International Symposium on Nanoscale Transport and Technology

- ISNTT2009 -

January 20(Tue.) – 23(Fri.), 2009
NTT Atsugi R&D Center
Kanagawa, Japan

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JST-DFG Strategic Japanese-German Cooperative Program
JSPS Grants-in-Aid for Scientific Research Programs

ISNTT2009 Time Table

January 20th (Tuesday)

Opening (9:50-10:10)		
10:10-10:50	Heiblum (Plenary)	Tu-01
Coffee Break (10:50-11:20)		
11:20-11:50	Molenkamp (Invited)	Tu-02
11:50-12:10	Khaetskii	Tu-03
12:10-12:30	Kamata	Tu-04
Lunch (12:30-13:50)		
13:50-14:20	Lee (Invited)	Tu-05
14:20-14:50	Nogues (Invited)	Tu-06
14:50-15:10	Mukai	Tu-07
15:10-15:40	Schmiedmayer (Invited)	Tu-08
Coffee Break (15:40-16:10)		
16:10-16:40	Geelhaar (Invited)	Tu-09
16:40-17:00	Zhang	Tu-10
17:00-17:20	Claeson	Tu-11
Poster Session I (17:20-19:00)		
Welcome Party at NTT R&D Center (19:00-20:00)		

January 21st (Wednesday)

(We-02: canceled)

9:30-10:10	Leggett (Special)	We-01
10:10-10:30	Tsuchiya	We-03
Coffee Break (10:30-11:00)		
11:00-11:30	Morton (Invited)	We-04
11:30-12:00	Itoh (Invited)	We-05
12:00-12:20	Khalafalla	We-06
Symposium Photo (12:20-12:30)		
Lunch (12:30-13:50)		
13:50-14:20	Vandersypen (Invited)	We-07
14:20-14:50	Ihn (Invited)	We-08
14:50-15:10	Pioro-Ladrière	We-09
15:10-15:30	Shinkai	We-10
15:30-15:50	Sachrajda	We-11
Coffee Break (15:50-16:20)		
16:20-16:50	Roch (Invited)	We-12
16:50-17:10	Deacon	We-13
17:10-17:30	Kawabata	We-14
17:30-17:50	Kambara	We-15
Poster Session II (17:50-19:30)		

January 22nd (Thursday)

9:00-9:30	Appelbaum (Invited)	Th-01
9:30-9:50	Faniel	Th-02
9:50-10:10	Otsuka	Th-03
10:10-10:30	Kosaka	Th-04
Coffee Break (10:30-11:00)		
11:00-11:30	Friedland (Invited)	Th-05
11:30-11:50	Hashimoto	Th-06
11:50-12:10	Oto	Th-07
12:10-12:30	Nomura	Th-08
Lunch (12:30-13:50)		
13:50-14:20	Clarke (Invited)	Th-09
14:20-14:50	Siddiqi (Invited)	Th-10
14:50-15:10	Nori	Th-11
15:10-15:40	Delsing (Invited)	Th-12
15:40-16:00	Semba	Th-13
Coffee Break (16:00-16:30)		
16:30-17:00	Pekola (Invited)	Th-14
17:00-17:30	Hiramoto (Invited)	Th-15
17:30-17:50	Nishiguchi	Th-16
Banquet at NTT R&D Center (17:50-20:00)		

January 23rd (Friday)

9:20-9:50	Mamin (Invited)	Fr-01
9:50-10:20	Bleszynski (Invited)	Fr-02
10:20-10:40	Poot	Fr-03
10:40-11:00	Mahboob	Fr-04
Coffee Break (11:00-11:30)		
11:30-11:50	Russo	Fr-05
11:50-12:10	Yoshida	Fr-06
12:10-12:30	Nagase	Fr-07
Lunch (12:30-13:50)		
13:50-14:20	Esteve (Invited)	Fr-08
14:20-14:50	Harmans (Invited)	Fr-09
14:50-15:20	Tsai (Invited)	Fr-10
15:20-15:50	Martinis (Invited)	Fr-11
Closing (15:50-16:10)		

January 20th, Tuesday

9:50～10:10
Opening Remarks

SESSION 1 : Plenary Session

10:10～10:50
Tu-01 : Electron Interference in Two Dimensions:
【PLENARY】**Phase measurements, controlled dephasing and phase recovery**
Moty Heiblum
Weizmann Institute of Science

10:50:～11:20
COFFEE BREAK (30 min.)

SESSION 2 : Spin Hall Effect and Edge Transport

11:20:～11:50
Tu-02 : Spin Hall Effects in HgTe Quantum Well Structures
【INVITED】Laurens W. Molenkamp
Universität Würzburg

11:50:～12:10
Tu-03 : Spin Hall Edge Spin Accumulation in the Ballistic Regime: Role of the intrinsic mechanism
Alexander Khaetskii and Eugene Sukhorukov
Institute of Microelectronics Technology RAS

12:10～12:30
Tu-04 : Velocity Controlled Delay Line for Electron Wavepacket in the Quantum Hall Regime
Hiroshi Kamata, Takeshi Ota, Koji Muraki, and Toshimasa Fujisawa
NTT Basic Research Laboratories and Tokyo Institute of Technology

12:30～13:50
Lunch

SESSION 3 : Quantum Operations with Atoms

13:50～14:20
Tu-05 : Coherent Control of Pairs of Atoms in a Double-Well Optical Lattice
【INVITED】Patricia Lee, Marco Anderlini, Benjamin Brown, Jennifer Sebby-Strabley, Nathan Lundblad, John Obrecht, William Phillips, and Trey Porto
NIST & University of Maryland and US Army Research

14:20～14:50
Tu-06 : Cryogenic Microtraps for Ground State and Rydberg Atoms
【INVITED】Gilles Nogues
CNRS - Laboratoire Kastler Brossel

14:50～15:10
Tu-07 Tight and Stable Micro Trap for Neutral Atom with Superconductor
Tetsuya Mukai, Christoph Hufnagel, Hideyuki Sawamura, and Fujio Shimizu
NTT Basic Research Laboratories and CREST-JST

15:10～15:40
Tu-08 : A Quantum Interconnect between the Solid State
【INVITED】**- Atomic - photonic quantum worlds**
Jörg Schmiedmayer
TU-Wien

15:40:～16:10

COFFEE BREAK (30 min.)

SESSION 4 : Growth and Characterization of Novel Materials

16:10～16:40

Tu-09 :

【INVITED】**In-Situ Study of Catalyst-Induced GaN Nanowire Growth**

Lutz Geelhaar
Paul-Drude-Institut für Festkörperelektronik

16:40～17:00

Tu-10 : Parallel-Aligned Lateral Nanowires on GaAs Substrates Using Vapor-Liquid-Solid Method

Guoqiang Zhang, Kouta Tateno, and Hidetoshi Nakano
NTT Basic Research Laboratories

17:00～17:20

Tu-11 : Defects and Electrical Properties of $LaAlO_3/SrTiO_3$ Hetero-Interfaces

A. Kalabukhov, Y. Boikov, I. Serenkov, V. Sakharov, R.Gunnarsson, J. Börjesson, E. Olsson, D. Winkler, and T. Claeson
Chalmers University of Technology

17:20～19:00

POSTER Session I

19:00～20:00

WELCOME PARTY at NTT Atsugi R&D Center

January 21st, Wednesday

SESSION 1 : Topology, Statistics, and Hierarchy

09:30～10:10

We-01 : Some Thoughts on the Prospects for Topological Quantum Computation
【SPECIAL】 Tony Leggett
University of Illinois

We-02 : Canceled
【INVITED】 **Quasiparticle Properties from Tunneling in the ν = 5/2 Fractional Quantum Hall State**
Jeff Miller
Harvard University

10:10～10:30

We-03 : Effects of Hierarchical Structure in Superconducting Networks
Satoshi Tsuchiya, Takeshi Toshima, Hiroyoshi Nobukane, Katsuhiko Inagaki, and Satoshi Tanda
Hokkaido University

10:30～11:00

COFFEE BREAK (30 min.)

SESSION 2 : Nuclear Spin and Dopants in Silicon

11:00～11:30

We-04 : Solid State Quantum Memory using the ^{31}P Nuclear Spin:
【INVITED】 **Coherent electron spin storage beyond a second**
John J. L. Morton, Alexei M. Tyryshkin, Richard M. Brown, Shyam Shankar, Brendon W.Lovett, Arzhang Ardavan, Thomas Schenkel, Eugene E. Haller, Joel W. Ager and S. A. Lyon
Oxford University

11:30～12:00

We-05 : Magnetic-Field Control of the Bell States Formed by Nuclear-Spins
【INVITED】 **and Electron-Spins of Phosphorus in Silicon**
H. Morishita, H. Tanaka, K. Semba, L. S. Vlasenko, K. Sawano, Y. Shiraki, M. Eto, and K. M Itoh
Keio University

12:00～12:20

We-06 : Detection and Position Analysis of Single and Coupled Acceptors in Silicon Nano Field-Effect Transistors
M. A. H. Khalafalla, Y. Ono, K. Nishiguchi, A. Fujiwara
NTT Basic Research Laboratories

12:20～12:30

Symposium Photo

12:30～13:50

Lunch

SESSION 3 : Semiconductor Quantum Dots and Qubits

13:50～14:20

We-07 : Control of Electron and Nuclear Spins in Semiconductor Quantum Dots

【INVITED】Lieven Vandersypen

TUDelft

14:20～14:50

We-08 : Back-Action of Quantum Point Contact Charge Detectors

【INVITED】Thomas Ihn, Simon Gustavsson, Urszula Gasser, R. Leturcq, Ivan Shorubalko, and Klaus Ensslin

ETH Zurich

14:50～15:10

We-09 : Charge Detection of Electrically Driven Single-Electron Spin Resonance in a Slanting Zeeman Field

M. Pioro-Ladrière, T. Obata, R. Brunner, Y. Tokura, Y.-S. Shin, T. Kubo, K. Yoshida, T.Taniyama, and S. Tarucha

ICORP-JST

15:10～15:30

We-10 : Correlated Coherent Oscillations in Coupled Semiconductor Charge Qubits

Gou Shinkai, Toshiaki Hayashi, Takeshi Ota, and Toshimasa Fujisawa

NTT Basic Research Laboratories and Tokyo Institute of Technology

15:30～15:50

We-11 : High Speed Charge Detection for Multiple Quantum Dot Circuits

J. Kycia, L. Gaudreau, J. Mason, S. Studenikin, A. Kam, and A. S. Sachrajda

NRC Canada

15:50～16:20

COFFEE BREAK (30 min.)

SESSION 4 : Correlation in Novel Junctions

16:20～16:50

We-12 : Observation of a Quantum Phase Transition in a Single-Molecule Quantum Dot

【INVITED】Nicolas Roch, Serge Florens, Vincent Bouchiat, Wolfgang Wernsdorfer, and Franck Balestro

Néel Institut and CNRS

16:50～17:10

We-13 : Kondo Correlations and Andreev Conductance in Self-Assembled InAs Quantum Dots Contacted with Superconducting and Normal Leads

R. S. Deacon, A. Oiwa, K. Yoshida, K. Shibata, K. Hirakawa, and S. Tarucha

University of Tokyo

17:10～17:30

We-14 : Theory of Josephson Effect through Spintronics Materials

Shiro Kawabata, Yasuhiro Asano, Yukio Tanaka, and Satoshi Kashiwaya

AIST

17:30～17:50

We-15 : Anomalous Transport through p-wave Superconducting Filaments in the 3-K Phase of Sr_2RuO_4

H. Kambara, S. Kashiwaya, H. Yaguchi, Y. Asano, Y. Tanaka, and Y. Maeno

AIST

17:50～19:30

POSTER Session II

January 22nd, Thursday

SESSION 1 : Spin Transport and Spin Control

09:00～09:30

Th-01 : Spin Injection, Transport, and Control in Silicon

【INVITED】Ian Appelbaum

University of Maryland

09:30～09:50

Th-02 : Experimental Investigation of Spin Interference Phenomena in InGaAs/InAlAs Rectangular Loop Arrays

S. Faniel, T. Koga, and Y. Sekine

Hokkaido University

09:50～10:10

Th-03 : Detection of Spin Polarization with a Side Coupled Quantum Dot

Tomohiro Otsuka, Eisuke Abe, Yasuhiro Iye, and Shingo Katsumoto

The University of Tokyo

10:10～10:30

Th-04 : Coherent Spin State Transfer from Light to Electrons in a Semiconductor

H. Kosaka, H. Shigyou, T. Inagaki, Y. Mitsumori, Y. Rikitake, H. Imamura T. Kutsuwa, M. Kuwahara, and K. Edamatsu

Tohoku University and CREST-JST

10:30～11:00

COFFEE BREAK (30 min.)

SESSION 2 : Quantum Hall Effect

11:00～11:30

Th-05 : High-Mobility Electron Transport on Cylindrical Surfaces

【INVITED】Klaus-Jürgen Friedland

Paul-Drude-Institut für Festkörperelektronik

11:30～11:50

Th-06 : Real-Space Imaging of Quantum Hall Transition

K. Hashimoto, C. Sohrmann, J. Wiebe, T. Inaoka, Y. Hirayama, R. A. Römer, R. Wiesendanger, and M. Morgenstern

Hamburg University,Tohoku University, and JST-ERATO

11:50～12:10

Th-07 : Spin Polarization Imaging of Quantum Hall Current by Scanning Kerr Microscope

R. Inaba, T. Yamada, K. Oto, K. Muro, Y. Hirayama, N. Kumada, and H. Yamaguchi

Chiba University

12:10～12:30

Th-08 : Electron Density Dependence of Photoluminescence Peak Splitting in a Gated Undoped Quantum Well

S. Nomura, M. Yamaguchi, H. Tamura, T. Akazaki, T. Maruyama, S. Miyashita, and Y. Hirayama

University of Tsukuba and NTT Basic Research Laboratories

12:30～13:50

Lunch

SESSION 3 : Superconducting Quantum Circuits and Qubits

13:50～14:20
Th-09 : Near-Quantum-Limited SQUID Amplifier
【INVITED】John Clarke and D. Kinion
University of California, Berkeley

14:20～14:50
Th-10 : The Josephson Chirped Amplifier:
【INVITED】**A dispersive, non-switching threshold detector**
Irfan Siddiqi
University of California, Berkeley

14:50～15:10
Th-11 : Designing Superconducting Qubit Circuits That Exhibit Atomic-Physics-Like Phenomena on a Chip
Franco Nori, J.Q. You, Yu-xi Liu, L.F. Wei, and S. Ashhab
RIKEN, CREST-JST, and University of Michigan

15:10～15:40
Th-12 : Tunable Cavities for Qubit Coupling and Parametric Amplifiers and Oscillators
【INVITED】Per Delsing
Chalmers University of Technology

15:40～16:00
Th-13 : Quantum Coherence and Readout of the Persistent Current Qubit
S. Saito, A. Kemp, K. Kakuyanagi, S. Kagei, R. Koibuchi, H. Takayanagi, and K. Semba
NTT Basic Research Laboratories

16:00～16:30
COFFEE BREAK (30 min.)

SESSION 4 : Nanoelectronics and Single-Electron Devices

16:30～17:00
Th-14 : Hybrid Single-Electron Turnstile
【INVITED】J.P. Pekola, D.V. Averin, S. Kafanov, A. Kemppinen, M. Meschke, M. Möttönen, Yu.A. Pashkin, O.-P. Saira, and J.J. Vartiainen
Helsinki University of Technology

17:00～17:30
Th-15 : Silicon Nanowire FETs and Single-Electron/Hole Transistors
【INVITED】**Under Uniaxial Strain at Room Temperature**
Toshiro Hiramoto, Jiezhi Chen, YeonJoo Jeong, and Takuya Saraya
The University of Tokyo

17:30～17:50
Th-16 : Single-Electron-Based Stochastic Circuit for Pattern Recognition Using Nano-FETs
Katsuhiko Nishiguchi and Akira Fujiwara
NTT Basic Research Laboratories

17:50～20:00
Banquet at NTT Atsugi R&D Center

January 23rd, Friday

SESSION 1 : Electromechanical Systems

09:20～09:50

Fr-01 : 【INVITED】 Nanoscale Magnetic Resonance Imaging Based on Ultrasensitive Force Detection

H.J. Mamin

IBM Research Division

09:50～10:20

Fr-02 : 【INVITED】 Measurements of Persistent Currents in Normal Metal Rings Using a Micromechanical Magnetometer

A.C. Bleszynski-Jayich, W.E. Shanks, and J.G.E. Harris

Yale University

10:20～10:40

Fr-03 : Position Detection and Backaction of a Mechanical Resonator Integrated in a dc SQUID Detector

M. Poot, S. Etaki, I. Mahboob, K. Onomitsu, H. Yamaguchi, Y. M. Blanter, and H. S. J. van der Zant

Delft University of Technology

10:40～11:00

Fr-04 : Symmetry Lifting in an Electromechanical Resonator

Imran Mahboob, Charline Froitier, and Hiroshi Yamaguchi

NTT Basic Research Laboratories

11:00～11:30

COFFEE BREAK (30 min.)

SESSION 2 : Graphene Layers

11:30～11:50

Fr-05 : Tunable Band-Structure in Double-Gated Trilayer Graphene

Saverio Russo, Monica F. Craciun, Michihisa Yamamoto, Jeroen B. Oostinga, Alberto F. Morpurgo, and Seigo Tarucha

The University of Tokyo and Delft University of Technology

11:50～12:10

Fr-06 : Magneto-Capacitance Measurement of Multilayer Graphene

Takahide Yoshida and Kenichi Oto

Chiba University

12:10～12:30

Fr-07 : Local Conductance of Deformed Graphene Near Atomic Steps on SiC

M. Nagase, H. Hibino, H. Kageshima, and H. Yamaguchi

NTT Basic Research Laboratories

12:30～13:50

Lunch

SESSION 3 : Superconducting Qubits and Circuit QED

13:50～14:20

Fr-08 : Transition from Weak to Strong Measurement and Single-Shot Readout in Cooper Pair Boxes

【INVITED】

A. Palacios-Laloy, F. Nguyen, F. Mallet, F. Ong, P. Bertet, D. Vion, and D. Esteve

CEA SACLAY

14:20～14:50

Fr-09 : Flux Qubits: Tunable parameters and fast low-noise readout

【INVITED】 Kees Harmans, Floor Paauw, Arkady Fedorov, Pol Forn-Diaz, Thomas Picot, Pieter de Groot, and Hans Mooij

Delft University of Technology

14:50～15:20

Fr-10 : Toward Scalable Superconducting Qubits

【INVITED】 J. S. Tsai, K. Harrabi, F. Yoshihara, A. O. Niskanen, Y. Nakamura, and S. Lloyd

NEC and RIKEN

15:20～15:50

Fr-11 : Generating Arbitrary Photon States with Superconducting Qubits: The quantum digital to analog converter

【INVITED】

John Martinis

UC Santa Barbara

Closing

Poster Session I (Jan. 20, Tuesday)

17:20～19:00

PTu-01 : Characteristics of Nanoscale "In-Plane-Gate" Devices
Y. Komatsuzaki, K. Higashi, T. Kyougoku, K. Onomitsu, A. Kawaharazuka, and Y. Horikoshi
Waseda University

PTu-02 : Onsager Relations for Nonlinear Thermoelectric Quantum Transport
Eiki Iyoda, Yasuhiro Utsumi, Takeo Kato, and Keiji Saito
The University of Tokyo

PTu-03 : Asymmetric Mobility of Electrons and Holes with Respect to Quantum-Well Potential in a Double-Gate SIMOX MOSFET
Y. Niida, K. Takashina, Y. Ono, A. Fujiwara, Y. Hirayama, and K. Muraki
NTT Basic Research Laboratories and Tohoku University

PTu-04 : In-Plane Transport in a Double Layer Crystalline Silicon Structure with an SiO_2 Barrier
K. Takashina, M. Nagase, K. Nishiguchi, Y. Ono, A. Fujiwara, T. Fujisawa, and K. Muraki
NTT Basic Research Laboratories

PTu-05 : Exploring the Fractional Quantum Hall Regime around Filling Factor 7/11
Gerardo Gamez and Koji Muraki
NTT Basic Research Laboratories

PTu-06 : Nuclear Spin Polarization Induced by Breakdown of Fractional Quantum Hall Effect
Minoru Kawamura, Masashi Ono, Yoshiaki Hashimoto, Shingo Katsumoto, and Tomoki Machida
The University of Tokyo, RIKEN, and PRESTO-JST

PTu-07 : Nuclear Magnetic Resonance Using Oscillating Electron Spin Domain Walls at $\nu = 2/3$ Quantum Hall Regime
Shinji Watanabe, Gen Igarashi, Norio Kumada, and Yoshiro Hirayama
Tohoku University

PTu-08 : Nuclear Magnetic Probing of Electron Spin Physics in Quantum Hall Systems
Norio Kumada, Koji Muraki, Toshimasa Fujisawa, and Yoshiro Hirayama
NTT Basic Research Laboratories

PTu-09 : Low-Frequency Fluctuations of Skyrmions in a Wire-Like Quantum Hall System Detected by Selectively Polarized Nuclear Spins
T. Kobayashi, N. Kumada, T. Ota, S. Sasaki, and Y. Hirayama
NTT Basic Research Laboratories and Tohoku University

PTu-10 : The Electron Spin - Nuclear Spin Interaction in the Double Quantum Dot with Different g-Factors
R. Takahashi, K. Kono, S. Tarucha, and K. Ono
RIKEN and Tokyo Institute of Technology

PTu-11 : Kondo-Fano Effect in a Side-Coupled Double Quantum Dot
S. Sasaki, H. Tamura, S. Miyashita, T. Maruyama, T. Akazaki, and T. Fujisawa
NTT Basic Research Laboratories

PTu-12 : Kondo Effects in Triangular Triple Quantum Dots
A. Oguri, T. Numata, Y. Nisikawa, and A. C. Hewson
Osaka City University

PTu-13 : Spin and Pseudospin Kondo Effects in a Laterally Coupled Double Quantum Dot
T. Kubo, Y. Tokura, S. Amaha, T. Hatano, and S. Tarucha
ICORP-JST

PTu-14 : Gate Tuneable Proximity Supercurrent in Single Self Assembled InAs Quantum Dots
R. S. Deacon, Y. Kanai, A. Oiwa, K. Yoshida, K. Shibata, K. Hirakawa, and S. Tarucha
The University of Tokyo

PTu-15 : Quantitative Evaluation and Tuning of Spin-Orbit Interaction in InAs Self-Assembled Quantum Dots
S. Takahashi, Y. Igarashi, R. S. Deacon, K. Yoshida, A. Oiwa, K. Shibata, K. Hirakawa, and S. Tarucha
The University of Tokyo

PTu-16 : Aharonov-Bohm Oscillation in Parallel Coupled Vertical Double Dot
T. Hatano, T. Kubo, Y. Tokura, S. Amaha, S. Teraoka, and S. Tarucha
ICORP-JST

PTu-17 : Fluctuation Theorem and Full Counting Statistics in a Quantum Dot Aharonov-Bohm Interferometer
Yasuhiro Utsumi and Keiji Saito
The University of Tokyo

PTu-18 : Wave Function Imaging in Vertical Quantum Dots Using Resonant Tunneling Spectroscopy
S. Amaha, T. Hatano, S. Teraoka, T. Kubo, Y. Tokura,
C. Payette, J. A. Gupta, D.G. Austing, and S.Tarucha
ICORP- JST

PTu-19 : Temperature Dependence of Electron Transport between Quantum Dots and Electron Gas
Yoko Sakurai, Shintaro Nomura, Yukihiro Takada, Kenji Shiraishi, Masakazu Muraguchi, Tetsuo Endoh, Mitsuhisa Ikeda, Katsunori Makihara, and Seiichi Miyazaki
University of Tsukuba

PTu-20 : Order-N Electronic Structure Calculation of a Si Quantum Dot
Shintaro Nomura and Toshiaki Iitaka
University of Tsukuba

PTu-21 : Enhanced Spin Hall Effect in Semiconductor Anti-Dot Structures
Mikio Eto and Tomohiro Yokoyama
Keio University

PTu-22 : Magnetic Structures and Dynamics of Domain Wall in Geometrically Confined Region under Current
Katsuyoshi Matsushita, Jun Sato, and Hiroshi Imamura
AIST

PTu-23 : Moved to Poster Session II (Wednesday)
Impurity Band Structure of Boron-Doped Diamond
Takashi Inushima
Tokai University

PTu-24 : Size-Dependent Optical Properties of Freestanding GaAs Nanowires
Guoqiang Zhang, Kouta Tateno, Haruki Sanada, Takehiko Tawara, Hideki Gotoh, and Hidetoshi Nakano
NTT Basic Research Laboratories

PTu-25 : Three-Dimensional Tomography of III-V Semiconductor Nanowires
Toshitsugu Mitate, Toshio Iizuka, and Seiichiro Mizuno
NTT Advanced Technology Corporation

PTu-26 : Strained Quantum Wells in Scrolled Structures Studied by μ-Photoluminescence
R. Hey, M. Ramsteiner, P. Santos , and K-J. Friedland
Paul-Drude-Institute for Solid State Electronics

PTu-27 : Three-Dimensional Nanofabrication of Resist Materials Using Electron Beam Lithography
K. Yamazaki and H. Yamaguchi
NTT Basic Research Laboratories

PTu-28 : A New Angled Ion Etching Method to Fabricate a Nanostructure and Its Resonance Characteristic
V. K. Singh, K. Yamazaki, T. Tawara, H. Okamoto, and H. Yamaguchi
NTT Basic Research Laboratories

PTu-29 : Bit Operation in a Parametrically Pumped Electromechanical Resonator
Imran Mahboob and Hiroshi Yamaguchi
NTT Basic Research Laboratories

PTu-30 : Vibration Control in GaAs Micromechanical Resonators by Optically Induced Piezoelectric Backaction
Hajime Okamoto, Daisuke Ito, Koji Onomitsu, Haruki Sanada, Hideki Gotoh, Tetsuomi Sogawa, and Hiroshi Yamaguchi
NTT Basic Research Laboratories

PTu-31 : Detecting Quantum-Coherent Nanomechanical Oscillations Using the Current-Noise Spectrum of a Double Quantum Dot
Neill Lambert and Franco Nori
RIKEN

PTu-32 : Measurements of the Magnetic Response of Mesoscopic Aluminum Rings in the Normal and Superconducting States with Cantilever Torsional Magnetometry
W.E. Shanks, A. C. Bleszynski-Jayich, B. Peaudecerf, and J. G. E. Harris
Yale University

PTu-33 : Topological states and braiding statistics using quantum circuits
J. Q. You, Xiao-Feng Shi, and Franco Nori
Fudan University and RIKEN

PTu-34 : Quantum Phase Transitions in Adiabatic Quantum Computing of Superconducting Qubits
Yu-xi Liu and Franco Nori
RIKEN and CREST-JST

PTu-35 : Macroscopic Quantum Tunneling in Intrinsic Josephson Junction Stacks Having High Josephson Plasma Frequency
Yuimaru Kubo, Y. Takahide, S. Ueda, A.T.M.N. Islam, I. Tanaka, and Y. Takanoa
NIMS and University of Tsukuba

PTu-36 : MQT and Strong Coupling Effect in High-Tc Josephson Junctions
H. Kashiwaya, T. Matsumoto, H. Shibata, S. Kawabata, Y. Tanaka, and S. Kashiwaya
AIST

PTu-37 : Conductance Oscillation in Ferromagnetic-Metal/Normal-metal/Superconductor Double Junctions
Hiroyuki Ohtori, Katsuyosi Matsushita, Nobuhiko Yokoshi, and Hiroshi Imamura
University of Tsukuba and AIST

PTu-38 : Photo-Voltage Imaging of S-Sm-S Junctions
K. Tsumura, S. Nomura, T. Akazaki, and H. Takayanagi
University of Tsukuba and JSPS

PTu-39 : Josephson Effect through an Isotropic Magnetic Molecule
Minchul Lee, Thibaut Jonckheere, and Thierry Martin
Universite de la Mediterranee

PTu-40 : Significance of Superconductive Atom Chip in the Vicinity of a Surface
Christoph Hufnagel, Tetsuya Mukai, and Fujio Shimizu
NTT Basic Research Laboratories and CREST-JST

Poster Session II (Jan. 21, Wednesday)

17:50～19:30

PWe-01 : Andreev Transport through Carbon Nanotube Quantum Dots
M.Shimizu, H.Akimoto, and K. Ishibashi
RIKEN and Tokyo University of Science

PWe-02 : Spin-Dependent Level Crossing Behavior in a Carbon Nanotube Quantum Dot
K. Grove-Rasmussen, H. I. Jørgensen, P. E. Lindelof, K. Muraki and T. Fujisawa
NTT Basic Research Laboratories

PWe-03 : High Energy Electroluminescence from CVD-grown Single-Walled Carbon Nanotubes
Norihito Hibino, Hideyuki Maki, Tetsuya Sato, Satoru Suzuki, and Yoshihiro Kobayashi
Keio University and NTT Basic Research Laboratories

PWe-04 : Native Defect Formation in an Atomic Layer at Near-Surface Region of Epitaxial InAs Thin Film
K. Kanisawa and T. Fujisawa
NTT Basic Research Laboratories

PWe-05 : Density of States in Superlattices Observed by Scanning Tunneling Spectroscopy
Kyoichi Suzuki, Kiyoshi Kanisawa, Koji Onomitsu, and Koji Muraki
NTT Basic Research Laboratories

PWe-06 : Optical Mapping of the Boundary of a Two-Dimensional Electron Gas by a Near-Field Optical Microscopy
H. Ito, Y. Shibata, S. Kashiwaya, Y. Ootuka, and S. Nomura
University of Tsukuba

PWe-07 : Photoluminescence Spectra of Gated Undoped GaAs Quantum Wells at Low Electron Density with a Square-Mesh Surface Gate
M. Yamaguchi, S. Nomura, H. Tamura, and T. Akazaki
NTT Basic Research Laboratories

PWe-08 : Optical Spin Coherence Tomography of an Electron in a Semiconductor Quantum Dot
Yoshiaki Rikitake, Hiroshi Imamura, and Hideo Kosaka
Sendai National College of Technology and CREST-JST

PWe-09 : Tomographic Spin State Measurement of Electrons in a Semiconductor
Takahiro Inagaki, Hideo Kosaka, Yasuyoshi Mitsumori, Keiichi Edamatsu, Yoshiaki Rikitake, and Hiroshi Imamura
Tohoku University

PWe-10 : Frequency and Polarization Characteristics of Correlated Photon-Pair Generation in Silicon Wire Waveguide
Ken-ichi Harada, Hiroki Takesue, Hiroshi Fukuda, Tai Tsuchizawa, Toshifumi Watanabe, Koji Yamada, Yasuhiro Tokura, and Sei-ichi Itabashi
NTT Basic Research Laboratories and Japan Science and Technology Agency

PWe-11 : Detection and Manipulation of a Single Electron Spin of Nitrogen Vacancy Center in Diamond and its Application of Weak Measurement
Sota Kagami and Yutaka Shikano
Tokyo Institute of Technology

PWe-12 : Phosphorus Donor Spin States under Low Magnetic Field
H. Morishita, H. Tanaka, K. Semba, L. S. Vlasenko, K. Sawano, Y. Shiraki, M. Eto, and K. M. Itoh
Keio University and NTT Basic Research Laboratories

PWe-13 : Spin Resonance of Two Dimensional Hole System and B=0 Spin Splitting
S. Teraoka, S. Amaha, T. Hatano, T. Kubo, Y. Tokura, Y. Ohno, H. Ohno, and S.Tarucha
ICORP-JST

PWe-14 : Nonequilibrium Transmission-Phase Measurement of Parallel Quantum Point Contacts Using Magnetic Focusing
T. Kobayashi, S. Tsuruta, S. Sasaki, H. Tamura, and T. Akazaki
NTT Basic Research Laboratories

PWe-15 : Observation of Quantum Phase Shift in an Aharonov-Bohm Ring with a Fully Controlled Flying Charge Qubit
M. Yamamoto, C. Bäuerle, and S. Tarucha
The University of Tokyo

PWe-16 : Coulomb Drag in Vertically Coupled Double Quantum Wires and Quantum Point Contacts
Koji Muraki, Huang-Ming Lee, Edward Y. Chang, and Yoshiro Hirayama
NTT Basic Research Laboratories

PWe-17 : Effect of Disorder on the Quantum Coherence in Mesoscopic Wires
Y. Niimi, Y. Baines, T. Capron, D. Mailly, F.-Y. Lo, A. D. Wieck,
T. Meunier, L. Saminadayar, and C. Bäuerle
CNRS, Université Joseph Fourier and Tohoku University

PWe-18 : Numerical Study of Resonant Tunneling in a Tomonaga-Luttinger Liquid
Yuji Hamamoto and Takeo Kato
The University of Tokyo

PWe-19 : Single Electron Circuit as a Multi-Functional Gate
S. W. Jung, B. H. Noh, S.H. Sakong, and Y. H. Jeong
National Center for Nanomaterials Technology

PWe-20 : Terahertz Photon Counting Detector
Hideomi Hashiba, Vladimir Antonov, Leonid Kulik, Alexander Tzalenchuk,
and Susumu Komiyama
Royal Holloway University of London

PWe-21 : Photo-Absorption of Single InAs Quantum Dot Proved by Single Electron Transport
K. Ono, R. Takahashi, S. Amaha, T. Hatano, K. Kono, S. Tarucha, and H. Kosaka
RIKEN and CREST-JST

PWe-22 : Optical Responses of Quantum Transport for Single Photo-Electron Detection
Makoto Kuwahara, Takeshi Kutsuwa, Keiji Ono, and Hideo Kosaka
CREST-JST

PWe-23 : Spin State Measurement through Adiabatic Charge Transfer in Coupled Quantum Dots
Nobuhiko Yokoshi, Hiroshi Imamura, and Hideo Kosaka
CREST-JST and AIST

PWe-24 : High Frequency on-Chip Lock-in Detection of Impedance in a Quantum Dot
Takeshi Ota, Toshiaki Hayashi, Koji Muraki, and Toshimasa Fujisawa
NTT Basic Research Laboratories

PWe-25 : Quantum Interference Effects in a Laterally Coupled Double Quantum Dot with a Capacitively Coupled Quantum Dot Charge Sensor
T. Kubo, Y. Tokura, and S. Tarucha
ICORP-JST

PWe-26 : Electronic Charge and Spin States in Laterally Coupled Triple Quantum Dots
S. Amaha, T. Hatano, D.G. Austing, H. Tamura, S. Teraoka, T. Kubo
Y. Tokura, and S.Tarucha
ICORP-JST

PWe-27 : Electron Spin Resonance in a Double Quantum Dot on a g-Factor Controlled Quantum Well for Quantum Media Conversion
Takeshi Kutsuwa, Makoto Kuwahara, Keiji Ono, and Hideo Kosaka
CREST-JST

PWe-28 : Circuit Design to Perform Arbitrary Single Electron Spin Rotations in Double Quantum Dots
R. Brunner, M. Pioro-Ladrière, T. Obata, Y. Tokura, Y.-S. Shin, T. Kubo, K. Yoshida, T. Taniyama, S. Tarucha
ICORP-JST

PWe-29 : Decoherence of Coupled Spin Qubit System
Toshifumi Itakura and Fumitada Itakura
ASPRO TEC.

PWe-30 : Energy Spectroscopy of Double-Loop Josephson-Junction Flux Qubit
Y. Shimazu, N. Maeta, K. Ochiai, E. Shinozaki, Y. Horikawa, M. Onda, K. Tomita, and K. Yamamura
Yokohama National University

PWe-31 : Single-Artificial-Atom Lasing Using a Voltage-Biased Superconducting Charge Qubit
J.R. Johansson, S. Ashhab, A.M. Zagoskin, and F. Nori
RIKEN

PWe-32 : Weak and Strong Measurement of a Qubit Using a Switching-Based Detector
S. Ashhab, J. Q. You, and Franco Nori
RIKEN and The University of Michigan

PWe-33 : Quantum Analysis on Inductive Readout of a Superconducting Qubit with a Nonlinearly-Coupled SQUID Resonator
Hayato Nakano
NTT Basic Research Laboratories

PWe-34 : Readout Flux Qubit with the Transmission Line Josephson Bifurcation Amplifier
K. Kakuyanagi, S. Kagei, R. Koibuchi, and K. Semba
NTT Basic Research Laboratories

PWe-35 : Spectroscopic Examination of Fluctuations in a Superconducting Flux Qubit
A. Kemp, S. Saito, and K. Semba
NTT Basic Research Laboratories

PWe-36 : Simultaneous Cooling of an Artificial Atom and its Neighboring Quantum System
J. Q. You, Yu-xi Liu, and Franco Nori
Fudan University and RIKEN

PWe-37 : Proposal for Testing Macrorealism using the Greenberger-Horne-Zeilinger Scheme in Time Domain
Toshiyuki Fujii, Munehiro Nishida, and Noriyuki Hatakenaka
Hiroshima University

PWe-38 : Resources for Measurement-Based Quantum Carry-Lookahead Adder
Agung Trisetyarso, Rodney Van Meter, and Kohei M. Itoh
Keio University

PTu-23 : Impurity Band Structure of Boron-Doped Diamond
Takashi Inushima
Tokai University