

PROGRAM

July 22, 2013

Session Mo1: Graphene

- Mo1-1** 10:00-10:30 [Invited talk]
L. Britnell¹, R. V. Gorbachev¹, A. K. Geim¹, L. A. Ponomarenko¹, A. Mishchenko¹,
M. T. Greenaway², M. Fromhold², K. S. Novoselov¹, and L. Eaves^{1,2}
¹*University of Manchester* and ²*University of Nottingham*
Tuneable resonant tunnelling and negative differential conductance in graphene transistors
- Mo1-2** 10:30-11:00 [Invited talk]
S. Winnerl
Helmholtz-Zentrum Dresden-Rossendorf
Carrier dynamics in graphene near the Dirac point
- Mo1-3** 11:00-11:15
T. Ando and M. Noro
Tokyo Institute of Technology
Theory of weak-field Hall effect in graphene
- Mo1-4** 11:15-11:30
V. Ryzhii¹, T. Otsuji¹, A. Satou¹, M. Ryzhii², V. Mitin³, and M. S. Shur⁴
¹*Tohoku University*, ²*University of Aizu*, ³*University at Buffalo*, and
⁴*Rensselaer Polytechnic Institute*
Resonant plasmonic terahertz photomixing in double-graphene layer structures
- Mo1-5** 11:30-11:45
A. Satou¹, V. Ryzhii¹, V. V. Mitin², F. T. Vasko², and T. Otsuji¹
¹*Tohoku University* and ²*University at Buffalo*
Frequency dispersion and damping mechanisms of terahertz plasmons in graphene transistor structures
- Mo1-6** 11:45-12:00
K. Yoshida¹ and K. Hirakawa^{1,2}
¹*University of Tokyo* and ²*CREST-JST*
Magnetization-induced nanomechanical response of a Ni-C₆₀ single molecule transistor

Session Mo2: Terahertz Nanodevices

- Mo2-1** 13:30-14:00 **[Invited talk]**
J. Torres¹, P. Nouvel¹, A. Penot¹, L. Varani¹, P. Sangaré², B. Grimbert², M. Faucher², G. Ducournau², C. Gaquiere², I. Iñiguez-de-la-Torre³, J. Mateos³, and T. Gonzalez³
¹Université Montpellier 2, ²Université de Lille 1, and ³Universidad de Salamanca
A room temperature THz heterodyne detector based on self-switching nanodiodes
- Mo2-2** 14:00-14:30 **[Invited talk]**
K. Shibata¹ and K. Hirakawa^{1,2}
¹University of Tokyo and ²CREST-JST
Photon-assisted tunneling through InAs quantum dots in the terahertz frequency range
- Mo2-3** 14:30-14:45
N. Erhard and A. W. Holleitner
Walter Schottky Institut
Ultrafast photocurrents and THz-generation in single InAs-nanowires
- Mo2-4** 14:45-15:00
I. Iñiguez-de-la-Torre¹, J.F. Millithaler¹, A. Iñiguez-de-la-Torre¹, J. Mateos¹, P. Sangaré², G. Ducournau², C. Gaquière², and T. González¹
¹Universidad de Salamanca and ²IEMN/Université de Lille 1
Geometry optimization for sub-THz Gunn emission: a V-shape GaN nanodevice
- Mo2-5** 15:00-15:15
A.H. Mahi^{1,2}, H. Marinchio¹, C. Palermo¹, A. Belghachi², and L. Varani¹
¹University of Montpellier 2 and ²University of Bechar
Improvement of FET-based terahertz detectors by phase-controlled current response
- Mo2-6** 15:15-15:30
S. Kasai, T. Tanaka, and Y. Abe
Hokkaido University
Electron Brownian ratchet using a GaAs nanowire with multiple asymmetric gates

Session Tu1: Coherent Tunneling

Tu1-1 9:00-9:30 [Invited talk]

B. Voisin¹, B. Roche¹, R.-P. Riwar², E. Dupont-Ferrier¹, X. Jehl¹, R. Wacquez³, M. Vinet³, J. Splettstoesser², S. De Franceschi¹, and M. Sanquer¹

¹*SPSMS, UMR-E CEA / UJF-Grenoble 1*, ²*ITSP, RWTH Aachen University, and JARA-Fundamentals of Future Information Technology and*

³*CEA, LETI, MINATEC Campus*

Electron dynamics in a coupled atom transistor: Non-adiabatic charge pumping and Landau-Zener-Stückelberg interferences

Tu1-2 9:30-9:45

T. Fujita¹, K. Morimoto¹, S. Teraoka¹, G. Allison^{1,2}, A. Ludwig³, A.D. Wieck³, A. Oiwa¹, and S. Tarucha^{1,4}

¹*University of Tokyo*, ²*Princeton University*, ³*Ruhr-Universität Bochum*, and ⁴*RIKEN Center for Emergent Matter Science (CEMS)*

Single photo-electron spin detection in real-time with double quantum dots in g-factor engineered quantum wells

Tu1-3 9:45-10:00

S. Sharmin¹, K. Muraki², and T. Fujisawa¹

¹*Tokyo Institute of Technology* and ²*NTT Basic Research Laboratories*

Sharp dip structures in excited-state current spectrum at the triplet resonant tunneling of a double quantum dot

Tu1-4 10:00-10:15

Ł. Marcinowski, K. Roszak, and P. Machnikowski

Wroclaw University of Technology

Modeling quantum point contact measurement of two-spin states of double quantum dots in the presence of phonons

Session Tu2: Nanoscale Transport and Optics

Tu2-1 10:45-11:00

M. Nomura

University of Tokyo

Theoretical analyses of coherent effect of phononic crystal nanostructures on heat transfer in Si

Tu2-2 11:00-11:15

A. Patanè¹, N. Mori², O. Makarovskiy¹, N.V. Kozlova³, G. Pettinari¹, L. Eaves¹,
Q.D. Zhuang⁴, A. Krier⁴, A. Polimeni⁵, and M. Capizzi⁵

¹University of Nottingham, ²Osaka University, ³Institute for Metallic Materials,
⁴Lancaster University, and ⁵Sapienza Università di Roma

Multiple-electron scattering by low-mobility islands and linear magnetoresistance

Tu2-3 11:15-11:30

M.P. Delmo, E. Shikoh, T. Shinjo, and M. Shiraishi

Osaka University

Bipolar-driven large linear magnetoresistance in silicon at low magnetic fields

Tu2-4 11:30-11:45

J.-J. Lin and S.-P. Chiu

National Chiao Tung University

Quantum-interference transport through surface layers of indium-doped ZnO
nanowires

Tu2-5 11:45-12:00

M.A. Yerosyan, A.G. Shahbandari, and A.L. Vartanian

Yerevan State University

The polaron effects on the binding energy of hydrogenic impurity with finite
confining potential quantum wires in electric and magnetic fields

Session Tu3: Coherent Dynamics

Tu3-1 13:30-14:00 **[Invited talk]**

N. Mizuochi

Osaka University

Electrically driven single photon emission and electron dynamics at room temperature
in diamond

Tu3-2 14:00-14:15

Y.-S. Lee and S.-D. Lin

National Chiao Tung University

Manipulating the fine structure of quantum dot exciton by ac Stark effect in cavity
quantum electrodynamics

Tu3-3 14:15-14:30

M. Glässl, A.M. Barth, M.D. Croitoru, A. Vagov, and V.M. Axt

Universität of Bayreuth

Fast and robust preparation of excitons and biexcitons in a quantum dot even
at strong carrier-phonon coupling

Tu3-4 14:30-14:45

T. Kuhn¹, D.E Reiter¹, S. Lüker¹, M. Glässl², V.M. Axt², K. Gawarecki³,
and P. Machnikowski³

¹Universität Muenster, ²Universität Bayreuth, and ³Wroclaw University of Technology

The role of phonons for exciton and biexciton generation in a quantum dot driven
by adiabatic rapid passage

Tu3-5 14:45-15:00

Y. Hazama¹, N. Naka¹, M. Kuwata-Gonokami², and K. Tanaka^{1,3}

¹Kyoto University, ²University of Tokyo, and ³Kyoto University and CREST, JST

Influence of the carrier lifetime on the phase diagram of electron-hole systems
in diamond

Tu3-6 15:00-15:15

A.F. Zinovieva¹, N.P. Stepina¹, A.I. Nikiforov¹,

A.V. Nenashev¹, A.V. Dvurechenskii¹, and L.V. Kulik²

¹Rzhanov Institute of Semiconductor Physics SB RAS and

²Institute of Chemical Kinetics and Combustion SB RAS

Spin dynamics in two-dimensional arrays of Ge/Si quantum dots with different
spatial arrangement

Tu3-7 15:15-15:30

Y. Kawakami¹, T. Hozumi¹, R. Kaji¹, S. Adachi¹, T. Tawara^{2,3}, and H. Omi^{2,3}

¹Hokkaido University, ²NTT Basic Research Laboratories, and

³NTT Nanophotonics Center

Arbitrary qubit rotation by double STIRAP in Er₂O₃ thin film

July 24, 2013

Session We1: Coherent Control

We1-1 9:00-9:30 **[Invited talk]**

M.S. Skolnick

University of Sheffield

Control of carrier and nuclear spins in single quantum dots

We1-2 9:30-9:45

R. Kaji, S. Ohno, T. Hozumi, S. Adachi, and S. Muto

Hokkaido University

Impact of band mixing to heavy hole spin decoherence induced by nuclear field
fluctuation

We1-3 9:45-10:00

K. Kyhm^{1,2}, A. Nicholet², G. Nogues², M. Potemski², H.D. Kim³, R.A. Taylor³, K.C. Je⁴,
E.H. Lee⁵, and J.D. Song⁵

¹*Pusan National University*, ²*Neel Insitute, LNCMI, CNRS*, ³*University of Oxford*,

⁴*Anyang University*, and ⁵*KIST*

Optical Aharonov-Bohm effect in a volcano-like single quantum ring

We1-4 10:00-10:15

D.E. Reiter¹, V.M. Axt², and T. Kuhn¹

¹*Universität Münster* and ²*Universität Bayreuth*

Coherent control of a single Mn spin in a single quantum dot using the optical Stark effect

We1-5 10:15-10:30

W.-T. Hsu¹, T.-Y. Hsieh¹, J.-K. Sheu², and W.-H. Chang¹

¹*National Chiao Tung University* and ²*National Cheng Kung University*

Determination of *s-d* exchange interaction in Mn-doped GaN by time-resolved Kerr rotation spectroscopy

Session We2: Carrier Dynamics

We2-1 11:00-11:15

S.A. Sato¹, K. Yabana¹, Y. Shinohara¹, T. Otobe², and G.F. Bertsch³

¹*University of Tsukuba*, ²*JAEA*, and ³*University of Washington*

First-principles calculation for dielectric properties of laser-excited Si

We2-2 11:15-11:30

T. Hasegawa¹, H. Takeuchi², H. Yamada³, M. Hata³, and M. Nakayama²

¹*University of Hyogo*, ²*Osaka City University*, and ³*Sumitomo Chemical Co. Ltd.*

Effects of nonequilibrium carrier transport on optical responses in undoped GaAs/*n*-type GaAs epitaxial structures

We2-3 11:30-11:45

Y. Yamada and Y. Kanemitsu

Kyoto University

Recombination dynamics of photoexcited electrons and holes in rutile and anatase TiO₂

We2-4 11:45-12:00

T. Nakamura¹, Y. Yamada¹, S. Yasui², H. Funakubo², and Y. Kanemitsu¹

¹*Kyoto University* and ²*Tokyo Institute of Technology*

Dynamics of photogenerated carriers in ferroelectric BiFeO₃ thin films

We2-5 12:00-12:15

C. Jacoboni and P. Bordone

Università of Modena and Reggio Emilia

Wigner transport equation with finite coherence length

July 25, 2013

Session Th1: Terahertz Phenomena I

Th1-1 9:00-9:30 **[Invited talk]**

H. Hirori

Kyoto University

Ultraintense terahertz pulse generation and application to nonlinear THz spectroscopy

Th1-2 9:30-9:45

B. Mayer¹, C. Schmidt¹, O. Schubert², F. Junginger¹, S. Mährlein¹, A. Pashkin¹, R. Huber², and A. Leitenstorfer¹

¹*University of Konstanz* and ²*University of Regensburg*

Nonlinear spectroscopy of semiconductors using high-field multi-THz pulses

Th1-3 9:45-10:00

T. Otobe¹, Y. Shinohara², S.A. Sato², and K. Yabana²

¹*JAEA* and ²*University of Tsukuba*

First-principle calculation for nonlinear response of dielectrics under an intense THz field

Th1-4 10:00-10:15

S.G. Pavlov¹, N. Deßmann², M. Mittendorff³, S. Winnerl³, R. Kh. Zhukavin⁴, V.V. Tsyplov⁴, D.V. Shengurov⁴, V.N. Shastin⁴, N.V. Abrosimov⁵, H. Riemann⁵, and H.-W. Hübers^{1,2}

¹*German Aerospace Center*, ²*Technische Universität Berlin*,

³*Helmholtz-Zentrum Dresden-Rossendorf*, ⁴*Russian Academy of Sciences*, and

⁵*Leibniz Institute for Crystal Growth*

Extremely fast electron capture in moderately doped germanium

Session Th2: Terahertz Phenomena II

Th2-1 10:45-11:00

M. Feiginov¹, C. Sydlo², O. Cojocari³, and P. Meissner⁴

¹*University of Duisburg-Essen*, ²*DESY*, ³*ACST GmbH*, and

⁴*Technical University of Darmstadt*

THz resonant-tunneling-diode oscillators and tunnel-lifetime limitation

Th2-2 11:00-11:15

Y. Sakasegawa^{1,2}, H. Tanaka^{1,2}, and K. Hirakawa¹

¹*University of Tokyo* and ²*National Institute for Information and Communications Technology*

Photon-assisted transport and suppression of high-field domains in wide miniband semiconductor superlattices

Th2-3 11:15-11:30

S. Huppert and R. Ferreira

Laboratoire Pierre Aigrain

Terahertz charge oscillations in a biased superlattice in the strong coupling regime

Th2-4 11:30-11:45

H. Němec and J. Mrozek

Academy of Sciences of the Czech Republic

Terahertz conductivity spectra in semiconductors with nanoscale modulation

Th2-5 11:45-12:00

M. Kozub¹, K. Nishisaka¹, T. Maemoto¹, S. Sasa¹, K. Takayama², and M. Tonouchi²

¹*Osaka Institute of Technology* and ²*Osaka University*

Reflection layer mediated enhancement of THz radiation utilizing heavily-doped InAs thin films

Session Th3: Novel Materials and Devices I

Th3-1 13:30-14:00 **[Invited talk]**

A.C. Betz¹, E. Pallecchi², S.H. Jhang¹, D. Drunel¹, F. Vialla¹, C. Voisin¹, R. Ferreira¹, G. Fève¹, J.-M. Berroir¹, and B. Plaçais¹

¹*ENS-CNRS* and ²*CNRS*

Hot electrons in graphene

Th3-2 14:00-14:15

K. Shibata¹, H.T. Yuan², Y. Iwasa^{1,2}, and K. Hirakawa^{1,3}

¹*University of Tokyo*, ²*RIKEN*, and ³*CREST-JST*

Very large modulation of electron tunneling through InAs quantum dots by electric-double-layer gating

Th3-3 14:15-14:30

G. Pettinari^{1,3}, N. Balakrishnan¹, O. Makarovskiy¹, R.P. Campion¹, A. Polimeni², M. Capizzi², and A. Patané¹

¹*University of Nottingham*, ²*Sapienza Università di Roma*, and ³*IFN-CNR*

A movable light emitting area in resonant tunneling diodes

Th3-4 14:30-14:45

M. Kushimoto, T. Tanikawa, Y. Honda, M. Yamaguchi, and H. Amano
Nagoya University

Optical properties of semipolar (1-101) InGa_N/Ga_N multiple quantum wells with cavity structure on patterned Si (001) substrate

Th3-5 14:45-15:00

M. Segawa, T. Ochi, Y. Koshita, K. Suda, and M. Watanabe
Tokyo Institute of Technology

Near infrared ($\lambda \sim 1.5 \mu\text{m}$) room temperature electroluminescence from Si/CaF₂ intersubband transition laser structures grown on silicon-on-insulator substrate

Session Th4: Novel Materials and Devices II

Th4-1 15:30-16:00 **[Invited talk]**

E. Prati
CNR-IMM

Formation of Hubbard bands in arrays of a few dopant atoms in a silicon transistor

Th4-2 16:00-16:15

S.-H. Hsu¹, C.-L. Chu¹, G.-L. Luo¹, Y.-H. Wang², Y.-L. Chen¹, M.-L. Guo¹, and D.-H. Zhou¹

¹National Nano Device Laboratories and ²Nation Chiao-Tung University

Manufacturing p- and n- type Ge gate-all-around FETs on Si

Th4-3 16:15-16:30

A. Cappelli¹, E. Piccinini², F. Buscemi², R. Brunetti¹, and C. Jacoboni¹

¹University of Modena and Reggio Emilia and ²University of Bologna

Charge transport 3D modeling of phase-change memory nano-devices

Th4-4 16:30-16:45

C. Ndebeka-Bandou¹, F. Carosella¹, R. Ferreira¹, A. Wacker², and G. Bastard^{1,3}

¹Ecole Normale Supérieure, ²Lund University, and ³Technical University Vienna

Optical quasi-selection rules in imperfect two-dimensional heterostructures

Th4-5 16:45-17:00

S. Baba¹, J. Sailer¹, R.S. Deacon², A. Oiwa¹, K. Shibata¹, K. Hirakawa¹, and S. Tarucha^{1,3}

¹University of Tokyo, ²RIKEN Advanced Science Laboratory, and

³RIKEN Center for Emergent Matter Science (CEMS)

Josephson junction of InAs self-assembled quantum dots coupled to Nb superconductors

Sesseion Fr1: Spintronics

- Fr1-1** 9:00-9:30 **[Invited talk]**
M. Kohda
Tohoku University
Spin-orbit induced electronic spin separation in semiconductor nanostructure
- Fr1-2** 9:30-9:45
S.W. Kim, Y. Hashimoto, T. Nakamura, Y. Iye, and S. Katsumoto
University of Tokyo
Detection of high spin polarization in the vicinity of a quantum point contact with spin orbit interaction under zero magnetic field
- Fr1-3** 9:45-10:00
R. Kh. Zhukavin¹, V.V. Tsyplenkov¹, K.A. Kovalevsky¹, V.N. Shastin¹, S.G. Pavlov²,
N.V. Abrosimov³, H. Riemann³, and H.-W. Hübers^{2,4}
¹*Russian Academy of Sciences*, ²*German Aerospace Center*,
³*Leibniz Institute for Crystal Growth*, and ⁴*Technische Universität Berlin*
Silicon donors with spin-orbit coupling under uniaxial stress
- Fr1-4** 10:00-10:15
T. Nakamura, Y. Takahashi, Y. Hashimoto, D.H. Yun, K. Takai, S.W. Kim, Y. Iye, and
S. Katsumoto
University of Tokyo
Andreev bound state disturbance due to spin Hall effect in InAs two dimensional
electron systems

Session Fr2: Nano Mechanical and Electronic Devices

- Fr2-1** 10:45-11:15 **[Invited talk]**
I. Mahboob
NTT Basic Research Laboratories
An electromechanical phonon-laser
- Fr2-2** 11:15-11:30
T. Watanabe^{1,2}, H. Okamoto¹, K. Onomitsu¹, and H. Yamaguchi^{1,2}
¹*NTT Basic Research Laboratories* and ²*Tohoku University*
Mechanical characterization of photo-excited carrier dynamics in
AlGaAs/GaAs modulation-doped heterostructures

Fr2-3 11:30-11:45

A. Koitmäe¹, C.S. Bausch¹, E. Stava¹, G. Loers³, D. Sonnenberg¹, W. Hansen¹, and R.H. Blick^{1,2}

¹University of Hamburg, ²University of Wisconsin-Madison, and

³Center for Molecular Neurobiology Hamburg

Direct transfer of GaAs microtube arrays onto transparent substrates for imaging neuron outgrowth

Fr2-4 11:45-12:00

K. Matsumoto¹ and T. Kamimura¹

Osaka University

Room temperature single charge memory using all surrounded carbon nanotube

Poster Session: MoP

MoP-1 Y. Kondo and Y. Omura

Kansai University

Advanced simulation model for resistive transition of thin TiO₂ films

–Statistical examination–

MoP-2 M.J. Martin¹, R. Rengel¹, M. de Souza², and M.A. Pavanello²

¹University of Salamanca and ²Centro Universitario da FEI

Impact of the gate length on the transport properties of graded-channel SOI n-MOSFETs

MoP-3 R.Kh. Zhukavin, N.A. Bekin, D.N. Lobanov, Y.N. Drozdov, M.N. Drozdov,

D.A. Pryakhin, E.D. Chhalo, D.V. Kozlov, and V.N. Shastin

Russian Academy of Sciences

Vertical transport in SiGe heterostructures with impurity delta layer

MoP-4 T. Maemoto¹, Y. Kimura¹, Y. Sun¹, S. Kasai², and S. Sasa¹

¹Osaka Institute of Technology and ²Hokkaido University

Rectification effects in ZnO-based self-switching nanodiodes toward transparent flexible electronics

MoP-5 J. Mateos¹, I. Iñiguez-de-la-Torre¹, Y. Meziani¹, E. García², L.Q. Zhang³, Y. Alimi³, A.M. Song³, C. Chakraborty⁴, J. Serafini⁴, R. Sobolewski⁴, and T. González¹

¹Universidad de Salamanca, ²Centro de Láseres Pulsados Ultracortos (CLPU),

³University of Manchester, and ⁴University of Rochester

Ultrafast photoresponse of self-switching nano-diodes

MoP-6 J. Rodriguez^{1,2}, H.C. Shin¹, E. Stava¹, M. Yu¹, J.R. Sánchez-Pérez¹, M.G. Lagally¹, and R.H. Blick¹

¹University of Wisconsin-Madison and ²Universität Hamburg

Precise generation of nanopores in quartz

- MoP-7** K.M. Cha¹, M. Taira¹, K. Shibata¹, and K. Hirakawa^{1,2}
¹*University of Tokyo and* ²*CREST-JST*
 Site-controlled growth and transport properties of InAs quantum dots using step-oxidation cleaning of patterned substrates
- MoP-8** C.S. Bausch¹, A. Koitmäe¹, D. Diedrich¹, E. Stava^{1,2}, D. Sonnenberg¹, and R. H. Blick^{1,2}
¹*Hamburg University and* ²*University of Wisconsin - Madison*
 Capacitors in rolled-up semiconductor microtubes and their use in neuronal action potential detection
- MoP-9** S.N. Mustafaeva¹, M.M. Asadov², and D.T. Guseinov¹
¹*Institute of Physics and* ²*Institute of Chemical Problems*
 The parameters of localized states in CdIn₂S₄ single crystals
- MoP-10** D.-J. Jang¹, Y.-Z. Tzeng¹, M.-E. Lee², and I. Lo¹
¹*National Sun Yat-sen University and* ²*National Kaohsiung Normal University*
 Carrier recombination in m-plane GaN thin films
- MoP-11** R. Ooi, S. Honda, A. Ueda, and N. Sano
University of Tsukuba
 Tunnel conduction and density of states in shallow pn junction of Si nanowire
- MoP-12** T. Fuse¹, N. Hayashi^{1,2}, R.S. Deacon^{1,3}, K. Tateno⁴, and K. Ishibashi^{1,3}
¹*RIKEN,* ²*Tokyo University of Science,* ³*RIKEN Center for Emergent Matter Science, and* ⁴*NTT Basic Research Laboratories*
 Proximity-induced superconducting features of an InAs/InP core/shell nanowire in a-few-channel regime
- MoP-13** Y. Kanai¹, R. Wakatsuki¹, R.S. Deacon², J. Sailer¹, A. Oiwa¹, M.T. Deng³, H.Q. Xu^{3,4}, and S. Tarucha^{1,5}
¹*University of Tokyo,* ²*RIKEN,* ³*Lund University,* ⁴*Peking University, and* ⁵*RIKEN Center for Emergent Matter Science (CEMS)*
 Josephson current through an InSb nanowire with a strong spin-orbit interaction
- MoP-14** J.H. Oh¹, M. Shin¹, and M.-G. Jang²
¹*Korea Advanced Institute of Science and Technology and* ²*Electronics and Telecommunication Research Institute*
 Thermopower of Si nanowires under strong impurity scattering
- MoP-15** S.M. Seyid-Rzayeva
Institute of Physics, NASA
 Phonon-polaron life time in diluted magnetic semiconductor nanotube
- MoP-16** E.E. Vdovin^{1,2}, O. Makarovskiy¹, M. Ashdown¹, A. Patané¹, L. Eaves¹, R.P. Campion¹, and M. Henini¹
¹*The University of Nottingham and* ²*Institute of Microelectronics Technology RAS*
 Multiple regions of negative differential photo-conductance by tunnelling of hot ballistic carriers

- MoP-18** H. Yasuda
National Institute of Information and Communications Technology
 High temperature performance of terahertz quantum cascade lasers using ternary compound semiconductor wells based on nonequilibrium Green's function calculations
- MoP-19** C. Ndebeka-Bandou¹, C. Deutsch², H. Detz², A. Andrews², G. Strasser², K. Unterrainer², F. Carosella¹, R. Ferreira¹, and G. Bastard^{1,2}
¹*Ecole Normale Supérieure and* ²*Technical University Vienna*
 Ternary based Ga(In)As/Ga(As,Sb) cascade structures emitting in the THz range
- MoP-20** H. Němec¹, I. Rychetský¹, and P. Kužel¹
Academy of Sciences of the Czech Republic
 Transient terahertz conductivity spectra of semiconductor nanostructures with complex percolation pathways
- MoP-21** K. Nakamura^{1,2} and N. Mori^{1,2}
¹*Osaka University and* ²*CREST, JST*
 Monte Carlo simulation of photoexcited-carrier dynamics in GaSb/InAs heterostructures
- MoP-22** F. Gouider¹, M. Göthlich¹, H. Buhmann², L. Schrottke³, and G. Nachtwei¹
¹*Technical University of Braunschweig,* ²*University Würzburg EP III, and* ³*Paul-Drude-Institut für Festkörperelektronik*
 Detection of terahertz emission generated by quantum cascade lasers
- MoP-23** A. Penot¹, J. Torres¹, P. Nouvel¹, L. Varani¹, F. Teppe¹, C. Consejo¹, N. Dyakonova¹, W. Knap¹, Y. Cordier², S. Chenot², M. Chmielowska², J.-P. Faurie³, B. Beaumont³, P. Shiktorov⁴, E. Starikov⁴, and V. Gruzinskis⁴
¹*Université Montpellier 2 et CNRS,* ²*Centre de Recherche sur l'Hétéro-Épitaxie et ses Applications,* ³*Lumilog-Saint Gobain, and* ⁴*Semiconductor Physics Institute*
 THz emission from 2DEG GaN device
- MoP-24** A. Penot¹, J. Torres¹, T. Laurent¹, R. Sharma², P. Nouvel¹, S. Blin¹, L. Varani¹, Y. Cordier³, M. Chmielowska³, S. Chenot³, P. Shiktorov⁴, J. Starikov⁴, V. Gruzinskis⁴, V.V. Korotyeyev⁵, V.A. Kochelap⁵, A. Persanof⁶, and A. Colaf⁶
¹*University of Montpellier 2,* ²*Paul-Drude-Institut für Festkörperelektronik,* ³*CRHEA, CNRS UPR 10,* ⁴*Semiconductor Physics Institute,* ⁵*Institute of Semiconductor Physics, and* ⁶*Institute for Microelectronics and Microsystems-CNR*
 Experiments and theory of terahertz transmission through multi-layer semiconductor structures
- MoP-25** D. Coquillat^{1,2}, J. Moulin^{1,2}, J.-P. Brouillet^{3,4}, J. Torres¹, N. Dyakonova^{1,2}, F. Teppe², and W. Knap^{1,2}
¹*Université Montpellier 2,* ²*CNRS,* ³*CHU Caremeau, and* ⁴*Université Montpellier 1*
 Investigations of wood runout using terahertz imaging

- MoP-26** F. Teppe¹, M. Zholudev^{1,2}, C. Consejo¹, M. Orlita³, J. Torres⁴, N. Dyakonova¹, D. Coquillat¹, W. Knap¹, N.N. Mikhailov⁵, S.A. Dvoretzki⁵, V. Aleshkin², and V. Gavrilenko²
¹Université Montpellier II, ²Russian Academy of Sciences, ³LNCMI, CNRS-UJF-UPS-INSA, ⁴Université Montpellier 2, and ⁵Akademika Lavrent'eva 13
 Terahertz magnetotransmission of 2D HgTe based topological insulators
- MoP-27** S. Sakata¹, K. Yoshida¹, A. Umeno¹, and K. Hirakawa^{1,2}
¹University of Tokyo and ²CREST, JST
 Inelastic electron tunneling in a double C₆₀ molecule transistor
- MoP-28** N. Mori^{1,2}, T. Edagawa¹, Y. Kamakura^{1,2}, and L. Eaves³
¹Osaka University, ²CREST, JST, and ³University of Nottingham
 Effects of acoustic phonon scattering on current-voltage characters in graphene-nanoribbon resonant-tunneling transistors
- MoP-29** M.A. Yeranossyan, A.L. Vartanian, A. Shahbandari, and A.A. Kirakosyan
 Yerevan State University
 Phonon confinement effect on the polaron states in a double quantum ring structure in the presence of electric and magnetic fields

Poster Session: TuP

- TuP-1** S. Huppert, F. Meng, R. Ferreira, and J. Mangeney
 Laboratoire Pierre Aigrain
 Nonlinear photocurrent and bistable behaviour in GaAs/Al_{0.3}Ga_{0.7}As superlattice with Al_{0.3}Ga_{0.7} cladding
- TuP-2** C. Daher¹, J. Torres¹, S. Blin¹, P. Nouvel¹, H. Marinchio¹, C. Palermo¹, L. Varani¹, F. Teppe¹, D. Coquillat¹, W. Knap¹, Y. Kurita², and T. Otsuji²
¹Université Montpellier 2 and ²Tohoku University
 Room-temperature optical-beating spectroscopy of 2D plasma-waves in dual grating-gate HEMTs
- TuP-3** N. Ohtani and M. Takahashi
 Doshisha University
 High efficient carrier injection into wide-bandgap polymer emissive materials and application to light-emitting diodes operating in the ultraviolet region
- TuP-4** A. Barrios¹, J. Barba-Ortega², and J.D. González^{1,2},
¹Universidad del Magdalena and ²Universidad Nacional de Colombia
 Density of states for a light-hole exciton in a microtube of GaAs/AlGaAs with two quantum well and different potential shape: theoretical model
- TuP-5** W.A. Jacak
 Wrocław University of Technology
 Subdiffraction plasmon-polariton propagation along metallic nano-chain

- TuP-6** H. Murotani¹, H. Andoh¹, T. Tsukamoto¹, T. Sugiura¹, Y. Yamada², T. Tabata³, Y. Honda³, M. Yamaguchi³, and H. Amano³
¹*Toyota National College of Technology*, ²*Yamaguchi University*, and ³*Nagoya University*
 Recombination dynamics of localized excitons in InGaN nanowires
- TuP-7** I.-Y. Lee, H.-Y. Park, J.-H. Park, and G.-H. Kim
Sungkyunkwan University
 Hydrazine-based n-type doping process to modulate Dirac point of graphene
- TuP-8** N. Fukaya¹, D.Y. Kim², K. Hasegawa², S. Kishimoto¹, T. Mizutani¹, S. Noda², and Y. Ohno
¹*Nagoya University* and ²*Waseda University*
 Measurement of inter-tube contact resistances in carbon nanotube network by nanoprobe
- TuP-9** R. Rengel and M.J. Martín
University of Salamanca
 Influence of the dispersion relationship on electronic transport in suspended graphene
- TuP-10** Y.C. Wang, C.Y. Wu, and D.S. Yang
National Cheng Kung University
 Releasing and refilling mechanisms of hydrogen molecules with carbon fullerene as a carrier
- TuP-11** G. Giavaras and F. Nori
RIKEN
 Formation and tunability of a graphene dot with electric and magnetic fields
- TuP-12** M.T. Greenaway¹, T.M. Fromhold¹, L. Eaves^{1,2}, L. Britnell², R.V. Gorbachev², A.K. Geim², L.A. Ponomarenko², A. Mishchenko², and K.S. Novoselov²
¹*University of Nottingham* and ²*University of Manchester*
 Modelling the effect of lattice misorientation on the tunnel current in atomic layer graphene transistors
- TuP-13** N.P. Stepina¹, A.G. Pogosov¹, Y.M. Galperin^{2,3}, A.V. Dvurechenskii¹, V.V. Valkovskii¹, and A.I. Nikiforov¹
¹*Institute of Semiconductor Physics*, ²*University of Oslo*, and ³*A. F. Ioffe Physico-Technical Institute of Russian Academy of Sciences*
 Clustering in dense arrays of tunnel-coupled Ge/Si quantum dots: Evidence from transport and magneto-transport
- TuP-14** A. Nafidi¹, A. Idbaha¹, H. Chaib¹, and B.M. Soucase²
¹*University Ibn Zohr* and ²*Universitat Politècnica de València*
 Manifestation of the transition semiconductor-semimetal and an acceptor resonant state in magneto transport and bands structure in a far-infrared detector HgTe/CdTe superlattice

- TuP-15** Y. Chen and J. Yu
Chinese Academy of Science
 Intrinsic photo-induced anomalous Hall effect in GaAs/AlGaAs quantum wells at room temperature
- TuP-16** A. Cola, I. Farella, and P. Creti
CNR-IMM
 Electric fields and charge transport mechanisms in Schottky CdTe X-ray detectors
- TuP-17** K. Yoshida¹, Y. Okada², and N. Sano¹
¹*Tsukuba University* and ²*The University of Tokyo*
 3D structural dependence of carrier transport for intermediate band solar cells
- TuP-18** K. Goshima¹, N. Tsuda¹, J. Yamada¹, K. Komori², and T. Sugaya²
¹*Aichi Institute of Technology (AIT)* and ²*National Institute of Advanced Industrial Science and Technology (AIST)*
 Band formation in multi stacked InGaAs quantum dots with various inter-dot spacing
- TuP-19** T. Kumada, H. Akagi, R. Itakura, T. Otobe, and A. Yokoyama
Japan Atomic Energy Agency
 Dynamics of femtosecond laser ablation of fused silica deduced from oscillation of time-resolved reflectivity
- TuP-20** N. Asaka¹, T. Ishizuka¹, R. Harasawa¹, P. Dai², S.L Lu², and A. Tackeuchi¹
¹*Waseda University* and ²*Chinese Academy of Science*
 Observation of exciton spin relaxation in Be-doped p-type GaAs
- TuP-21** M. Uemura¹, K. Honda¹, R. Yamaguchi¹, P. Dai², S. Lu², and A. Tackeuchi¹
¹*Waseda University* and ²*Chinese Academy of Science*
 Observation of carrier spin relaxation in low-temperature grown GaAs
- TuP-22** T. Ishikura, Z. Cui, and K. Yoh
Hokkaido University
 Enhanced spin injection by thermal anneal in NiFe/MgO/n-Si spin valve
- TuP-23** T. Nishikata¹, Y. Kotaki¹, T. Kato¹, K. Yasui¹, H. Suematsu¹, and A. Kawakami²
¹*Nagaoka University of Technology* and ²*National Institute of Information and Communications Technology*
 Fabrication of antenna coupled Bi₂Sr₂CaCu₂O_{8+x} intrinsic Josephson junctions
- TuP-24** R.G. Aghayeva
Institute of Physics of the NAS of Azerbaijan
 On the inclusion of statistical force in the Hamiltonian

- TuP-25** P. Wang
Zhejiang University of Technology
Multiple nonequilibrium steady states in the transport through a fluctuating level
- TuP-26** C. Ndebeka-Bandou¹, F. Carosella¹, R. Ferreira¹, and G. Bastard^{1,2}
¹*Ecole Normale Supérieure and* ²*Technical University Vienna*
Importance of the localization for scattering rates in heterostructures
- TuP-27** M. Ishikawa and T. Nakayama
Chiba University
First-principles study of oxygen-doping electric optical states in II-VI semiconductors
- TuP-28** S. Xiang¹, K. Fuji¹, S. Sato¹, N. Aoki¹, S. Xiao², J.P. Bird², and Y. Ochiai¹
¹*Chiba University and* ²*University at Buffalo*
Experimental study of fractional quantization below the last plateau in quantum wires
- TuP-29** Y. Zhang¹, K. Shibata¹, N. Nagai¹, and K. Hirakawa^{1,2}
¹*University of Tokyo and* ²*CREST, JST*
Terahertz spectroscopy of sublevel structures in single self-assembled InAs quantum dots
- TuP-30** J. Maire and M. Nomura
University of Tokyo
Reduced thermal conductivity in a 1D Si phononic crystal nanostructure