. Meth. A*, **600**, 22–24, 2009.

Yokoyama, K., Nagamine, K., Shimomura, K., Tom H.W.K., Kawakami, R., Bakule, P., Matsuda, Y., Pratt, F.L., Torikai, E. Muons

業績リスト

- for spintronics: Photo-induced conduction electron polarization in n-type GaAs observed by the muonium method. *Physica B*, **404**, 856–858, 2009.
- Bakule, P., Matsuda, Y., Miyake, Y., Nagamine, K., Shimomura, K., Strasser, P., Makimura, S., Iwasaki, M. Prospects for ultra-low-energy muon beam at J-PARC. *Nucl. Instrum. Meth. A*, **600**, 35–37, 2009.
- Sato, M., Bhang, H., Chiba, J., Choi, S., Fukuda, Y., Hanaki, T., Hayano, R.S., Iio, M., Ishikawa, T., Ishimoto, S., Ishiwatari, T., Itahashi, K., Iwai, M., Iwasaki, M., Kienle, P., Kim, J.H., Matsuda, Y., Ohnishi, H., Okada, S., Outa, H., Suzuki, S., Suzuki, T., Tomono, D., Widmann, E., Yamazaki, T., Yim, H. Search for strange trybaryon states in the 4He(Stopped K-, p) reaction. *Int. J. Mod. Phys. A*, **24**, 442–445, 2009.
- Nakahara, K., Miyake, Y., Shimomura, K., Strasser, R., Nishiyama, K., Kawamura, N., Fujimori, H., Makimura, S., Koda, A., Nagamine, K., Ogitsu, T., Yamamoto, A., Adachi, T., Sakaki, K., Tanaka, K., Kimura, N., Makida, Y., Ajima, Y., Ishida, K., Matsuda, Y. The super omega muon beam line at J-PARC. *Nucl. Instrum. Meth. A*, **600**, 132–134, 2009.
- Bakule, P., Sukhorukov, O., Matsuda, Y., Pratt, F., Gumplinger, P., Momose, T., Torikai, E., Fleming, D. Toward the first study of chemical reaction dynamics of Mu with vibrational-state-selected reactants in the gas phase: The Mu+H₂^{*}(v=1) reaction by stimulated Raman pumping. *Physica B*, **404**, 1013–1016, 2009.

真船 文隆 (Fumitaka Mafuné)

- Takeda, Y., Kondow, T., Mafuné, F. Selective Degradation of Proteins by Laser Irradiation onto Gold Nanoparticles in Solution. *J. Phys. Chem. C*, **113**, 5027–5030, 2008.
- Yonezawa, T., Kawasaki, H., Tarui, A., Watanabe, T., Arakawa, R., Shimada, T., Mafuné, F. Detailed investigation on the possibility of nanoparticles of various metal elements for surface assisted laser desorption/ionization mass spectrometry. *Anal. Sci.* **25**, 339–347, 2009.
- Fukushima, N., Miyajima, K., Mafuné, F. Ionization Energies of Niobium Carbide Clusters Nb_nC_m (n = 3–10, m = 0–7). *J. Phys. Chem. A*, **113**, 2309–2315, 2009.
- Miyajima, K., Fukushima, N., Mafuné, F. Reactivity of Group 5 Bielement Clusters with H₂. *J. Phys. Chem. A*, **113**, 4858–4861, 2009.
- Hirokawa, J., Kato, T., Mafuné, F. In Situ Measurements of Atmospheric Nitrous Acid by Chemical Ionization Mass Spectrometry Using Chloride Ion Transfer Reactions. *Anal. Chem.* **81**, 8380–8386, 2009.
- Miyajima, K., Fukushima, N., Himeno, H., Yamada, A., Mafuné, F. Breakdown of the Hume-Rothery Rules in Sub-Nanometer-Sized Ta-Containing Bimetallic Small Clusters. *J. Phys. Chem. A*, **113**, 13448–13450, 2009.

簀口 友紀 (Tomoki Minoguchi)

- Hosomi, N., Taniguchi, J., Suzuki, M., and Minoguchi, T. Dynamical sticking of a solid He-4 film with superfluid overlayer. *Phys. Rev.* **B79**, 172503, 2009.
- Ideura, K., Kobayashi, H., Hosomi, N., Taniguchi, J., Suzuki, M., and Minoguchi, T. Competition between the Slippage and the Superfluidity of 4He Films. *Proceedings of World Tribology Congress 2009*(Kyoto, Japan) 270, 2009.
- Minoguchi, T. New sound mode in superfluid He-4 film adsorbed on atomically flat substrate. *J. of Phys.: Conference Series*, **150**, 032060, 2009.
- Hosomi, N., Taniguchi, J., Suzuki, M., and Minoguchi, T. Effect of 3He on Superfluid 4He Films Adsorbed on Grafoil. *J. of Phys.: Conference Series*, **150**, 032031, 2009.

宮島 謙 (Ken Miyajima)

- Fukushima, N., Miyajima, K., Mafuné, F. Ionization Energies of Niobium Carbide Clusters Nb_nC_m (n = 3–10, m = 0–7). *J. Phys. Chem. A*, **113**, 2309–2315, 2009.
- Miyajima, K., Fukushima, N., Mafuné, F. Reactivity of Group 5 Bielement Clusters with H₂. *J. Phys. Chem. A*, **113**, 4858–4861, 2009.
- Miyajima, K., Fukushima, N., Himeno, H., Yamada, A., Mafuné, F. Breakdown of the Hume-Rothery Rules in Sub-Nanometer-Sized Ta-Containing Bimetallic Small Clusters. *J. Phys. Chem. A*, **113**, 13448–13450, 2009.

村田 滋 (Shigeru Murata)

- Sasaki, R., Nako, Y., Murata, S. Amphiphilic Pyrenecarboxylic Acids: Incorporation into Vesicle Membrane and Ability as Sensitizer for Electron Transport Reactions. *Tetrahedron*, **65**, 7364–7371, 2009.
- 村田 滋. 人工光合成とは何か？実現するにはどうしたらよいか？ 化学と教育, **57**, 24–25, 2009.
- 小川 桂一郎, 榊原 和久, 村田 滋. 基礎から学ぶ 有機化合物のスペクトル解析. 1–17, 41–73, 119–175. 東京化学同人(東京). 2008.

村田 純一 (Junichi Murata)

- 村田 純一. 技術の哲学. 1–212. 岩波書店(東京). 2009.

山崎 泰規 (Yasunori Yamazaki)

- Okada, K., Wada, M., Nakamura, T., Takamine, A., Lioubimov, V., Schury, P., Ishida, Y., Sonoda, T., Ogawa, M., Yamazaki, Y., Kanai, Y., Kojima, T., Yoshida, A., Kubo, T., Katayama, I., Ohtani, S., Wollnik, H. and Schuessler, H.A. Precision Measurement of the Hyperfine Structure of Laser-Cooled Radioactive ^7Be Ions Produced by Projectile Fragmentation. *Phys. Rev. Lett.* **101**, 212502, 2008.
- Oshima, N., Iwai, Y., Kojima, T., Ikeda, Y., Kanazawa, Y., Hoshino, M., Suzuki, R. and Yamazaki, Y. Guiding of a slow positron beam with a glass capillary. *Materials Science Forum* **607**, 263-265, 2009.
- Knudsen, H., Kristiansen, H.P.E., Thomsen, H.D., Uggerhoj, U.I., Ichioka, T., Moller, S.P., Hunniford, C.A., McCullough, R.W., Charlton, M., Kuroda, N., Nagata, Y., Torii, H., Yamazaki, Y., Imao, H., Andersen, H.H., Tokesi, K. On the double ionization of helium by very slow antiproton impact. *Nucl. Instrum. Methods B* **267**, 244-247, 2009.
- Kanai, Y., Hoshino, M., Kambara, T., Ikeda, T., Hellhammer, R., Stolterfoht, N. and Yamazaki, Y. Dynamic features of ion guiding by nanocapillaries in an insulating polymer. *Phys. Rev.* **A79**, 012711, 2009.
- Nakano, Y., Inoue, T., Azuma, T., Hatakeyama, A., Nakai, Y., Komaki, K., Yamazaki, Y., Takada E. and Murakami, T. Resonant Coherent Excitation of Li-like Ar^{15+} Ions in a Thin Si Crystal. *J.Phys.Conf.Series* **163**, 012094, 2009.
- Cesar, C.L., Andresen, G.B., Bertsche, W., Bowe, P.D., Bray, C.C., Butler, E., Chapman, S., Charlton, M., Fahans, J., Fujiwara, M., Funakoshi, R., GVill, D. R., Jenkins, M.J., Joergensen, L.V., Kurchaninov, L., Lambo, R., Madsen, N., Nolan, P., Olchanski, K., Olin, A., Page, R.D., Povilus, A., Pusa, P., Robicheaux, F., Sarid, E., Seif El Nasr, S., Silveira, D.M., Storey, J.W., Thompson, R.I., van der Werf, D.P., Wurte, J.S. and Yamazaki, Y. Antihydrogen Physics at ALPHA/CERN. *Can. J. Phys.* **87**, 791-797, 2009.
- Andresen, G.B., Bertsche, W., Bray, C.C., Butler, E., Cesar, C.L., Chapman, S., Charlton, M., Fajans, J., Fujiwara, M.C., Gill, D.R., Hardy, W.N., Hayano, R., Hayden, M.E., Humphries, A.J., Hydomako, R., Jørgensen, L.V., Kerrigan, S.J., Keller, J., Kurchaninov, L., Lambo, R., Madsen, N., Nolan, P., Olchanski, K., Olin, A., Povilus, A., Pusa, P., Robicheaux, F., Sarid, E., Seif El Nasr, S., Silveira, D.M., Storey, J.W., Thompson, R.I., van der Werf, D.P., Wurtele, J.S., and Yamazaki, Y. Magnetic multipole induced zero-rotation frequency bounce-resonant loss in a Penning-Malmberg trap used for antihydrogen trapping. *Physics of Plasmas* **16**, 100702, 2009.

吉岡 大二郎 (Daijiro Yoshioka)

- Nakakura, S., Nagai, Y., Yoshioka, D. Uniform Current in Graphene Strip with Zigzag Edges. *J. Phys. Soc. Jpn.*, **78**, 065003-1-2, 2009.

米谷 民明 (Tamiaki Yoneya)

- 米谷 民明. ノーベル賞に寄せて—私の好きな南部さんの論文. 科学(岩波書店). **79**号, 109-111, 2009.
- 米谷 民明. 物理学この1年—超弦理論. *パリティ*. **24**号, 38-39, 2009.
- 米谷 民明. マックスウェル方程式. *数理科学*. **552**号, 14-18, 2009.
- 米谷 民明. 対談：現代物理の世界像. *数理科学*. **553**号, 5-10, 2009.
- 米谷 民明. 量子重力理論の起源. 別冊数理科学量子重力理論, 15-20, 2009.
- 米谷 民明. それぞれの「エウレカ!」を. *数理科学*. **558**号, 5-6, 2009.
- 米谷 民明. インタビュー：物理の創造と原理の役割. *数理科学*. **558**号, 58-62, 2009.

和田 純夫 (Sumio Wada)

- 和田 純夫. 量子力学の疑問 **55**. 1-255. 講談社. 2009.
- 和田 純夫. プリンキピアを読む. 1-295. 講談社. 2009.
- ニュートン力学と万有引力. (ニュートン編集部編著. 和田純夫監修・著). ニュートン・プレス. 2009.

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- 栗川 知己. 多時間スケールをもつ学習過程における相空間ダイナミクス, *物性研究*, **93-1**, 70-123, 2009.