

門脇・柏木研究室2009年度（平成21年度）研究活動状況  
（2009年4月1日～2010年3月31日）

[学術論文]

- [1]. “Scaling Behavior of the Crossover to Short-Stack Regimes of Josephson vortex lattices In  $Bi_2Sr_2CaCu_2O_{8+\delta}$ ”, I. Kakeya, Y. Kubo, M. Kohri, M. Iwase, T. Yamamoto and K. Kadowaki, Phys. Rev. **B79** (2009) 212503(1-4).
- [2]. “Thermal Management in Large Bi2212 Mesas Used for Terahertz Sources”, C. Kurter, K. E. Gray, J. F. Zasadzinski, L. Ozyuzer, A. E. Koshelev, Q. Li, T. Yamamoto, K. Kadowaki, W. -K. Kwok, M. Tachiki and U. Welp, IEEE Trans. Appl. Superconductivity, **19** (June 2009) 428-431 (“the proceedings of the ASC (Applied Superconductivity Conference) 2008”, August 17-22, 2008, held at Chicago, USA).
- [3]. “Emission of Terahertz Waves from Stacks of Intrinsic Josephson Junctions”, K. E. Gray, L. Ozyuzer, A. E. Koshelev, C. Kurter, K. Kadowaki, T. Yamamoto, H. Minami, H. Yamaguchi, M. Tachiki, W. -K. Kwok and U. Welp, IEEE Trans. Appl. Superconductivity, **19** (June 2009) 886, (this is given at the ASC (Applied Superconductivity Conference) 2008, August 17-22, 2008, held at Chicago, USA but not the proceedings).
- [4]. “Vortex States in Mesoscopic Single Crystals  $Bi_2Sr_2CaCu_2O_{8+\delta}$  in High Magnetic Fields”, J. Mirković, Y. Kubo, T. Saitou, I. Kakeya, T. Yamamoto, A. Oral and K. Kadowaki, Physica **C469** (Aug.-Oct. 2009) 1119-1121 (the proceedings of the “21<sup>st</sup> International Symposium on Superconductivity (ISS 2008)”, October 27-29 2008, Tsukuba, Japan).
- [5]. “Terahertz Wave Emission from Intrinsic Josephson Junctions in High- $T_c$  Superconductors”, L. Ozyuzer, Y. Simsek, H. Koseoglu, F. Turkoglu, C. Kurter, U. Welp, A. E. Koshelev, K. E. Gray, W. K. Kwok, T. Yamamoto, K. Kadowaki, Y. Koval, H. B. Wang and P. Muller, Supercond. Sci. Technol. **22** (Nov. 2009) 114009 (Special Issue for the Selected Papers from the “International Superconductive Electronics Conference (ISEC)”, June 16-19 2009, Fukuoka, Japan).
- [6]. “Observation of a d-Wave Nodal Liquid in Highly Underdoped  $Bi_2Sr_2CaCu_2O_{8+\delta}$ ”, U. Chatterjee, M. Shi, D. Ai, J. Zhao, A. Kanigel, S. Rosenkranz, H. Raffy, Z. Z. Li, K. Kadowaki, D. G. Hinks, Z. J. Xu, J. S. Wen, G. Gu, C. T. Lin, H. Claus, M. R. Norman, M. Randeria and J. C. Campuzano, Nature Physics Letters, doi:10.1038/nphys1456 (November 22 2009).
- [7]. “Characteristics of Terahertz Radiation Emitted from the Intrinsic Josephson Junctions in High- $T_c$  Superconductor  $Bi_2Sr_2CaCu_2O_{8+\delta}$ ”, H. Minami, I. Kakeya, H. Yamaguchi, T. Yamamoto, K. Kadowaki, Appl. Phys. Lett. **95** (December 7, 2009) 232511.
- [8]. “The Radio-Frequency Impedance of Individual Intrinsic Josephson Junctions”, Johannes Leiner, Sajid Saleem, J. C. Fenton, Takashi Yamamoto, Kazuo Kadowaki and P. A. Warburton, Appl. Phys. Lett. **95** (December 23 2009) 252505(1-3).
- [9]. “Evidence for a Dual-Source Mechanism of Terahertz Radiation from Rectangular Mesas of Single

*Crystalline  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$  Intrinsic Josephson Junctions*”, Kazuo Kadowaki, Manabu Tsujimoto, Kazuhiro Yamaki, Takashi Yamamoto, Takanari Kashiwagi, Hidetoshi Minami, Masashi Tachiki and Richard A. Klemm, J. Phys. Soc. Jpn. **79** No.2 (February 2009) xxxx.

- [10]. “*Angular Dependence of the Radiation Power of a Josephson STAR-Emitter*”, Richard Klemm and K. Kadowaki, in print in J. Supercond. Magn., (proceedings of the “*International Conference on New Theories, Discoveries and Applications of Superconductors and Related Materials (New3SC-7)*”, held in Beijing, China, May 13-15 2009).
- [11]. “*Radiation from a Josephson STAR Emitter*”, Richard A. Klemm and Kazuo Kadowaki, to be Published in Phys. Rev. B.
- [12]. “*Geometrical Resonance Conditions of THz Radiation from Intrinsic Josephson Junction of  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$* ”, Manabu Tsujimoto, Kazuhiro Yamaki, Kota Deguchi, Takashi Yamamoto, Takanari Kashiwagi, Hidetoshi Minami, Masashi Tachiki and Kazuo Kadowaki, submitted to Phys. Rev. Lett.

#### [雑誌、新聞記事など、その他の著作物]

#### [国際会議招待講演]

- [1]. “*Continuous THz Radiation Generated from High Temperature Superconductor  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$* ”, given as an invited talk at the “*14<sup>th</sup> International AQDJJ (Arrays of Quantum Dots and Josephson Junctions) Conference in School Format, TeraHertz Radiation and Metamaterials (TeraMat 09)*” held at Benasque, Spain, 15<sup>th</sup> – 22<sup>nd</sup> December 2009.
- [2]. “*Continuous and Coherent THz Radiation Generated from High Temperature Superconductor  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$* ”, presented as an invited at the “*3<sup>rd</sup> AEARU (The Association of East Asian Research Universities) Advanced Materials Science Workshop*”, held at 11<sup>th</sup> – 13<sup>th</sup> November 2009, Pohang International Center, POSTEC, Korea.
- [3]. “*Anisotropic THz Radiation and Josephson Plasma Excitation Modes in a Single Crystalline Rectangular and Cylindrical Mesas of  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$* ”, given as an invited talk at the “*5<sup>th</sup> East Asia Symposium on Superconductive Electronics (EASSE 2009)*”, held at Nanjing University, Nanjing, China, October 12-14 2009.
- [4]. “*Understanding of the Mechanism of THz Electromagnetic Radiation in a Mesa of Intrinsic Josephson Junction System  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$* ”, presented as an invited talk at the “*ESF Research Networking Program, Nanoscience and Engineering in Superconductivity (NES), the 6<sup>th</sup> International Conference I School format on the Vortex Matter in Nanostructured Superconductors (VORTEX VX)*”, held at 17<sup>th</sup> - 24<sup>th</sup> September 2009 in Rhodes Islands, Greece.
- [5]. “*Terahertz Radiation from Intrinsic Josephson Junctions: Recent Development and Future Perspectives*”, presented as an invited talk at the “*9<sup>th</sup> International Conference on Materials and*

*Mechanisms of Superconductivity (M<sup>2</sup>S-IX)*”, held at September 7<sup>th</sup> – 12<sup>th</sup> 2009 at Keio Plaza Hotel, Tokyo, Japan.

- [6]. “*THz Radiation from Cylindrical and Rectangular Mesas of Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8+δ</sub> Intrinsic Josephson Junctions*”, given as an invited talk at the “*International Bogolyubov Conference, Problems of Theoretical and Mathematical Physics*”, in Aug. 21<sup>st</sup> – 27<sup>th</sup> 2009, Bogolyubov Laboratory of Theoretical Physics, Joint Institute for Nuclear Research (BLTP JINR), Dubna, Russia.
- [7]. “*Dream of Scientists: Room Temperature Superconductors*”, given as an invited lecture talk at the “*Montenegro Student Summer School*”, in August 28<sup>th</sup> 2009, Istrazivacki Kamp, Inanova Korita, Montenegro.
- [8]. “*Anisotropic THz Radiation and Josephson Plasma Excitation Modes in a Mesa of Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8+δ</sub>*”, given as an invited talk at the “*International Conference on Quantum Phenomena at Nanoscale*”, held in August 30<sup>th</sup> - September 4<sup>th</sup> 2009, at Hotel Maestral Casino & Resort, Sveti Stefan, Crna Gora, Montenegro.
- [9]. “*Management and Structure of Japanese University*”, given as an invited lecture at the “*International Workshop on Science and Society*”, on September 3<sup>rd</sup> 2009, at Hotel Maestral Casino & Resort, Sveti Stefan, Crna Gora, Montenegro.
- [10]. “*Synchronized THz Radiation Phenomena from High-T<sub>c</sub> Superconductor Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8+δ</sub> Single Crystal*”, given as an invited talk at the “*ESF Nanoscience and Engineering in Superconductivity (NES) conference on Hybrid and Josephson Structures*”, held at Anacapri, Hotel San Michele, 3<sup>rd</sup> – 6<sup>th</sup> June 2009.

#### **[国際会議口頭発表]**

#### **[国際会議ポスター発表]**

- [1]. J. Mirkovic, T. Saito, S. Deguchi, T. Yamamoto, K. Kadowaki, “*Anomalous Resistivity Behavior in Mesoscopic Single Crystals of Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8+δ</sub> in High Magnetic Fields*”, presented as a poster presentation (VPP-18) at the “*International Symposium on Superconductivity (ISS'09)*”, November 02-04, 2009, Epochal, Tsukuba, Japan.
- [2]. Kazuhiro Yamaki, “*Dynamical Control of THz Emission from Rectangular Mesa of Single Crystalline Bi-2212*”, presented as a poster presentation at the “*ESF Research Networking Program, Nanoscience and Engineering in Superconductivity (NES), the 6<sup>th</sup> International Conference I School format on the Vortex Matter in Nanostructured Superconductors (VORTEX VX)*”, held at 17<sup>th</sup> - 24<sup>th</sup> September 2009 in Rhodes Islands, Greece.
- [3]. Manabu Tsujimoto, “*Geometrical Resonance Effect on Terahertz Radiation Generated from Intrinsic Josephson Junction Systems*”, presented as a poster presentation at the “*ESF Research Networking Program, Nanoscience and Engineering in Superconductivity (NES), the 6<sup>th</sup> International Conference*”

- I School format on the Vortex Matter in Nanostructured Superconductors (VORTEX VX)*”, held at 17<sup>th</sup> - 24<sup>th</sup> September 2009 in Rhodes Islands, Greece.
- [4]. Tomoki Goya, Shen V. Chong and K. Kadowaki, “*Possible Strain and Charge-Induced Superconductivity in Yttrium Doped Sr-122 FeAs System*”, presented as a poster presentation at the “*12<sup>th</sup> International Workshop on Vortex Matter in Superconductors*”, Yamanakako Naito Seminar House, September 12<sup>th</sup>-16<sup>th</sup>, 2009.
- [5]. Ryozo Yoshizaki, Hiroshi Ikeda and Kazuo Kadowaki, “*Properties of Ca-Doped Bi<sub>2+x</sub>Sr<sub>2-x</sub>CuO<sub>6+δ</sub>*”, presented as a poster presentation at the “*9<sup>th</sup> International Conference on Materials and Mechanisms of Superconductivity (M<sup>2</sup>S-IX)*”, held at September 7<sup>th</sup> – 12<sup>th</sup> 2009 at Keio Plaza Hotel, Tokyo, Japan.
- [6]. Shinya Hashimoto and Kazuo Kadowaki, “*Fabrication and Physical Properties of Rare-Earth 123 Based Whiskers*”, presented as a poster presentation at the “*9<sup>th</sup> International Conference on Materials and Mechanisms of Superconductivity (M<sup>2</sup>S-IX)*”, held at September 7<sup>th</sup> – 12<sup>th</sup> 2009 at Keio Plaza Hotel, Tokyo, Japan.
- [7]. Shen V. Chong, T. Goya, N. Yamaguchi and K. Kadowaki, “*Superconductivity at High T<sub>c</sub> in Neodymium-Doped 1111-SrFeAsF Iron Pnictide System*”, presented as a poster presentation at the “*9<sup>th</sup> International Conference on Materials and Mechanisms of Superconductivity (M<sup>2</sup>S-IX)*”, held at September 7<sup>th</sup> – 12<sup>th</sup> 2009 at Keio Plaza Hotel, Tokyo, Japan.
- [8]. Kazuhiro Yamaki, Manabu Tsujimoto, Takashi Yamamoto, Hidetoshi Minami and Kazuo Kadowaki, “*Magnetic Field Effect on THz Radiation from Rectangular Shape Bi2212 IJJ’s*”, presented as a poster presentation at the “*9<sup>th</sup> International Conference on Materials and Mechanisms of Superconductivity (M<sup>2</sup>S-IX)*”, held at September 7<sup>th</sup> – 12<sup>th</sup> 2009 at Keio Plaza Hotel, Tokyo, Japan.
- [9]. Manabu Tsujimoto, Kazuhiro Yamaki, Takashi Yamamoto, Hidetoshi Minami and Kazuo Kadowaki, “*Terahertz Radiation Generated from Cylindrical Mesas of Bi2212*”, presented as a poster presentation at the “*9<sup>th</sup> International Conference on Materials and Mechanisms of Superconductivity (M<sup>2</sup>S-IX)*”, held at September 7<sup>th</sup> – 12<sup>th</sup> 2009 at Keio Plaza Hotel, Tokyo, Japan.
- [10]. Naoki Orita, Hidetoshi Minami, Takashi Koike, Takashi Yamamoto and Kazuo Kadowaki, “*Synchronized Operation between Two Serially Connected Bi2212 Based THz Emitters*”, presented as a poster presentation at the “*9<sup>th</sup> International Conference on Materials and Mechanisms of Superconductivity (M<sup>2</sup>S-IX)*”, held at September 7<sup>th</sup> – 12<sup>th</sup> 2009 at Keio Plaza Hotel, Tokyo, Japan.
- [11]. Hidetoshi Minami, Naoki Orita, Takashi Koike, Takashi Yamamoto and Kazuo Kadowaki, “*Continuous and Reversible Operation of Bi2212 Based THz Emitters just below T<sub>c</sub>*”, presented as a poster presentation at the “*9<sup>th</sup> International Conference on Materials and Mechanisms of Superconductivity (M<sup>2</sup>S-IX)*”, held at September 7<sup>th</sup> – 12<sup>th</sup> 2009 at Keio Plaza Hotel, Tokyo, Japan.
- [12]. Jovan Mirkovic, Takashi Saito, Yuimaru Kubo, Itsuhiro Kakeya, Ahmed Oral, Takashi Yamamoto and Kazuo Kadowaki, “*Crossing Vortex Lattice and Lock-in Vortex State in Mesoscopic Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8+δ</sub> Single Crystals*”, presented as a poster presentation at the “*9<sup>th</sup> International*

*Conference on Materials and Mechanisms of Superconductivity (M<sup>2</sup>S-IX)*”, held at September 7<sup>th</sup> – 12<sup>th</sup> 2009 at Keio Plaza Hotel, Tokyo, Japan.

- [13]. Jovan Mirkovic, Atsushi Nakano, Itsuhiro Kakeya, Takashi Yamamoto and Kazuo Kadowaki, “*Vortex Phases in Magnetic Fields near ab-Plane in Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8+δ</sub> Single Crystals*”, presented as a poster presentation at the “*9<sup>th</sup> International Conference on Materials and Mechanisms of Superconductivity (M<sup>2</sup>S-IX)*”, held at September 7<sup>th</sup> – 12<sup>th</sup> 2009 at Keio Plaza Hotel, Tokyo, Japan.
- [14]. T. Nishio, R. B. G. Kramer, V. H. Dao, L. F. Chibotaru, N. D. Zhigadlo, J. Karpinski, K. Kadowaki, V. V. Moshchalkov, “*Inhomogeneity of Initial Flux Penetration in MgB<sub>2</sub> Single Crystals*”, presented as a poster presentation at the “*9<sup>th</sup> International Conference on Materials and Mechanisms of Superconductivity (M<sup>2</sup>S-IX)*”, held at September 7<sup>th</sup> – 12<sup>th</sup> 2009 at Keio Plaza Hotel, Tokyo, Japan.

#### **[国内会議招待講演]**

#### **[国内会議ポスター発表]**

- [1]. 橋本慎也、「Rare-Earth 123 系ウイスキーの作成と物性測定」、第 17 回磁束線物理国内会議、平成 21 年 12 月 1～3 日、大阪府立大学中之島サテライト (2 階会議室)
- [2]. 門脇和男、八巻和宏、辻本学、出口幸太、折田尚樹、小池隆、中山諒、山本卓、柏木隆成、茂筑高士、R. A. Klemm、南英俊、「高温超伝導体 Bi2212 単結晶を用いたテラヘルツ波発振の現状」、2009 年 JST CREST 第 2 回シンポジウム、新機能創世に向けた光・光量子科学技術にてポスター発表。平成 21 年 11 月 27 日、日本科学未来館にて。

#### **[国内会議の一般口頭発表]**

- [1]. 柏木隆成、「Bi2212 単結晶を用いたテラヘルツ波発振素子の磁場効果とその発振特性」、第 17 回磁束線物理国内会議、平成 21 年 12 月 1～3 日、大阪府立大学中之島サテライト (2 階会議室)
- [2]. 辻本 学、「Bi2212 固有ジョセフソン接合系の多重ブランチ構造とテラヘルツ発振」、第 17 回磁束線物理国内会議、平成 21 年 12 月 1～3 日、大阪府立大学中之島サテライト (2 階会議室)

#### **[外国での一般講演]**

#### **[国内での一般講演]**

- [1]. 門脇和男、平成 21 年度スーパーサイエンススクール長野県諏訪清陵高等学校 2 学年進路講演会にて講演、講演題目：「超伝導の研究：高温超伝導を目指して」、平成 21 年 11 月 28 日。

#### **[学会発表]**

[日本物理学会]

- [1]. 橋本慎也、門脇和男、「Rare-Earth 123 系ウィスカーの作成と物性測定(2)」、日本物理学会 2009 年秋季大会（熊本大学黒髪キャンパス）、平成 21 年（2009 年）9 月 26 日、領域 8（高温超伝導（光電子分光、トンネル分光、光学応答など））にて口頭発表(26-RK-12)、日本物理学会講演概要集第 64 巻第 2 号第 3 分冊、p517.
- [2]. 吉崎亮造、池田 博、門脇和男、「Bi2201 相における Ca ドーピング効果の研究(II)」、日本物理学会 2009 年秋季大会（熊本大学黒髪キャンパス）、平成 21 年（2009 年）9 月 26 日、領域 8（高温超伝導（光電子分光、トンネル分光、光学応答など））にて口頭発表(16pRK-11)。
- [3]. Krsto Ivanovic, M. Tachiki and K. Kadowaki, “The Effect of Charging on THz Emission in  $Bi_2Sr_2CaCu_2O_{8+\delta}$  Single Crystals”, 日本物理学会 2009 年秋季大会（熊本大学黒髪キャンパス）、平成 21 年（2009 年）9 月 26 日、領域 8（ポスターセッション）にて発表(16aPS-80)。
- [4]. 持地貴紘、Shen V. Chen, 呉屋朝樹、山口尚人、茂筑高士、門脇和男、「BaFe<sub>2</sub>As<sub>2</sub>系における良質な単結晶作成法の探索」、日本物理学会 2009 年秋季大会（熊本大学黒髪キャンパス）、平成 21 年（2009 年）9 月 27 日、領域 8（鉄系超伝導体 5（試料合成・薄膜など））にて口頭発表(27aRH-2)、日本物理学会講演概要集第 64 巻第 2 号第 3 分冊、p530.
- [5]. 山口尚人、Shen V. chong, 門脇和男、「Sr<sub>1-x</sub>Nd<sub>x</sub>FeAsF 系 (Nd-doping) の試料作成と物性評価」、日本物理学会 2009 年秋季大会（熊本大学黒髪キャンパス）、平成 21 年（2009 年）9 月 27 日、領域 8（鉄系超伝導体 5（試料合成・薄膜など））にて口頭発表(27aRH-2)、日本物理学会講演概要集第 64 巻第 2 号第 3 分冊、p530.
- [6]. 呉屋朝樹、Shen V. Chong, 門脇和男、「Sr<sub>1-x</sub>Y<sub>x</sub>Fe<sub>2</sub>As<sub>2</sub> の単結晶作成」、日本物理学会 2009 年秋季大会（熊本大学黒髪キャンパス）、平成 21 年（2009 年）9 月 27 日、領域 8（鉄系超伝導体 5（試料合成・薄膜など））にて口頭発表(27aRH-3)、日本物理学会講演概要集第 64 巻第 2 号第 3 分冊、p530.
- [7]. 門脇和男、八巻和宏、辻本学、出口幸太、小池隆、折田尚樹、柏木隆成、南英俊、福屋翔太、Krsto Ivanovic, 立木昌、「多重固有ジョセフソン接合系における THz 波発振機構と電磁波「モード」、日本物理学会 2009 年秋季大会（熊本大学黒髪キャンパス）、平成 21 年（2009 年）9 月 27 日、領域 8（磁束量子系 2（THz 発振他））にて口頭発表(27pRG-1)、日本物理学会講演概要集第 64 巻第 2 号第 3 分冊、p542.
- [8]. 八巻和宏、辻本学、山本卓、南英俊、門脇和男、「Bi2212 を用いたテラヘルツ波発振の磁場応答とそのスイッチング特性」、日本物理学会 2009 年秋季大会（熊本大学黒髪キャンパス）、平成 21 年（2009 年）9 月 27 日、領域 8（磁束量子系 2（THz 発振他））にて口頭発表(27pRG-2)、日本物理学会講演概要集第 64 巻第 2 号第 3 分冊、p542.
- [9]. 折田尚樹、小池隆、南英俊、山本卓、門脇和男、「Bi2212 固有ジョセフソン接合系のテラヘルツ発振特性 II」、日本物理学会 2009 年秋季大会（熊本大学黒髪キャンパス）、平成 21 年（2009 年）9 月 27 日、領域 8（磁束量子系 2（THz 発振他））にて口頭発表(27pRG-3)、日本物理学会講演概要集第 64 巻第 2 号第 3 分冊、p542.

- [10]. 辻本学、八巻和宏、出口幸太、山本卓、南英俊、柏木隆成、門脇和男、「 $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$  単結晶メサによるテラヘルツ波発振の形状効果 III」、日本物理学会 2009 年秋季大会（熊本大学黒髪キャンパス）、平成 21 年（2009 年）9 月 27 日、領域 8（磁束量子系 2（THz 発振他））にて口頭発表(27pRG-7)、日本物理学会講演概要集第 64 巻第 2 号第 3 分冊、p543.
- [11]. 柏木隆成、八巻和宏、辻本学、出口幸太、折田尚樹、小池隆、山本卓、南英俊、門脇和男、日本物理学会 2009 年秋季大会（熊本大学黒髪キャンパス）、平成 21 年（2009 年）9 月 27 日、領域 8（磁束量子系 2（THz 発振他））にて口頭発表(27pRG-8)、日本物理学会講演概要集第 64 巻第 2 号第 3 分冊、p543.
- [12]. 出口幸太、辻本学、折田尚樹、小池隆、八巻和宏、山本卓、南英俊、柏木隆成、門脇和男、日本物理学会 2009 年秋季大会（熊本大学黒髪キャンパス）、平成 21 年（2009 年）9 月 27 日、領域 8（磁束量子系 2（THz 発振他））にて口頭発表(27pRG-9)、日本物理学会講演概要集第 64 巻第 2 号第 3 分冊、p543.
- [13]. 小池隆、折田尚樹、南英俊、山本卓、門脇和男、日本物理学会 2009 年秋季大会（熊本大学黒髪キャンパス）、平成 21 年（2009 年）9 月 27 日、領域 8（磁束量子系 2（THz 発振他））にて口頭発表(27pRG-10)、日本物理学会講演概要集第 64 巻第 2 号第 3 分冊、p544.

#### **[国際（国内）会議、研究会、セミナーなどの座長、議長、司会、その他]**

- [1]. K. Kadowaki, Chairman of the afternoon session December 17<sup>th</sup>, 2009, at the “14<sup>th</sup> International AQDJJ (Arrays of Quantum Dots and Josephson Junctions) Conference in School Format, TeraHertz Radiation and Metamaterials (TeraMat 09)” held at Benasque, Spain, 15<sup>th</sup> – 22<sup>nd</sup> December 2009.
- [2]. 門脇和男、「第 17 回磁束線物理国内会議」（平成 21 年 12 月 1 日から 3 日、大阪府立大学中之島サテライト 2 階会議室で開催）で 2 日午後のセッション、「固有ジョセフソン接合 II」の座長をつとめる。
- [3]. K. Kadowaki, Chairman of the 2<sup>nd</sup> session, “Intrinsic Josephson Junction and THz Radiation” September 14<sup>th</sup>, at the “12<sup>th</sup> International Workshop on Vortex Matter in Superconductors”, Yamanakako Naito Seminar House, September 12<sup>th</sup>-16<sup>th</sup>, 2009.

#### **[国際（国内）会議、国際（国内）ワークショップ等の主催]**

#### **[特許、意匠などの知的所有権]**

#### **[その他特記事項]**

- [1]. Poster Award: Manabu Tsujimoto was awarded the 2<sup>nd</sup> Prize poster award at the conference at the “ESF Research Networking Program, Nanoscience and Engineering in Superconductivity (NES), the 6<sup>th</sup> International Conference I School format on the Vortex Matter in Nanostructured Superconductors (VORTEX VX)”, held at 17<sup>th</sup> - 24<sup>th</sup> September 2009 in Rhodes Islands, Greece.