The 14th International Conference on

Modulated Semiconductor Structures

Program

Kobe International Conference Center, Kobe Japan

2009.7.19 ~ 7.24

(In joint with the 18th International Conference on Electronics Properties of Two-Dimensional Systems (EP2DS-18))

Program Leaflet

14th International Conference

on Modulated Semiconductor Structures

Introduction

The 14th International Conference on Modulated Semiconductor structures (MSS-14) and the 18th International Conference on Electronic Properties of Two-Dimensional Systems (EP2DS-18) will be jointly held at Kobe International Conference Center, Kobe, Japan, July 19 - 24, 2009. This will be the 2009 edition of the biennial conference series that are now established as the major events in the research fields of modulated semiconductors and low-dimensional electron systems.

What is “Joint Conference”

By making a registration either to EP2DS-18 or to MSS-14, the participants could freely come and go between the two. The submission of papers is limited, however, only to the registered Conference. If you want to submit papers to both Conferences, you need to register to both Conferences and to pay doulbe registration fee.

The first “joining” of the two conferences occured in 1985 for EP2DS-6 and MSS-2 in Kyoto, Japan. Tsuneya Ando (Chair of EP2DS) and Hiroyuki Sakaki (that of MSS) decided to hold the two conferences in parallel at the same location. This form was reenacted in Nara, Japan, in 1991, again in Nara, 2003, and has been followed from then on.

Conference Scope of MSS14

MSS addresses the synthesis, processing and applications of modulated materials. With an initial focus on semiconductor heteroand nano structures, MSS now also encompasses the broader range of hybrid, modulated organic, spintronic, and biologically-based modulated structures.

- Advances in growth and processing for modulated structures
- Nanowires and dots: electronic and optical properties
- Nanophotonic structures
- Spintronics and spin-effects in nanostructures
- Physics and devices for quantum information processing
- Heterostructures and superlattices
- Organic semiconductors and hybrid structures
- Novel modulated structures, including carbon nanotubes, graphene, molecular structures, NEMS, and bio-based structures
- Novel probing and fabrication techniques

Committees

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Special Session Organizers

A. Yamada (Tokyo Inst. of Tech.) Y. Okada (Univ. of Tokyo)

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Mitsuru Funato	(Kyoto University)	Osamu Kojima	(Kobe University)
Satofumi Souma	(Kobe University)	Yukihiro Harada	(Kobe University)

Sponsors

- International Union of Pure and Applied Physics
- The Physical Society of Japan
- The Japan Society of Applied Physics
- The Telecomunications Advancement Foundation
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- Nippon Sheet Glass Foundation for Materials Science and Engineering
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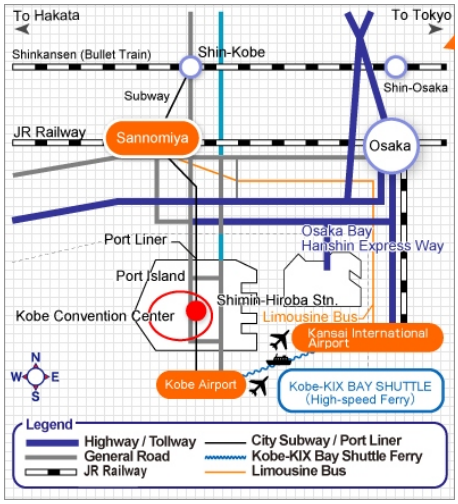
Access to the venue



Kobe city and the confernece center

Kobe is located in Hyogo Prefecture, one of several prefectures in the mid-west of Japan that, together, are known as the 'Kansai' Region. This is Japan's premier tourism area for overseas visitors making Kobe an ideal base city for visiting world heritage sites, both to the east and to the west. The Port of Kobe and its man-made islands are located on the north shore of the Osaka Bay.

Kobe International Conference Center is located on Port Island, about 10 minutes from downtown Kobe (Sannomiya) and only 8 minutes from Kobe Airport by "Port liner" (mono-rail train). "Shimin-Hiroba" station of Port liner is just next to the conference center.

From Kansai international airport

Easiest access to the venue is obtained from Kansai International Airport (KIX), which is the closest international gateway for Kobe and located around the Osaka Bay along a fast coastal highway. To transfer from KIX to Kobe:

Transfer by Taxi: About 70 minutes and approx. 22,000 Yen (KIX to downtown Kobe, Sannomiya).

Transfer by Limousine Bus: 65 minutes and 1,800 Yen (KIX to downtown Kobe, Sannomiya) (Operations every 10 20 minutes between 06:20 23:15).

Transfer by Bay Shuttle Ferry: 29 minutes and 1,500 Yen (KIX to Kobe Marine Air) (Operations every 45 60 minutes between 07:15 22:00). The KIX ferry dock is a 2 minutes free bus transfer from the airport terminal.

From Narita international airport

Transfer by Domestic Air (Narita to Osaka Itami Airport): Narita is an international airport with some domestic flights to Osaka Itami Airport. Flight time between Narita and Osaka Itami is about 60 minutes.

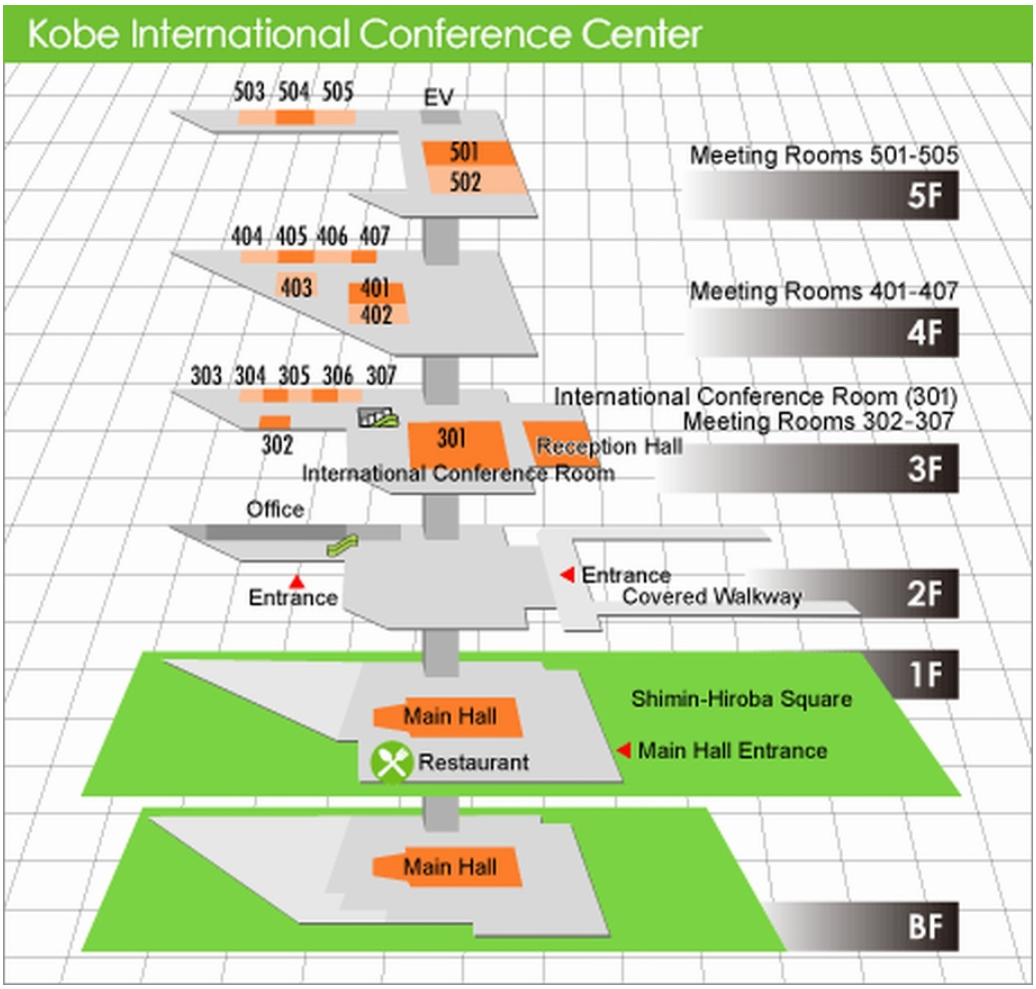
Transfer by Domestic Air (Haneda to Kobe Airport): Narita arrivals should first transfer to Tokyo's domestic airport Haneda for flights to Kobe. Bus transfers between Narita and Haneda take 75 minutes and cost 3,000 Yen. Flight time between Haneda and Kobe is about 60 minutes. (There are also flights to Osaka Itami if Kobe flights are full).

Domestic Rail Transfer: Trains from Narita to Tokyo Station take about 60 minutes and cost approx. 3,000 Yen (by the Narita Express train). Buses from Narita to Tokyo take 80110 minutes (depending on traffic conditions) and cost 3,000 Yen. Bullet Trains to Shin-Kobe from Tokyo take about 2 hrs 50 minutes and cost approx. 15,000 Yen. Trains run about every 20 minutes. From Shin-Kobe to Sannomiya is 5 minutes and 660 Yen by taxi, or 2 minutes and 200 Yen by City Subway.

About Port Liner train

The Port Liner trains run approx. every 5 minutes between Kobe Airport and Sannomiya. All trains stop at the station next to the Convention Center, called "Shimin-Hiroba". From Sannomiya to Shimin-Hiroba costs 240 Yen and takes about 10 minutes either way. Coming from Kobe Airport, the cost is 240 Yen and takes 8 minutes.

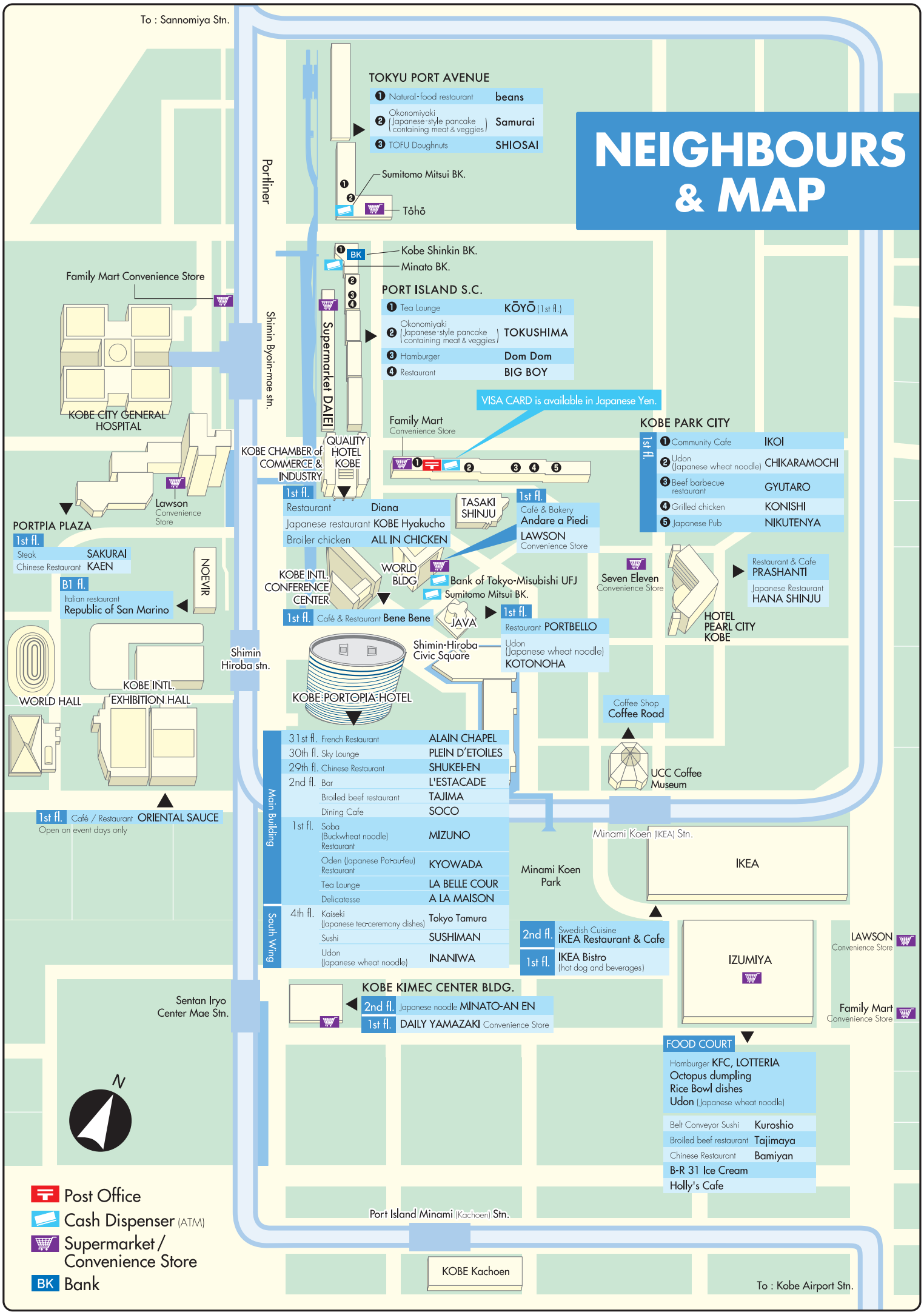
Floor map: Kobe International Center



Main Hall (BF～ 1E): Plenary Session, EP2DS Oral Session

Conference Hall (3F): MSS Oral Session

Meeting Room 501, 502 (5F): Poster Session


To : Sannomiya Stn.
NEIGHBOURS & MAP
TOKYU PORT AVENUE
1 Natural-food restaurant beans
2 Okonomiyaki (Japanese-style pancake containing meat & veggies) Samurai
3 TOFU Doughnuts SHIOSAI
Sumitomo Mitsui BK.
Tōhō
Portliner
Kobe Shinkin BK.
Minato BK.
Family Mart Convenience Store
PORT ISLAND S.C.
1 Tea Lounge KŌYŌ (1st fl.)
2 Okonomiyaki (Japanese-style pancake containing meat & veggies) TOKUSHIMA
3 Hamburger Dom Dom
4 Restaurant BIG BOY
Shimin Byoin-mae stn.
Supermarket DAIEI
VISA CARD is available in Japanese Yen.
Family Mart Convenience Store
KOBE PARK CITY
1st fl.
1 Community Cafe IKOI
2 Udon (Japanese wheat noodle) CHIKARAMOCHI
3 Beef barbecue restaurant GYUTARO
4 Grilled chicken KONISHI
5 Japanese Pub NIKUTENYA
KOBE CITY GENERAL HOSPITAL
KOBE CHAMBER of COMMERCE & INDUSTRY
QUALITY HOTEL KOBE
Lawson Convenience Store
PORTPIA PLAZA
1st fl.
Steak SAKURAI
Chinese Restaurant KAEN
B1 fl.
Italian restaurant Republic of San Marino
NOEVIR
1st fl.
Restaurant Diana
Japanese restaurant KOBE Hyakucho
Broiler chicken ALL IN CHICKEN
TASAKI SHINJU
1st fl.
Café & Bakery Andare a Piedi
LAWSON Convenience Store
KOBE INTL. CONFERENCE CENTER
WORLD BLDG
Bank of Tokyo-Misubishi UFJ
Sumitomo Mitsui BK.
Seven Eleven Convenience Store
Restaurant & Cafe PRASHANTI
Japanese Restaurant HANA SHINJU
HOTEL PEARL CITY KOBE
1st fl. Café & Restaurant Bene Bene
JAVA
1st fl.
Restaurant PORTBELLO
Udon (Japanese wheat noodle) KOTONOHA
Shimin Hiroba stn.
Shimin-Hiroba Civic Square
KOBE PORTOPIA HOTEL
WORLD HALL
KOBE INTL. EXHIBITION HALL
Coffee Shop Coffee Road
UCC Coffee Museum
Main Building
31st fl. French Restaurant ALAIN CHAPEL
30th fl. Sky Lounge PLEIN D'ETOILES
29th fl. Chinese Restaurant SHUKEI-EN
2nd fl. Bar L'ESTACADE
Broiled beef restaurant TAJIMA
Dining Cafe SOCO
1st fl. Soba (Buckwheat noodle) Restaurant MIZUNO
Oden (Japanese Pot-au-feu) Restaurant KYOWADA
Tea Lounge LA BELLE COUR
Delicatesse A LA MAISON
South Wing
4th fl. Kaiseki (Japanese tea-ceremony dishes) Tokyo Tamura
Sushi SUSHIMAN
Udon (Japanese wheat noodle) INANIWA
1st fl. Café / Restaurant ORIENTAL SAUCE
Open on event days only
Minami Koen (IKEA) Stn.
IKEA
Minami Koen Park
2nd fl. Swedish Cuisine IKEA Restaurant & Cafe
1st fl. IKEA Bistro (hot dog and beverages)
IZUMIYA
LAWSON Convenience Store
Family Mart Convenience Store
FOOD COURT
Hamburger KFC, LOTTERIA
Octopus dumpling
Rice Bowl dishes
Udon (Japanese wheat noodle)
Belt Conveyor Sushi Kuroshio
Broiled beef restaurant Tajimaya
Chinese Restaurant Bamiyan
B-R 31 Ice Cream
Holly's Cafe
KOBE KIMEC CENTER BLDG.
2nd fl. Japanese noodle MINATO-AN EN
1st fl. DAILY YAMAZAKI Convenience Store
Sentan Iryo Center Mae Stn.
N
Post Office
Cash Dispenser (ATM)
Supermarket / Convenience Store
BK Bank
Port Island Minami (Kachoen) Stn.
KOBE Kachoen
To : Kobe Airport Stn.

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Schedule

Sunday July 19th 16:00 ～ 18:00 Registration (at Registration desk)
17:00 ～ 19:00 Welcome Reception (Sponsored by Nippon Cryogenic Ltd.)

Session Timetable

	7/20 (Mon)	7/21 (Tue)	7/22 (Wed)	7/23 (Thu)	7/24 (Fri)
9:00		Session M2 Terahertz dynamics and devices	Session M5 Spintronics I	Session M6 Spintronics II	Session M9 Nanophotonics
10:00	Opening				
	Plenary 1	Coffee	Coffee	Coffee	Coffee
11:00		Session M3 Physics and devices for quantum information processing	Plenary 3	Session M7 Nanostructure growth	Pleanry 5
	Pleanry 2				
12:00	Photo		Plenary 4		Plenary 6
					Closing
13:00	Lunch	Lunch	Free afternoon or optional excursion	Lunch	
14:00	Session M1 Transport in nanostructures	Session M4 Optical properties of quantum dots		Session M8 Novel materials and physics	
15:00					
16:00	Poster Session Mo-mP	Poster Session Tu-mP		Poster Session Th-mP	
17:00		Spcial Session for Solar Cells 18:00-20:00			

Monday July 20th

Opening Ceremony (Main Hall) 10:00 – 10:30

Session Plenary 1,2 (Main Hall) 10:30 – 12:00

PL1 10:30 – 11:15 **David D. Awschalom** (*Center for Spintronics and Quantum Computation, University of California, Santa Barbara, CA 93106 USA*)
Manipulating single spins and coherence in semiconductors

PL2 11:15 – 12:00 **Yoshihisa Yamamoto**[1,2] ([1]*E. L. Ginzton Laboratory, Stanford University, CA, USA,* [2]*National Institute of Informatics, Tokyo, Japan*)
Bose-Einstein condensation and superfluidity of exciton-polaritons

12:00 – 12:15 **Conference Photo**

12:15 – 13:45 **Lunch Break**

Session M1 (International Conference Room) 13:45 – 16:00

Transport in nanostructures

M1a 14:00 – 14:30 **H. Klauk** (Invited) (*Max Planck Institute for Solid State Research, Stuttgart, Germany*)
Field-Effect Transistors Based on Carbon Nanotubes and ZnO Nanowires with Organic/Inorganic Hybrid Gate Dielectrics

M1b 14:30 – 14:45 **Carlo Colombo**[1], **Dance Spirkoska**[2], **Tonko Garma**[1,2], **Martin Heiss**[1,2], **Fabien Vialla**[1], **Joseph Dufouleur**[2], **Gerhard Abstreiter**[2], **A. Fontcuberta i Morral**[1,2] ([1]*LMSC, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland,* [2]*Walter Schottky Institut, TU Muenchen, Garching, Germany*)
Doping of catalyst-free MBE grown GaAs nanowires, transport properties and related devices

M1c 14:45 – 15:00 **O. Makarovsky**[1], **O. Thomas**[1], **A.G. Balanov**[1], **A. Patanè**[1], **L. Eaves**[1], **R. P. Campion**[1], **C. T. Foxon**[1], **E. E. Vdovin**[1], **D.K. Maude**[2] ([1]*School of Physics ans Astronomy, The University of Nottingham, Nottingham, UK NG7 2RD, UK,* [2]*Grenoble High Magnetic Field Laboratory, CNRS, F-38042 Grenoble, France*)
A quantum analogue of the STM multiple-tip effect revealed by wavefunction imaging of quantum dots

M1d 15:00 – 15:15 **C. Payette**[1,2], **S. Amaha**[3], **T. Hatano**[3], **K. Ono**[4], **J. A. Gupta**[1], **G. C. Aers**[1], **D. G. Austing**[1,2], **S. V. Nair**[5], **S. Tarucha**[3,6] ([1]*Institute for Microstructural Sciences M50, NRC, Ottawa, Ontario K1A 0R6, Canada,* [2]*Department of Physics, McGill University, Montreal, Quebec H3A 2T8, Canada,* [3]*Quantum Spin Information Project, ICORP, JST, Atsugi, Kanagawa 243-0198, Japan,* [4]*RIKEN , Wako, Saitama 351-0198, Japan,* [5]*Center for Advanced Nanotechnology, University of Toronto , Toronto, Ontario M5S 3E3, Canada,* [6]*Department of Applied Physics, University of Tokyo, Tokyo 113-0033, Japan*)
Gate adjustable coherent three and four level mixing in a vertical quantum dot molecule

M1e 15:15 – 15:30 **G. Shinkai[1,2], T. Hayashi[1], T. Ota[1], K. Muraki[1], T. Fujisawa[2]** (*[1]NTT Basic Research Laboratories, 3-1 Morinosato-Wakamiya, Atsugi, 243-0198, Japan, [2]Reseach Center for Low-Temperature Physics, Tokyo Institute of Technology, 2-12-1 Ookayama, Meguro, 152-8551, Japan*)

Bidirectional current drag effect utilizing cotunneling of two-electrons in coupled double quantum dots

M1f 15:30 – 15:45 **Markus Schlapps[1], Stefan Geissler[1], Teresa Lermer[1], Janusz Sadowski[2], Werner Wegscheider[1], Dieter Weiss[1]** (*[1]Department of Applied Physics, University of Regensburg, Universitätsstr. 31, 93040 Regensburg, Germany, [2]Max-Lab, Lund University, Sweden, Ole Römers väg 1, SE-223 63 Lund, Sweden*)

Coulomb blockade transport across lateral (Ga,Mn)As nanoconstrictions

M1g 15:45 – 16:00 **T. Kodera[1], K. Ono[2], N. Kumagai[1], T. Nakaoka[1], S. Tarucha[1,3,4], Y. Arakawa[1,5,6]** (*[1]Institute for Nano Quantum Information Electronics, the University of Tokyo, 4-6-1, Komaba, Meguro-ku, Tokyo 153-8505, Japan, [2]RIKEN, 2-1, Hirosawa, Wako-shi, Saitama 351-0198, Japan, [3]School of Engineering, the University of Tokyo, 7-3-1, Hongo, Bunkyo-ku, Tokyo 113-0033, Japan, [4]ICORP-JST, 3-1, Morinosato Wakamiya, Atsugi-shi, Kanagawa 243-0198, Japan, [5]Institute of Industrial Science, the University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, [6]Research Center for Advanced Science and Technology, the University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505*)

Resonant tunneling in a vertical pillar structure including a self-assembled quantum dot coupled with a quantum well

Poster Session Mo-mP (Meeting Room 501, 502) 16:00–18:00

Mo-mP2 **M. Grydlik, M. Brehm, H.Groiss, T. Fromherz, F. Schäffler, G. Bauer** (*Institute of Semiconductor and Solid State Physics, University of Linz , Altenbergerstrasse 69 4040 Linz, Austria*)

Inverted Ge islands in 111 faceted Si pits - a novel approach towards islands with higher aspect ratio

Mo-mP3 **T. Yang, Y. L. Cao, H. M. Ji, W. Q. Ma, P. F. Xu, Y. X. Gu** (*Institute of Semiconductors, Chinese Academy of Sciences, P. O. Box 912, Beijing 100083, China*)

Comparative study of p-doped and undoped 1.3-m InAs/GaAs quantum-dot lasers

Mo-mP4 **T. Ito, T. Ito, T. Akiyama, K. Nakamura** (*Department of Physics Engineering, Mie University, 1577 Kurima-Machiya, Tsu, Mie , Japan*)

Ab initio-based approach to structural modulation of AlN on 4H-SiC(11-20) during MBE growth

Mo-mP5 **T. Nishiwaki, M. Yamaguchi, N. Sawaki** (*Department. of Electrical Engineering and Computer Science, Nagoya University, C3-1(631), Furo-cho, Chikusa-ku, Nagoya 464-8603, Japan*)

Growth of AlGaAs/GaAs (11n)A facets by selective MBE

Mo-mP6 **M. Brehm[1], M. Grydlik[1], G. Vastola[2], M. J. Beck[3], H. Lichtenberger[1], T. Fromherz[1], F. Montalenti[2], F. Schaffler[1], L. Miglio[2], G. Bauer[1]** (*[1]Institut of Semiconductor Physics, University of Linz, Austria, Altenbergerstrasse 65, A-4040 Linz, Austria , Austria, [2]L-NESS and Materials Science Department, University of Milano-Bicocca, I-20125 Milano, Italy, [3]Department of Physics and Astronomy, Vanderbilt University,, Nashville, Tennessee 37235, USA*)

Morphological evolution at the early stages of Ge island formation on Si(001) revisited: the key role of the wetting layer

Mo-mP7 **T. Yamashita, T. Akiyama, K. Nakamura, T. Ito** (*Department of Physics Engineering, Mie University, 1577 Kurima-Machiya, Tsu, Mie 514-8507, Japan*)

Theoretical investigation on the structural stability of GaAs nanowires with two different types of facets

Mo-mP8 **T. Mano, T. Kuroda, B. Mcskimming, A. Ohtake, K. Mitsuishi, T. Noda, K. Sakoda** (*National Institute for Materials Science, 1-2-1 Sengen, Tsukuba, Ibaraki 305-0047, Japan*)

Self-assembly of symmetric, unstrained GaAs quantum dots without wetting layer by droplet epitaxy

Mo-mP9 **T. Toujyou[1], T. Noda[2], T. Teraoka[1], T. Konishi[1], S.Tsukamoto[1]** (*[1]Anan National college of Technology, 265 Aoki Minobayashi Anan, Tokushima 7740017, Japan, [2]National Institute for Materials Science, 1-2-1 Sengen Tsukuba, Ibaraki 3050047, Japan*)

insitu **STM observation of nano-structures generated near InAs quantum dots on GaAs(001) surface**

Mo-mP10 **A.Bonanni[1], A.Navarro-Quezada[1], T.Li[1], B.Faina[1], R.Lechner[1], G.Bauer[1], M.Rovezzi[2], F.D'Acapito[2], W.Stefanowicz[3], M.Kiecana[3], M.Sawicki[3], T.Dietl[3]** (*[1]Institut für Halbleiter und Festkörperphysik, Johannes Kepler University, Altenbergerstr. 69, Linz - Austria, [2]Italian Collaborating Research Group ESRF, Grenoble - France, [3]Institute of Physics, Polish Academy of Sciences, Warsaw - Poland*)

Controlling the aggregation of magnetic cations in GaN

Mo-mP11 **R. J. Young, L. O. Mereni, V. Dimastrodonato, S. B. Healy, E. P. O'Reilly, E. Pelucchi** (*Tyndall National Institute, University College Cork, Cork , Ireland*)

Highly uniform site-controlled quantum dots with record spectral purity

Mo-mP12 **A. Ishii[1], Hiroki Asano[1], Mami Yokoyama[1], Shiro Tsukamoto[2]** (*[1]Dept.Applied Mathematics and Physics, Tottori University, 4-101 Koyama-Minami, Tottori-City, Tottori 680-8552, Japan, [2]Center for Collaborative Research, Anan National College of Technology, Anan, Tokushima 774-0017, Japan*)

Structure determination of Pd-catalyst supported on S-terminated GaAs (001) using DFT calculation

Mo-mP13 **Mami Yokoyama[1], Shiro Tsukamoto[2], Akira Ishii[1]** (*[1]Department of Applied Mathematics and Physics, Tottori University, 4-101 Koyama-Minami, Tottori 680-8552, Japan , [2]Center for Collaborative Research, Anan National College of Technology, Anan, Tokushima 774-0017, Japan*)

Structure determination of Pd-catalyst supported on S-terminated GaN (0001) using DFT calculation

Mo-mP14 **D. Bordel[1,2], M. Rajesh[1], D. Guimard[1], M. Nishioka[1], E. Augendre[3], L. Clavelier[3], Y. Arakawa[1,2]** (*[1]Institute for Nano Quantum Information Electronics (INQIE), The University of Tokyo, IIS, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, Japan, [2]LIMMS/CNRS-IIS, The University of Tokyo, IIS, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, Japan, [3]CEA-LETI-Minatec, F38054 Grenoble, France*)

Growth of InAs/GaAs quantum dots on germanium-on-insulator substrate by MOCVD for Silicon photonics

Mo-mP15 **S. Sekiguchi, P. Patchakapat, K. Yamaguchi** (*Department of Electronic Engineering, The University of Electro-Communications, 1-5-1 Chofugaoka, Chofu, Tokyo 182-8585, Japan*)

Fine control of super low-density InAs quantum dots by intermittent growth using MBE

Mo-mP16 **S. H. Shin[1,2], J. D. Song[1], S. Y. Kim[1], H. J. Kim[1], J. Y. Chang[1], S. H. Han[1], T.G, Kim[2]** (*[1]Korea Institute of Science and Technology, Nano Science Research Division, Korea institute of Science and Technology, Seoul 136-79, Korea, [2]Korea University, School of Electrical Engineering, Korea University, Seoul 136-701, Korea*)

Parametric growth of InAlSb meta-morphic buffer layers on GaAs for the application to InSb-based electronic devices

Mo-mP17 **T. D. Mishima, M. Edrisooriya, M. B. Santos** (*University of Oklahoma, 440 West Brooks St., Norman, OK, USA 73019, USA*)

Dislocation-filtering AlInSb interlayers for InSb quantum wells

Mo-mP18 **Y. Terai, T. Tsuji, K. Noda, Y. Fujiwara** (*Division of Materials and Manufacturing Science, Graduate School of Engineering, Osaka University, 2-1 Yamadaoka, Suita, Osaka 565-0871, Japan*)

Photoluminescence properties of Er-doped β-$FeSi_2$ grown by ion beam synthesis methods

Mo-mP19 **Y. Terai, K. Yamaoka, K. Yoshida, A. Yoshida, Y. Fujiwara** (*Division of Materials and Manufacturing Science, Graduate School of Engineering, Osaka University, 2-1 Yamadaoka, Suita, Osaka 565-0871, Japan*)

Luminescence properties of Eu-doped ZnO films grown by sputtering-assisted metalorganic chemical vapor deposition

Mo-mP20 **N. Yamamoto, Kouichi Akahane** (*National Institute of Information and Communications Technology, 4-2-1 Nukui-kitamachi, Koganei, Tokyo 1848795, Japan*)

Fabrication of Metal/Quantum-Dot/Semiconductor (MDS) structure on silicon substrate

Mo-mP21 **Takeo Hoshi, Masakazu Tanikawa, Akira Ishii** (*Department of Applied Mathematics and Physics, Tottori University, 4-101 Koyama-Minami, Tottori 680-8552, Japan*)

A hierarchical investigation of ultra-large-scale and ab initio electronic structure calculations - Silicon cleavage process and resultant stepped surface -

Mo-mP22 **N. Kumagai[1], S. Ohkouchi[1,2], S. Nakagawa[1,4], M. Nomura[1], Y. Ota[1,4], M. Shirane[1,2], Y. Igarashi[1,2], S. Yorozu[1,2], S. Iwamoto[1,3,4], Y. Arakawa[1,3,4]** (*[1]INQIE, Univ. of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 1538505, Japan, [2]NEC, 34 Miyukigaoka, Tsukuba 3058501, Japan, [3]IIS, Univ. of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 1538505, Japan, [4]RCAST, Univ. of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 1538505, Japan*)

Suppression of indefinite peaks in InAs/ GaAs quantum dot spectrum by low temperature Indium-flush method

Mo-mP23 **T. Shindo, R. Kaji, S. Adachi, S. Muto** (*Department of Applied Physics, Hokkaido University, N13 W8, Kitaku, Sapporo 060-8628, Japan*)

Polarization conversion of excitonic photoluminescence under zero and nonzero magnetic field in a single InAlAs quantum dot

Mo-mP24 **A. Laucht, N. Hauke, J. M. Villas-Bas, F. Hofbauer, M. Kaniber, G. Böhm, J. J. Finley** (*Walter Schottky Institut, Technische Universität München, Am Coulombwall 3, 85748 Garching , Germany*)

Experimentally probing dephasing of zero dimensional exciton-polaritons

Mo-mP25 **D. Lucot, G. Faini, J.C. Harmand, D. G Mailly, G. Patriarche** (*CNRS - Laboratoire de Photonique et de Nanostructures, route de Nozay, Marcoussis 91460, France*)

Growth and electrical characterizations of semiconducting nanowires

Mo-mP26 **K. Akahane, N. Yamamoto** (*National Institute of Information and Communications Technology, 4-2-1, Nukui-Kitamachi, Koganei, Tokyo 1848795, Japan*)

Formation of InAs quantum dots at ultra-high growth rates

Mo-mP27 **S. Hiratsuka[1], Y. Mizoguchi[1], S. Takeda[1], S. Saravanan[2], N. Ohtani[1]** (*[1]Department of Electronics, Doshisha University, 3-1 Tatara-Miyakodani, Kyotanabe-shi, Kyoto 610-0321, Japan, [2]ATR Wave Engineering Laboratories, Keihanna Science City, Kyoto, Japan*)

Photoluminescence properties of annealed and non-annealed InAs quantum dots

Mo-mP28 **D. Sarkar[1], H. P. van der Meulen[1], J. M. Calleja[1], J. M. Meyer[2], R. J. Haug[2], K. Pierz[3]** (*[1]Departamento de Fsica de Materiales, Universidad Autnoma de Madrid, E-28049 Madrid, Spain, , [2]Institut für Festkörperphysik, Leibniz Universität Hannover, D-30167 Hannover, Germany, , [3]Physikalisch-Technische Bundesanstalt Braunschweig, D-38116 Braunschweig, Germany,*)

Magneto-photoluminescence spectroscopy of single InAs/AlAs quantum dots

Mo-mP29 **K. Shibata[1], M. Jung[1], K. M. Cha[1], M. Sotome[1], K. Hirakawa[1,2]** (*[1]IIS and INQIE, University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, Japan, [2]CREST-JST, 4-1-8 Honcho, Kawaguchi, Saitama 332-0012, Japan*)

Control of tunnel coupling strength between InAs quantum dots and nanogap metallic electrodes through In-Ga intermixing

Mo-mP30 **W.Q. Ma[1], X.J. Yang[1], M. Chong[1], T. Yang[1], L.H. Chen[1], J. Shao[2], X. Lü[2], W. Lu[2], C.Y. Song[3], H.C. Liu[1]** (*[1]Institute of Semiconductors, Chinese Academy of Sciences, Qinghua East Road A35, P.O. Box 912, Beijing 100083 100083, P. R. China, [2] Shanghai Institute for Technical Physics, Chinese Academy of Sciences, Shanghai 200083, P. R. China, [3] Institute for Microstructural Sciences, National Research Council, Ottawa, Canada K1A 0R6*)

Two-color quantum dot infrared photodetector using Fowler-Nordheim tunneling

Mo-mP31 **J. H. Paek, T. Nishiwaki, M. Yamaguchi, N. Sawaki** (*Department of Electronics, Nagoya University, Furo-cho 3C-1, Chikusa-ku, Nagoya*)

MBE-VLS growth of a catalyst-free GaAs/AlGaAs core-multishell nanowire on (111) silicon substrate

Mo-mP32 **A. K. Nowak[1], E. Gallardo[1], D. Sarkar[1], D. Sanvitto[1], H. P. van der Meulen[1], J. M. Calleja[1], J. M. Ripalda[2], L. Gonzlez[2], Y. Gonzlez[2]** ([1]*Departamento de Fsica de Materiales, Universidad Autnoma de Madrid, E-28049 Madrid, Spain, ,* [2]*Instituto de Microelectrnica de Madrid, Centro Nacional de Microelectrnica, Consejo Superior de Investigaciones Cientficas, Isaac Newton 8, PTM Tres Cantos, E-28760 Madrid, Spain,*)

Temperature dependent single photon emission in InP/GaInP quantum dots

Mo-mP33 **E. Gallardo[1], L.J. Martnez[2], A.K. Nowak[1], D. Sarkar[1], D. Sanvitto[1], H.P. van der Meulen[1], J.M Calleja[1], I. Prieto[2], A.R. Alija[2], D. Granados[2], A.G. Taboada[2], J.M. Garca[2], P.A. Postigo[2]** ([1]*Departamento de Fsica de Materiales, Universidad Autnoma de Madrid, E-28049 Madrid, Spain, Dpto. de Fsica de Materiales (C-IV), Facultad de Ciencias, C/ Francisco Toms y Valiente, n 7, Ctra. Colmenar Viejo, Km. 15, 28049 Cantoblanco, MADRID, SPAIN 28049, Spain,* [2]*Instituto de Microelectrnica de Madrid, Centro Nacional de Microelectrnica, Consejo Superior de Investigaciones Cientficas, Isaac Newton 8, PTM Tres Cantos, E-28760 Madrid, Spain, Instituto de Microelectrnica de Madrid, Isaac Newton 8, PTM Tres Cantos, E-28760 Madrid, Spain*)

Quantum correlation spectroscopy of single quantum rings embedded in photonic crystal microcavities

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Intentionally positioned self-assembled InAs quantum dots in an electroluminescent p-i-n junction diode

Mo-mP35 **L. Xu[1], K.Ozasa[2], H.Kakoi[1], Y.H.Liang[1], Y.Arai[1], W.Araki[1]** ([1]*School of Science and Engineering, Saitama University, 255 Shimo-Ohkubo, Sakuraku, Saitama 338-0825, Japan,* [2]*RIKEN, 2-1 Hirosawa, Wako, Saitama 351-0198, Japan*)

-X crossover in InGaAs/GaAs quantum dots due to the indentation of a flat cylindrical nanoprobe

Mo-mP36 **K.Y. Chuang, C.Y. Chen, T.E. Tzeng, David J.Y. Feng, T. Lay** (*Department of Photonics, National Sun Yat-Sen University, Kaohsiung 804, TAIWAN*)

Modulation-doping effect on the optical characteristics of vertically coupled InGaAs quantum dots

Mo-mP37 **E. Cruz-Hernandez[1], J. Hernandez-Rosas[2], J.S. Rojas-Ramirez[2], R. Contreras-Guerrero[2], R. Mendez-Camacho[3], C. Mejia-Garcia[3], V.H. Mendez-Garcia[4], M. Lopez-Lopez[2]** ([1]*Graduate School of Science and Engineering, Ehime University, 3 Bukyo-cho, Matsuyama, Ehime 790-8577, Japan,* [2]*Physics Department, CINVESTAV-IPN, Mexico DF, 07000, Mexico,* [3]*Superior School of Physics and Mathematics-IPN, Mexico DF, 07000, Mexico,* [4]*Optical Communications Research Institute, UASLP, San Luis Potosi, 78210, Mexico*)

Optical transitions in AlGaAs/GaAs quantum wires on GaAs(631) substrates studied by photoreflectance spectroscopy

Mo-mP38 **T.E. Tzeng, K.Y. Chuang, C.Y. Chang, David J.Y. Feng, T. Lay** (*Department of Photonics, National Sun Yat-Sen University, Kaohsiung, Taiwan 804, TAIWAN*)

Photovoltaic response in multi-stack $In_xGa_{1-x}As$ quantum dots

Mo-mP39 **E.Y. Lin, C.Y. Chen, S.L. Chen, T.E. Tzeng, David J.Y. Feng, T. Lay** (*Department of Photonics, National Sun Yat-Sen University, Kaohsiung, Taiwan 804, TAIWAN*)

Modulation spectroscopy on metamorphic InAs quantum dots

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Time-Resolved Photoluminescence Study of ZnO Nanocrystals Embedded in a Hybrid Polymer Composite Layer

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The effect of spacer layer thickness on vertical alignment of InGaAs/GaNAs quantum dots grown on GaAs(311)B substrate

Mo-mP42 **A. Takata[1], R. Oshima[2], Y. Shoji[2,3], Y. Okada[1,2]** ([1]*School of Engineering, The University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 1538904, Japan,* [2]*Research Center for Advanced Science and Technology, The University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 1538904, Japan,* [3]*Institute of Applied Physics, University of Tsukuba, 1-1-1 Tennodai, Tsukuba, Ibaraki 3058973, Japan*)

Growth of multi-stacked InAs/GaNAs quantum dots grown with As_2 source in atomic hydrogen-assisted molecular beam epitaxy

Mo-mP43 **B. Bansal[1,2], S. Godefroo[2], M. Hayne[3], G. Medeiros-Ribeiro[4], V. Moshchalkov[2]** ([1]*IMM, High Field Magnet Laboratory, University of Nijmegen, Toernooiveld 7, 6525 ED Nijmegen, The Netherlands,* [2]*INPAC-Institute for Nanoscale Physics and Chemistry, KU Leuven, Celestijnenlaan 200D, Leuven B-3001, Belgium,* [3]*Department of Physics, Lancaster University, Lancaster LA1 4YB, UK,* [4]*Laboratrio Nacional de Luz Sncrotron, P.O. Box 6192, 13084-971 Campinas-SP, Brazil*)

Excitons and biexcitons in type-II InP/GaAs quantum dots

Mo-mP44 **M. Royo Valls, J.I. Climente, J.L. Movilla, F. Rajadell, J. Planelles** (*Departament de Qumica Fsica i Analtica, Universitat Jaume I, Av./ de Vicent Sos Baynat, Castell 12071, Spain*)

Electron-hole complexes in semiconductor nanorods

Mo-mP45 **D. Salloch[1], U. Wieser[1], U. Kunze[1], T. Hackbarth[2]** ([1]*Werkstoffe und Nanoelektronik, Ruhr-Universitaet Bochum, Bochum 44780, Germany,* [2]*DaimlerChrysler Forschungszentrum Ulm, Wilhelm-Runge-Straße 11, D-89081 Ulm, Germany*)

Efficient injection-type ballistic rectification in Si/SiGe cross junctions

Mo-mP46 **B. Marquardt[1], M. Geller[1], A. Lorke[1], D. Reuter[2], A. Wieck[2]** (*[1]Experimental Physics, University Duisburg-Essen, Lotharstraße 1, Duisburg, Germany, [2]Department of Applied Physics, Ruhr-University, Universitätsstraße 150, Bochum, Germany*)

A two-dimensional electron gas as a sensitive detector to observe the charge carrier dynamics of self-assembled QDs

Mo-mP47 **J. I. Climente[1], M.F. Doty[2], M. Korkusinski[3], M. Scheibner[4], A.S. Bracker[4], D. Gammon[4], P. Hawrylak[3]** (*[1]Department of Physical and Analytical Chemistry, Universitat Jaume I, Castellon, Spain, [2]Department of Materials Science, University of Delaware, Newark, USA, [3]Institute of Microstructural Sciences, National Research Council, Ottawa, Canada, [4]Naval Research Labs, Washington, USA*)

Holes in double quantum dots: effects of the spin-orbit interaction

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Optical anisotropy of a triexciton in a quantum dot

Mo-mP49 **W. Lu, I. Kamiya** (*Toyota Technological Institute, 2-12-1 Hisakata Tempaku, Nagoya, Japan 4688511, Japan*)

Temperature dependence of electronic energy transfer in PbS quantum dot films

Mo-mP50 **R. Oshima[1], A. Takata[2], Y. Shoji[1,3], Y. Okada[1,2]** (*[1]Research Center for Advanced Science and Technology, The University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8904, Japan, [2]Graduate School of Engineering, The University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8904, Japan, [3]Institute of Applied Physics, University of Tsukuba, 1-1-1 Tennodai, Tsukuba, Ibaraki 305-8573, Japan*)

InAs/GaNAs strain-compensated quantum dots stacked over 50 layers for use in high-efficiency solar cell

Mo-mP51 **T. Kawazu[1], T. Mano[1], T. Noda[1], H. Sakaki[1,2]** (*[1]National Institute for Materials Science, 1-2-1 Sengen, Tsukuba, Ibaraki, Japan, [2]Toyota Technological Institute, 2-12-1 Hisakata, Tempaku-ku, Nagoya, Japan*)

Thermal annealing of GaSb quantum dots in GaAs formed by droplet epitaxy

Mo-mP52 **K. Umeno, R. Noma, Y. Furukawa, S. Mitsuyoshi, H. Okada, A. Wakahara, H. Yonezu** (*Department of Electrical and Electronic Engineering, Toyohashi University of Technology, 1-1, Hibarigaoka, Tempaku-cho, Toyohashi, Aichi 441-8580, Japan*)

Growth and luminescence characterization of self-assembled InGaAsN/GaPN quantum dots for photonics applications on Si

Mo-mP53 **T. Kamimura[1,2,3], K. Matsumoto[1,3,4]** (*[1]National Institute of Advanced Industrial Science and Technology, 1-1-1 Umezono, Tsukuba, Ibaraki 3058568, Japan, [2]the Japan Society for the Promotion of Science, 5-3-1 kojimachi, chiyodaku, Tokyo, 1028471, Japan, [3]CREST-JST, 4-1-8 Honcho, Kawaguvhi, Saitama, 332-0012, Japan, [4]ISIR, Osaka University, 8-1 Mihogaoka, Ibaraki, Osaka, 567-0047, Japan*)

Channel length dependence of Single-walled carbon nanotube multi-functional quantum transistor characteristics

Mo-mP54 **T. Kitada, A. Mukaijo, T. Takahashi, T. Mukai, K. Morita, T. Isu** (*Center for Frontier Research of Engineering, Institute of Technology and Science, The University of Tokushima, 2-1 Minami-josanjima-cho, Tokushima 770-8506, Japan*)

Doping effect on photocarrier lifetime in InAs quantum dots with strain-relaxed InGaAs barriers grown by molecular beam epitaxy

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High Performance Multi-Nano-Pillar Vertical MOSFET Scaling from 50nm to 15nm Node

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Hybrid polymer nanowire based electronic devices: correlated characterization

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Electrical characterization of multilayered SiC nano-particles for application as tunnel barrier engineered non-volatile memory

Mo-mP58 **D. Kammerlander[1,2], G. Ferrari[1,3], F. Troiani[1], G. Goldoni[1,2]** ([1]*CNR-INFM Research Center for nanoStructures and bioSystems at Surfaces (S3), Via Campi 213/A, Modena 41100, Italy,* [2]*Dipartimento di Fisica, Univ. di Modena e Reggio Emilia, Via Campi 213/A, Modena 41100, Italy,* [3]*CNISM Research Unit of Modena, 41100 Modena, Italy*)

Optical signatures of neutral and charged excitons in inorganic semiconducting nanotubes

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Large optical Kerr signal of GaAs/AlAs multilayer cavity with InAs quantum dots embedded in strain-relaxed barriers

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Polarization anisotropy of dynamic quantum wires formed by surface acoustic waves

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Suppression of non-radiative recombination up to room temperature in long-lived GaN/AlN quantum dots

Mo-mP62 **H. Wang[1], Liming Jiang[1], Huiting Wu[1], Qian Gong[2], Songlin Feng[2]** ([1]*College of Physics and Engineering, Qufu Normal University, ,* [2]*Key laboratory of wireless sensor network and communication, Shanghai Institute of Micro-system and Information Technology,*)

Hydrogenic impurity states in zinc-blende InGaN/GaN cylindrical quantum-well wires

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Photoluminescence of trions in quantum dots: the dominant role of valence band correlations

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Surface recombination processes of GaN crystallites

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Electric-field-tunable electronic properties of graphene quantum dots

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Strain fields and transition energies for single and vertically stacked InAs/GaAs semiconductor quantum dots

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Sensitive detection of photoexcited carriers by resonant tunnelling through a single quantum dot

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Luminescence from InAs/GaAs surface related states

Mo-mP70 **Y. Kitauchi[1], K. Tomioka[1,2], Y. Kobayashi[1], S. Hara[1,2], T. Fukui[1,2], J. Motohisa[1]** ([1]*Graduate School of Information Science and Technology, Hokkaido University, North 14 West 9 Sapporo 060-0814, Japan,* [2]*Research Center for Integrated Quantum Electronics, Hokkaido University, North 13 West 8, Sapporo 060-8628, Japan*)

Structural transition of InP nanowires in selective-area metalorganic vapor phase epitaxy

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Atomistic theory of electronic and optical properties of self-assembled quantum dots

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Resonant enhancement of excitonic photoluminescence via biexciton process in stacked InAs quantum dots

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Spectral diffusion of type-II excitons in InP/InAs/InP core-multishell nanowires

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Magnetotransport in MBE-grown III-V nanowires

Mo-mP76 **M. Panfilova, S. Michaelis de Vasconcellos, A. Pawlis, K. Lischka, A. Zrenner** (*University of Paderborn, Warburger Str. 100, 33098 Paderborn, Germany*)

Photocurrent-spectroscopy of CdSe quantum dot photodiodes

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ZnO/$Mg_{0.2}Zn_{0.8}O$ Coaxial Nanorod Heterostructures for High Performance Electronic Nanodevice Applications

Mo-mP78 **G. Granger, S. A. Studenikin, A. S. Sachrajda, A. Kam, P. J. Poole, G. C. Aers, R. L. Williams** (*Institute for Microstructural Sciences, National Research Council of Canada, 1200 Montreal Rd, Building M-50, Ottawa, K1A 0R6, Canada*)

Electron transport in gated InGaAs/InP and InAsP/InP quantum well ridge structures fabricated by nanotemplate technology

Mo-mP79 **G. Zhang, K. Tateno, S. Suzuki, H. Gotoh, H. Nakano** (*NTT Basic Research Laboratories, 3-1 Morinosato-Wakamiya, Atsugi, Kanagawa 243-0198, Japan*)

Evidence of different doping modes in tapered VLS nanowires by studying axial distribution of carrier concentration in Si-doped InAs nanowires

Mo-mP80 **C. Nishimura[1], G. Imamura[1], M. Fujii[1], T. Kawashima[2], T. Saitoh[2], S. Hayashi[1]** (*[1]Department of Electrical and Electronic Engineering, Kobe University, Rokkodai, Nada, Kobe 657-8501, Japan, [2]Panasonic Corporation, 3-1-1 Yagumo-Nakamachi, Moriguchi, Osaka 570-8501, Japan*)
Boron and Germanium Distribution in Individual Boron-doped $Si_{1-x}Ge_x$ Alloy Nanowires Grown by a Vapor Liquid Solid process

Mo-mP81 **M. Hassan Abdellatif, O. S. Kopylov, Jin Dong Song, Won Jun Choi, Nam Ki Cho, Jung Il Lee** (*KIST, Korea institute of sience and technology, KIST International RandD Academy, Nano-Science Research Division., 39-1, San wolgok-dong, Sungbuk-ku, Seoul, Korea ¡136-791¿*)
Critical Exciton Temperature in InAs/GaAs quantum dot sample by infrared time resolved spectroscopy

Mo-mP82 **M. Csontos[1], Y. Komijani[1], T. Ihn[1], K. Ensslin[1], D. Reuter[2], A. D. Wieck[2]** (*[1]Solid State Physics Laboratory, ETH Zürich, Schafmattstrasse 16, Zürich 8093, Switzerland, [2]Angewandte Festkörperphysik, Ruhr-Universität Bochum, 44780 Bochum, Germany*)
Observation of excited states in a p-type GaAs quantum dot

Tuesday July 21st

Session M2 (International Conference Room) 9:00 – 10:30

Terahertz dynamics and devices

M2a 9:00 – 9:30 **R. Huber[1], A. A. Anappara[1], A. Sell[1], G. Günter[1], G. Biasiol[2], L. Sorba[2], S. De Liberato[3], C. Ciuti[3], A. Tredicucci[2], A. Leitenstorfer[1]** (Invited) (*[1]Department of Physics and Center for Applied Photonics, University of Konstanz, Germany, [2]Laboratorio NEST CNR-INFM and Scuola Normale Superiore, Pisa; Laboratorio Nazionale TASC CNR-INFM, Trieste, Italy, [3]Laboratoire Matériaux et Phénomènes Quantiques, Université Paris Diderot - Paris 7 and CNRS, Paris; Laboratoire Pierre Aigrain, Ecole Normale Superieure, Paris, France*)
Non-adiabatic control of intersubband cavity polaritons

M2b 9:30 – 9:45 **T. Unuma[1,2], Y. Ino[3], M. Kuwata-Gonokami[3], K. Hirakawa[1]** (*[1]Institute of Industrial Science and INQIE, University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, Japan, [2]Department of Applied Physics, Nagoya University, Furo-cho, Chikusa-ku, Nagoya 464-8603, Japan, [3]Department of Applied Physics and INQIE, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656, Japan*)
Breakdown of the semiclassical miniband picture for transient electron transport in GaAs-based superlattices

M2c 9:45 – 10:00 **A. Wade[1], D. Smirnov[1], S. Kumar[2], B.S. Williams[3], Q. Hu[2], J.L. Reno[4]** (*[1]National High Magnetic Field Laboratory, Tallahassee, Florida 32310, USA, [2]Massachusetts Institute of Technology, Cambridge, Massachusetts 02139, USA, [3]University of California at Los Angeles, Los Angeles, California 90095, USA, [4]Sandia National Laboratories, Albuquerque, New Mexico 87185-0601*)
Magnetic field assisted sub-THz quantum cascade lasers

M2d 10:00 – 10:15 **T. T. Lin, K. Ohtani, H. Ohno** (*Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, Miyagi 980-8577, Japan*)

Fabrication and operation of a metal-metal waveguide GaAs terahertz quantum cascade laser

M2e 10:15 – 10:30 **E. Mujagi'c[1], S. Schartner[1], M. Nobile[1], H. Detz[1], A. M. Andrews[1], P. Klang[1], W. Schrenk[1], C. Deutsch[2], K. Unterrainer[2], M. P. Semtsiv[3], W. T. Masselink[3], G. Strasser[1,4]** ([1]*Institute for Solid State Electronics, Vienna University of Technology, Floragasse 7, Vienna 1040, Austria,* [2]*Photonics Institute, Vienna University of Technology, Gußhausstr. 25-29, Vienna 1040, Austria,* [3]*Department of Physics, Humboldt University Berlin, Newtonstrasse 15, Berlin 12489, Germany,* [4]*Department of Electrical Engineering and Physics, State University of New York, 332 Bonner Hall, NY, Buffalo, 14260-1920, USA*)

Tailored beams in quantum cascade ring lasers

10:30 – 11:00 **Coffee Break**

Session M3 (International Conference Room) 11:00 – 12:30

Physics and devices for quantum information processing

M3a 11:00 – 11:30 **R. J. Warburton[1], Daniel Brunner[1], Brian D. Gerardot[1], Paul A. Dalgarno[1], Nick G. Stoltz[2], Pierre M. Petroff[2]** (Invited) ([1]*School of Engineering and Physical Sciences, Heriot-Watt University, Edinburgh EH14 4AS, UK,* [2]*Materials Department, University of California, Santa Barbara, California 93106, USA*)

Coherent Hole Spin in a Semiconductor Quantum Dot

M3b 11:30 – 11:45 **A. J Bennett[1], R. M. Stevenson[1], A. J. Hudson[1,2], R. J. Young[1], C. A. Nicoll[2], D. A. Ritchie[2], A. J. Shields[1]** ([1]*Toshiba Research Europe Limited, 260 Science Park, Milton Road, Cambridge CB58QE, UK,* [2]*Cavendish Laboratory, Cambridge University, JJ Thomson Avenue, Cambridge, CB3 0HE, U K.*)

Phase and coherence of entangled photon pairs from a single quantum dot

M3c 11:45 – 12:00 **E. Stock[1], A. Lochmann[1], J. A. Töfflinger[1], W. Unrau[1], A. Toropv[2], A. Bakarov[2], A. Kalagin[2], V. Haisler[2], D.Bimberg[1]** ([1]*Institut für Festkörperphysik, Technische Universität Berlin, Germany , Hardenbergstr. 36, Berlin 10623, Germany,* [2]*Institute of Semiconductor Physics, Novosibirsk, Russia*)

Microcavity quantum dot single photon source electrically driven at 1 GHz

M3d 12:00 – 12:15 **S. Michaelis de Vasconcellos**[1], **S. Gordon**[1], **M. Bichler**[2], **D. Reuter**[3], **A. Wieck**[3], **A. Zrenner**[1] (*[1]Department of Physics, University of Paderborn, Warburger Str. 100, 33098 Paderborn, Germany, [2]Walter-Schottky-Institute, TU Munich, Am Coulombwall, 85748 Garching b. München, Germany, [3]Applied Solid State Physics, Ruhr-University of Bochum, Universitätsstraße 150, 44780 Bochum, Germany*)

Demonstration of an optoelectronic quantum phase gate

M3e 12:15 – 12:30 **T. Nakaoka**[1,2,3], **K. Watanabe**[1], **N. Kumagai**[1], **Y. Arakawa**[1,3] (*[1]Institute for Nano Quantum Information Electronics, the University of Tokyo , 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505 Japan, [2]PRESTO, Japan Science and Technology Agency, 4-1-8 Honcho Kawaguchi, Saitama 332-0012, Japan, [3] Institute of Industrial Science, the University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505 Japan*)

Lateral single electron transport in capped self-assembled quantum dots

12:30 – 14:00 **Lunch Break**

Session m4 (International Conference Room) 14:00 – 16:00

Optical properties of quantum dots

M4a 14:00 – 14:15 **S. Ates**[1], **S. M. Ulrich**[1], **S. Reitzenstein**[2], **A. Löffler**[2], **A. Forchel**[2], **P. Michler**[1] (*[1]Institut für Halbleiteroptik und Funktionelle Grenzflächen, Universität Stuttgart, Allmandring 3, 70569 Stuttgart, Germany, [2]Technische Physik, Universität Würzburg, Am Hubland, 97074 Würzburg, Germany*)

Two-photon interference from the resonance fluorescence of a single quantum dot in a microcavity

M4b 14:15 – 14:30 **T. Kuroda**[1], **T. Mano**[1], **T. Belhadj**[1,2], **M. Abbarchi**[1,3], **C. Mastrandrea**[3], **M. Gurioli**[3], **B. Urbaszek**[2], **T. Amand**[2], **X. Marie**[2], **N. Ikeda**[1], **Y. Sugimoto**[1], **K. Asakawa**[1], **K. Sakoda**[1] (*[1]Quantum Dot Research Center, National Institute for Materials Science, 1 Namiki, Tsukuba 305-0044, Japan, [2]Université de Toulouse, LPCNO, INSA-CNRS-UPS, 135 avenue de Rangueil, 31077 Toulouse Cedex 4, France, [3]Dipartimento di Fisica, CNISM, Università di Firenze, and LENS, Via Sansone 1, I-50019, Sesto Fiorentino, Italy*)

Quantum statistics of correlated two photons with biexciton-exciton cascades: saturation effect

M4c 14:30 – 14:45 **T. Grange**[1], **E. A. Zibik**[2], **B. A. Carpenter**[2], **N. E. Porter**[2], **R. Ferreira**[1], **G. Bastard**[1], **D. Stehr**[3], **S. Winnerl**[3], **M. Helm**[3], **H. Y. Liu**[4], **M. S. Skolnick**[2], **L. R. Wilson**[2] (*[1]Laboratoire Pierre Aigrain, Ecole Normale Supérieure, CNRS, Paris, France, , [2]Department of Physics and Astronomy, University of Sheffield, UK, , [3]Institute of Ion Beam Physics and Material Research, Dresden, Germany, , [4]EPSRC National Centre for III-V Technologies, Sheffield, UK*)

M4d 14:45 – 15:00 **C. Hermannstädter[1], G. J. Beirne[1,4], M. Witzany[1], L. Wang[2], A. Rastelli[3], W.-M. Schulz[1], M. Jetter[1], O. G. Schmidt[3], P. Michler[1]** ([1]*Institut für Halbleiteroptik und Funktionelle Grenzflächen, Universität Stuttgart, Allmandring 3, 70569 Stuttgart, Germany,* [2]*Max-Planck-Institut für Festkörperforschung, Heisenbergstr. 1, 70569 Stuttgart, Germany,* [3]*Institut für Integrative Nanowissenschaften, IFW Dresden, Helmholtzstr. 20, 01069 Dresden, Germany,* [4]*Cavendish Laboratories, University of Cambridge, J. J. Thomson Ave., Cambridge, CB3 0HE, UK*)

Time-Resolved Optical Studies of the Charge Carrier Dynamics in Lateral InGaAs Quantum Dot Molecules

M4e 15:00 – 15:15 **H. Sanada, T. Sogawa, H. Gotoh, Y. Tokura, H. Yamaguchi, H. Nakano, H. Kamada** (*NTT Basic Research Laboratories, 3-1, Morinosato-Wakamiya, Atsugi, Kanagawa 243-0198, Japan*)

Excited-state spectroscopy of charged quantum dots in magnetic field

M4f 15:15 – 15:30 **J. van Bree[1], N. A. J. M. Kleemans[1], P. J. van Veldhoven[1], R. Nötzel[1], A. Yu. Silov[1], C. Pryor[2], M. E. Flatté[2], P. M. Koenraad[1]** ([1]*Photonics and Semiconductor Nanophysics, Eindhoven University of Technology, Den Dolech 2, Eindhoven 5600 MB , The Netherlands,* [2]*Department of Physics and Astronomy and Optical Science and Technology Center, University of Iowa, Iowa City, Iowa 52242, USA*)

Size-dependent exciton ¡i¿g¡/i¿-factor in self-assembled InAs/InP quantum dots

M4g 15:30 – 15:45 **Y. Harada, O. Kojima, T. Kita, O. Wada** (*Department of Electrical and Electronics Engineering, Graduate School of Engineering, Kobe University, Rokkodai 1-1, Nada, Kobe 6578501, Japan*)

Magnetic-field control of exciton fine structure splitting in nitrogen - doped GaAs

M4h 15:45 – 16:00 **S. Kriechbaumer[1], G. Springholz[1], T. Schwarzl[1], A. Hochreiner[1], W. Heiss[1], E. Kaufmann[1], M. Simma[1], H. Groiss[1], F. Schäffler[1], T. Wojtowicz[2], K. Koike[3], H. Harada[3], Y. Yano[3]** ([1]*Insitut fuer Halbleiter- und Festkoerperphysik, Johannes Kepler University, Altenbergerstr. 69, A-4040 Linz, Austria,* [2]*Institute of Physic, Polish Academy of Sciences, Lotnikov 32/46, 02-668 Warzawa, Poland,* [3]*Osaka Institute of Technology, Asahi-ku Ohmiya, Osaka 535-8585, Japan*)

Widely tunable intense MIR photoluminescence mission from epitaxial Pb(Sr)Te quantum dots embedded in CdTe

Poster Session Tu-mP (Meeting Room 501, 502) 16:00–18:00

Tu-mP2 **T. Inoue[1], N. Yasuoka[1,2], O. Kojima[1], T. Kita[1], O. Wada[1]** ([1]*Department of Electrical and Electronics Engineering, Kobe University, 1-1 Rokkodai, Nada, Kobe, Hyogo 657-8501, Japan,* [2]*Fujitsu Laboratories Ltd., 10-1 Morinosato-Wakamiya, Atsugi, Kanagawa, 243-0197, Japan*)

Polarization controlled emission from stacked InAs quantum dots

Tu-mP3 **J. Y. Lim[1,2], J. D. Song[1], W. J. Choi[1], J. I. Lee[1], S. H. Han[1], H. S. Yang[2], J. S. Kim[3]** ([1]*Nano Science Research Division, Korea Institute of Science and Technology, 39-1 Hawolgok dong, Sungbuk gu, Seoul 136-791, Korea,* [2]*Department of Physics, Chung-ang University, Seoul, Korea,* [3]*Department of Physics, Yeungnam University, Gyeongsan, Korea*)

Structural properties of GaP anti-quantum dots on the GaAs grown by droplet epitaxy

Tu-mP4 **S. Roddaro[1], P. Caroff[2], G. Biasiol[3], F. Rossi[4], C. Bocchi[4], K. Nilsson[2], L. Fröberg[2], J.B. Wagner[2], L. Samuelson[2], L.-E. Wenersson[2], L. Sorba[1,3]** ([1]*NEST CNR-INFM and Scuola Normale Superiore, P.za S.Silvestro 12, 56127 Pisa, Italy,* [2]*Solid State Physics and the Nanometer Structure Consortium, P.O. Box 118, Lund, Sweden,* [3]*TASC CNR-INFM Laboratory, Area Science Park 34012 Trieste, Italy,* [4]*Istituto CNR-IMEM, Parco Area delle Scienze 43100 Parma, Italy*)

Controlled growth of InAs nanowires on engineered substrates

Tu-mP5 **T. Fukushima[1], M. Ito[1], Y. Hijikata[1], H. Yaguchi[1], S. Yoshida[1], M. Okano[2], M. Yoshita[2], H. Akiyama[2], S. Kuboya[3], R. Katayama[3], K. Onabe[3]** ([1]*Graduate School of Science and Engineering, Saitama University, 255 Shimo-Okubo, Sakura-ku, Saitama 338-8570, Japan,* [2]*ISSP, The University of Tokyo, 5-1-5 Kashiwanoha, Kashiwa-shi, Chiba 277-8581 Japan,* [3]*Department of Advanced Materials Science, The University of Tokyo , 5-1-5 Kashiwanoha, Kashiwa-shi, Chiba 277-8583 Japan*)

Photoluminescence from single isoelectronic traps in nitrogen delta-doped GaAs grown on GaAs(111)A

Tu-mP6 **N. Cho, S. J. Park, J. D. Song, W. J. Choi, J. I. Lee** (*Nano Device Research Division, KIST, Hawolgok-Dong, Sungbuk-Gu, Seoul , Korea*)

Growth of low density InGaAs quantum dots using MEMBE

Tu-mP7 **G. Ferrari[1,2], G. Cuoghi[3], A. Bertoni[1], G. Goldoni[1,3], E. Molinari[1,3]** ([1]*S3 CNR-INFM National Research Center, Via Campi 213/A, Modena 41100, Italy,* [2]*CNISM Research Unit of Modena, Via Campi 213/A, 41100 Modena, Italy,* [3]*Department of Physics, University of Modena and Reggio Emilia, Via Campi 213/A, 41100 Modena, Italy*)

Edge localization, Landau levels and Aharonov-Bohm oscillations in core multi-shell nanowires

Tu-mP9 **A.A. Vasilchenko** (*Kuban Stase Technological University, Russia, Krasnodar, Moskovskaya, 2*)

Oscillations of electron density in the quantum dot with large number of electrons in high magnetic field

Tu-mP10 **A. Schramm[1,2], S. Schulz[2], T. Zander[2], Ch. Heyn[2], W. Hansen[2]** ([1]*Optoelectronics Research Centre, Tampere University of Technology, Korkeakoulunkatu 3, 33720 Tampere, Finland,* [2]*Institute of Applied Physics, University of Hamburg, Jungiusstrasse 11C, 20355 Hamburg, Germany*)

Strong competition between thermal and tunneling emission processes in self-assembled quantum dots

Tu-mP11 **A. Schramm, V. Polojärvi, A. Tukiainen, A. Aho, M. Pessa** (*Optoelectronics Research Centre, Tampere University of Technology, Korkeakoulunkatu 3, 33720 Tampere, Finland*)

Dislocation-induced electron and hole levels in InAs quantum-dot Schottky diodes

Tu-mP12 **M. Jung[1], W. Song[1], J. S. Lee[1], N. Kim[1], B.-C. Woo[1], J. Kim[1], K. Hirakawa[2]** ([1]*Korea Research Institute of Standards and Science, Daejeon 305600, Korea,* [2]*IIS and INQIE, University of Tokyo, Tokyo, Japan*)

Nanogap formation of indium oxide core/shell heterostructure nanowires

Tu-mP13 **H. Kumano[1,2], H. Nakajima[1], H. Sasakura[1], I. Suemune[1,2]** ([1]*Research Institute for Electronic Science, Hokkaido University, Kita-21, Nishi-10, kita-ku, Sapporo 001-0021, Japan,* [2]*Japan Science and Technology Corporation (CREST), Kawaguchi, 332-0012, Japan*)

Two-mode photon interference in a quantum-dot single photon emitter

Tu-mP14 **S. Lee[1], T. Yoo[1], M. Dobrowolska[2], J. K. Furdyna[2]** ([1]*Korea University, 5Ga Anamdong, Sungbukgu, Seoul 136-701, R. of Korea,* [2]*University of Notre Dame, NOtre Dame IN 46556 USA*)

Polarization phenomena in the asymmetric double layers of self-assembled quantum dots

Tu-mP15 **I.Ulfat[1,2,3], J. Adell[1,2], J. Sadowski[1,2], L.Iver[1], J. Kanski[1]** ([1]*Chalmers University of Technology22100, MAX-lab, Ole Romers Vag 1, Box-118, SE-22100 Lund , Sweden,* [2]*MAX-lab, Lund University, SE-22100 Lund, Sweden,* [3]*Department of Physics, University of Karachi, Karachio75270, Pakistan*)

(GaMn)As Nanowires- A Synchrotron-based Investigation

Tu-mP16 **CY Jin[1], O Kojima[2], T Kita[2], O Wada[1,2], M Hopkinson[3], K Akahane[4]** ([1]*Division of Frontier Research and Technology, CREATE, Kobe University, Kobe, Japan, Division of Frontier Research and Technology, CREATE, Kobe University, 1-1 Rokkodai, Nada, Kobe 657-8501, Japan 657-8501, Japan,* [2]*Department of Electrical and Electronic Engineering, Graduate School of Engineering, Kobe University, Kobe, Japan,* [3]*Department of Electronic and Electrical Engineering, EPSRC National Center for III-V Technologies, University of Sheffield, Sheffield, UK,* [4]*National Institute of Information and Communications Technology, Tokyo, Japan*)

All-optical switching using InAs/GaAs quantum dots within a vertical cavity structure

Tu-mP17 **M. Kujiraoka[1,2], J. Ishi-Hayase[1,3,4], K. Akahane[1], N. Yamamoto[1], K. Ema[2], M. Sasaki[1]** ([1]*National Institute of Information and Communications Technology, 4-2-1, Nukui-Kitamachi, Koganei, Tokyo 1848795, Japan,* [2]*Department of Physics, Sophia University, 7-1 Kioi-cho, Chiyoda-ku, Tokyo 1028554, Japan,* [3]*The University of Electro-Communications, 1-5-1 Chofugaoka, Chofu, Tokyo 1828585, Japan,* [4]*PRESTO, Japan Science and Technology Agency (JST), 4-1-8 Honcho, Kawaguchi, Saitama 3320012, Japan*)

Control of ensemble effect on Rabi oscillations in quantum dots

Tu-mP18 **M.Mongillo[1], G.Katsaros[1], P.Spathis[1], C.Mouchet[2], P.Gentile[3], E.Rouviere[2], S.de Franceschi[1]** ([1]*CEA, INAC/SPSMS/LaTEQS, 17 rue des Martyrs, F38054 Grenoble, France,* [2]*CEA, DRT/LCH, 17 rue des Martyrs, F38054 Grenoble, France,* [3]*CEA, INAC/SiNAPS, 17 rue des Martyrs, F38054 Grenoble, France*)

SIlicon nanowires, functionality at the nanoscale

Tu-mP19 **T. Saito, T. Nakaoka, Y. Arakawa** (*Institute for Nano Quantum Information Electronics, The University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, Japan*)

Magnetic field dependence of exciton fine structures in InAs/GaAs quantum dots: exchange vs. Zeeman splittings

Tu-mP20 **S. Kim[1], B. Y. Yu[2], J. Lee[1], G. Ghibaudo[3]** (*[1]Korea Institute of Science and Technology(KIST), Nano Device Research Center, Korea Institute of Science and Technology, 39-1 Hawolkok, Seongbuk, Seoul , Republic of Korea, [2]Korea Institute of Science and Technology(KIST), Advanced Metal Research Center, Korea Institute of Science and Technology, 39-1 Hawolkok Seongbuk, Seoul, Republic of Korea , [3]IMEP-MINATEC, INPG-CNRS, IMEP-MINATEC, INPG-CNRS, 3 rue Parvis Louis Neel, BP257, 38016 Grenoble, France*)

Effect of Oxygen on the Low-Frequency Noise in ZnO Nanowire Devices

Tu-mP21 **K. Shimoda[1], T. Yasui[1], Y. Kuroki[2], M. Takata[2]** (*[1]Department of Mechanical Enginerring, Nagaoka University of Technology, 1603-1 Kamitomioka, Nagaoka, Niigata 9402111, Japan, [2]Department of Electrical Enginerring, Nagaoka University of Technology, 1603-1 Kamitomioka, Nagaoka, Niigata 9402111, Japan*)

Characterization of $Zn_{1-x}Cr_xO$ nano crystals grown by catalytic ECH processes

Tu-mP22 **M. Muraguchi[1], T. Endoh[1], Y. Takada[2], Y. Sakurai[2], S. Nomura[2], K. Shiraishi[2], M. Ikeda[3], K. Makihara[3], S. Miyazaki[3], Y. Shigeta[4]** (*[1]Center for Interdisciplinary Research, Tohoku University, Sendai, Japan, [2]Graduate School of Pure and Applied Science, University of Tsukuba, Tsukuba, Japan, [3]Graduate School of Advanced Sciences of Matter, Hiroshima University, Hiroshima, Japan, [4]Graduate School of Life Science, University of Hyogo, Hyogo, Japan*)

Importance of Electronic State of Two-Dimensional Electron Gas for Electron Injection Process in Nano-Electronic Devices

Tu-mP23 **Wei-Ting Hsu[1], Yu-An Liao[1], Shu-Kai Lu[1], Shun-Jen Cheng[1], Pei-Chin Chiu[2], Jen-Inn Chyi[2], W. Chang[1]** (*[1]Department of Electrophysics, National Chiao Tung University, 1001 University Road, Hsinchu 300, TAIWAN, [2]Department of Electrical Engineering, National Central University, Chung-li, 320 Taiwan*)

Tailoring of the Wave Function Overlaps and the Carrier Lifetimes in $InAs/GaAs_{1-x}Sb_x$ Type-II Quantum Dots

Tu-mP24 **H. Y. Chao, J. H. Cheng, J. Y. Lu, S. H. You, Y. H. Chang, C.L.Cheng, Y. F.Chen, C. T. Wu** (*Department of Physics, National Taiwan University, No. 1, Sec. 4, Roosevelt Road, Taipei, 10617 Taiwan(R.O.C.)*)

Growth and characterization of ZnO/ZnTe core-shell nanowire and its device applications

Tu-mP25 **I. Kanazawa** (*Department of Physics, Tokyo Gakugei University, Nukuikitamachi 4-1-1, Koganeishi, Tokyo 184-8501, Japan 184-8501, Japan*)

Anomalouly induced-charge on a domain wall of a semiconductor-dot atom

Tu-mP26 **L .Worschech, B. Brandenstein-Köth, S. Lang, S. Höfling, A. Forchel** (*Technische Physik, Wuerzburg University, Am Hubland, 97074 Wuerzburg, Germany*)

Magnetic-field asymmetry of nonlinear mesoscopic transport in channels coupled to a single metallic gate

Tu-mP27 **S. Shimomura[1], T. Fujita[2], S. Imadu[1], T. Kitada[3]** (*[1]Dept. of Electrical and Electronics Eng. and Computer Sci., Graduate School of Science and Engineering, Ehime University, 3, Bunkyo-Cho, Matsuyama, Ehime 790-8577, Japan, [2]Graduate School of Engineering Science, Osaka University, 1-3 Machikaneyama, Toyonaka, Osaka 560-8531, Japan, [3]Institute of Socio Technoscience, the University of Tokushima Graduate School, 2-1 Minamijyousanjima-cho,Tokushima 770-8506,Japan*)

Anisotropic modal gain spectra of GaAs self-assembled quantum-wire laser structures on (775)B GaAs substrates

Tu-mP28 **Y. Mizoguchi[1], S. Hiratsuka[1], S. Takeda[1], S. Saravanan[2], M. Hosoda[3], N. Ohtani[1]** (*[1]Department of Electronics, Doshisha University, 1-3, Tatara-Miyakodani, Kyotanabe-shi, Kyoto 610-0321, Japan, [2]ATR Wave Engineering Laboratories, 2-2-2, Hikaridai, Keihanna Science City, Kyoto 619-0288, Japan, [3]Department of Applied Physics, Osaka City University, 3-3-138, Sugimoto, Sumiyoshi-ku, Osaka 558-8585, Japan*)

Influence of the number of turns and the distortion of the shape on the optical properties of semiconductor microtubes.

Tu-mP29 **K. A. Piegdon, C. Meier, M. Urbanski, A. Hoischen, H.-S. Kitzerow, S. Declair, J. Foerstner, T. Meier** (*Center for Optics and Photonics Paderborn (CeOPP), Department of Physics and Department of Chemistry, University of Paderborn, Warburger Str. 100, 33098 Paderborn, Germany*)

Self-assembled Quantum Dots in a liquid-crystal-tunable microdisk resonator

Tu-mP30 **D. N Krizhanovskii[1], D.M.Whittaker[1], E.Cerda[2], R.A.Bradley[1], A.P.D.Love[1], K.Guda[1], P.Santos[2], M.S.Skolnick[1], J.S.Roberts[1]** (*[1]Sheffield University, Department of Physics and Astronomy, Hicks building, Sheffield S37RH, UK, [2]Paul-Drude-Institut für Festkörperelektronik, Berlin, Germany, [3]3EPSRC National Centre for the III-V Technologies, University of Sheffield, Sheffield, UK, S37RH*)

Spontaneous formation and imprinting of vortices in the microcavity optical parametric oscillator

Tu-mP31 **S. N. Ghosh[1], B. B. Buckley[2], N. Samarth[3], D.D. Awschalom[2], S. Ghosh[1]** (*[1]School of Natural Sciences, University of California, Merced , Merced CA 95340, USA, [2]Department of Physics, University of California, Santa Barbara, Santa Barbara, CA 93106, USA, [3]Materials Research Institute, Penn State University, University Park, Pennsylvania 16802, USA*)

Study of Optical Bistability and Bimodal Lasing in Coupled Microdisks

Tu-mP32 **B. Gayral, J.-M. Gérard** (*CEA-Grenoble, INAC/SP2M, 17 rue des Martyrs, Grenoble 38054, France*)

High Purcell factor microcavity containing quantum dots : how to measure the Q-factor?

Tu-mP33 **S. Reitzenstein, C. Kistner, T. Heindel, A. Rahmi-Iman, C. Schneider, S. Hofling, A. Forchel** (*Technische Physik, University of Würzburg, Am Hubland, Würzburg 97074, Germany*)

Cavity Quantum Electrodynamics in Electrically Contacted Quantum Dot-Micropillar Cavities

Tu-mP34 **X.-L. Wang[1], S. Furue[1], M. Ogura[1], V. Voliotis[2], M. Ravaro[2], A. Enderlin[2], R. Grousson[2]** (*[1]Nanotechnology Research Institute, National Institute of Advanced Industrial Science and Technology (AIST) , 1-1-1 Umezono, Tskuba Central 2, Tsukuba 305-8568, Japan, [2]Institut des Nanosciences de Paris, CNRS UMR 7588, Université Pierre et Marie Curie, Campus Boucicaut, 140 rue de Lourmel, 75015 Paris, France*)

Highly efficient extraction of spontaneous emission through coupling of evanescent waves

Tu-mP35 **K. Tanabe, M. Nomura, D. Guimard, S. Iwamoto, Y. Arakawa** (*Institute for Nano Quantum Information Electronics, Research Center for Advanced Science and Technology, and Institute of Industrial Science, University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, Japan*)

Fabrication and optical characterization of photonic crystal nanocavities with InAs quantum dots bonded on silicon substrates

Tu-mP36 **A. Matyas[1,2], C. Jirauschek[1,2], P. Lugli[1], T. Kubis[3]** (*[1]Emmy Noether Group "Modeling of Quantum Cascade Devices", TU München, Arcisstr. 21, Munich D-80333, Germany, [2]Institute for Nanoelectronics, TU München, Arcisstr. 21, Munich D-80333, Germany, [3]Walter Schottky Institute, TU München, Am Coulombwall 3, Garching D-85748, Germany*)

Comparison between semiclassical and quantum carrier transport analysis of THz quantum cascade lasers

Tu-mP37 **Y. Kamiyama, A. Tomioka, T. Anzai, K. Iwamoto** (*Graduate School of Engineering, Osaka Electro-Communication University, 18-8 Hatucho, Neyagawa, Osaka 572-8530, Japan*)

Discrete or Continuous Energy Tuning of Amplified Spontaneous Emissions from Conductive Polymer Films

Tu-mP38 **M. De Zoysa, T. Asano, S. Noda** (*Department of Electronic Science and Engineering, Kyoto University, Noda Laboratory, Department of Electronic Science and Engineering Kyoto University Nishikyo-ku, Kyoto 615-8510, JAPAN*)

Control of thermal radiation using intersubband transitions in quantum wells

Tu-mP39 **J. Y. Lu, H. Y. Chou, J. C. Wu, S. Y. Wei, Y. H. Chang** (*Department of Physics, National Taiwan University, No. 1, Sec. 4, Roosevelt Road, Taipei 10617 , Taiwan(R.O.C)*)

Tuneable surface plasmon modes in core (dielectric)-shell (metal) nanocylinder pair

Tu-mP40 **Y. Inose[1], T. Ohtsuki[1,2,3], H. Kunugita[1,2,3], K. Ema[1,2,3], M. Sakai[1,2,3], A. Kikuchi[1,2,3], K. Kishino[1,2,3]** (*[1]Department of Engineering and Applied Sciences, Sophia University, 7-1 Kioi-cho, Chiyoda-ku, Tokyo 102-8554, Japan, [2]Sophia Nanotechnology Research Center, Sophia University, 7-1 Kioi-cho, Chiyoda-ku, Tokyo 102-8554, Japan, [3]CREST, Japan Science and Technology Agency, 4-1-8 Honcho, Kawaguchi-shi, Saitama-ken 332-0012, Japan*)

Anderson localization of light in random configuration of dielectric circular cylinders

Tu-mP41 **S. Nakayama[1,3], S Ishida[2], S. Iwamoto[1,2,3], D. Bordel[3], E. Augendre[4], L. Clavelier[4], Y. Arakawa[1,2,3]** (*[1]RCAST, the University of Tokyo, 4-6-1 Komaba, Meguro-ku, JAPAN 153-8505, JAPAN, [2]IIS, the Univ. of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo, JAPAN, [3]INQIE, the Univ. of Tokyo, 4-6-1 Komaba, Meguro-ku, JAPAN 153-8505, JAPAN, [4]CEA LETI Minatec, F38054, Frenoble, FRANCE*)

Enhancement of photoluminescence from germanium by utilizing air-bridge type photonic crystal slab

Tu-mP42 **Makoto Takada[1], Yasuhiro Idutsu[1,2], Daimotsu Kato[1], Sotaro Ida[1], Saki Ito[1], Hiroyasu Sato[1], Jae-Hoon Huh[1,3], Hirotaka Sasakura[1,2], Hidekazu Kumano[1,2], I. Suemune[1,2]** (*[1]Research Institute for Electronic Science, Hokkaido University, Sapporo, Japan, [2]CREST, Japan Science and Technology Agency, Tokyo, Japan, [3]GCOE, Hokkaido University, Sapporo, Japan*)

Drastic enhancement of luminescence of InAs quantum dots embedded in niobium metal

Tu-mP43 **M. Broell, S. Schwaiger, D. Heitmann, S. Mendach** (*Institute of Applied Physics, University of Hamburg, Jungiusstrasse 11C, 20355 Hamburg, Germany*)

Rolled-up metal/semiconductor microtubes as hyperlenses working in the visible

Tu-mP44 **S. Furukawa[1], R. Kaji[1], S. Adachi[1], S. Muto[1], H. Sasakura[2]** (*[1]Department of Applied Physics, Hokkaido University, N13 W8, Kitaku, Sapporo 060-8628, Japan, [2]Research Institute for Electronic Science, Hokkaido University, N21 W10, Kitaku, Sapporo 001-0021, Japan*)

Direct observation of nuclear spin pumping dynamics in a single InAlAs quantum dot

Tu-mP45 **K. Tomoda, Y. Nakano, S. Adachi, S. Muto** (*Department of Applied Physics, Hokkaido University, N13, W8, Kitaku, Sapporo 060-8628, Japan*)

Transient grating studies of phase and spin coherences of excitons in GaAs single quantum wells

Tu-mP46 **M. Murata, T. Tsuchiya** (*Hokkaido University, Graduate School of Engineering, Sapporo 060-8628, Japan*)

Controllable Dresselhaus field in microscopically inversion symmetric quantum wells

Tu-mP47 **X. J. Wang[1], Y. Puttisong[1], I. A. Buyanova[1], H. Carrére[1,2], F. Zhao[2], A. Balocchi[2], X. Marie[2], C. W. Tu[3], W. M. Chen[1]** (*[1]Linköping University, Department of Physics, Chemistry and Biology, 58183 Linköping, Sweden, [2]Université de Toulouse, LPCNO: INSA, UPS, CNRS, 135 avenue de Rangueil, 31077 Toulouse cedex, France, [3]University of California, Department of Electrical and Computer Engineering, La Jolla, CA92093, USA*)

Efficient room temperature spin filter based on GaNAs quantum wells

Tu-mP48 **Q. Zhang[1], X.Q. Wang[1], X. W. He[1], C. M. Yin[1], B. Shen[1], Y. Ishitani[2], A.Yoshikawa[2]** (*[1]State Key Laboratory of Artificial Microstructure and Mesoscopic Physics, School of Physics, Peking University, Chengfu Road 209, Haidian District, Beijing 100871, China, [2] Department of Electronics and Mechanical Engineering, Chiba University, 1-33 Yayoi-cho, Inage-ku, Chiba 263-8522, Japan*)

A method for detecting polarity of wurtzite semiconductor

Tu-mP49 **C. Simserides[1], A. Lipi ŕ ka[2], A. Majhofer[3], K. N. Trohidou[1], T. Dietl[2,4]** (*[1]Institute of Materials Science, NCSR Demokritos , Athens, Greece, [2]Institute of Physics, Polish Academy of Science, Warszawa, Poland, [3]Institute of Experimental Physics, University of Warsaw , Warszawa, Poland, [4]Institute of Theoretical Physics, University of Warsaw , Warszawa, Poland*)
Influence of antiferromagnetic interactions and of alloy disorder on the ferromagnetic properties of p-(Cd,Mn)Te quantum wells

Tu-mP50 **J. Beyer[1], I. A. Buyanova[1], S. Suraprapapicha[2], C. W. Tu[2], W. M. Chen[1]** (*[1]Department of Physics, Chemistry and Biology, Linköping university, Linköping, Sweden, [2]Department of Electrical and Computer Engineering, University of California at San Diego, La Jolla, USA*)
Optical spin injection in novel InAs quantum dots structures

Tu-mP51 **M. Goryca[1,2], T. Kazimierczuk[1], M. Nawrocki[1], A. Golnik[1], J. A. Gaj[1], P. Wojnar[3], G. Karczewski[3], P. Kossacki[1,2]** (*[1]Institute of Experimental Physics, University of Warsaw, ul. Hoza 69, 00-681 Warszawa, Poland, [2]Grenoble High Magnetic Field Laboratory, CNRS, BP 166, F-38042 Grenoble Cedex 09, France , [3]Institute of Physics, Polish Academy of Sciences, al. Lotnikow 32/46, 02-668 Warszawa, Poland*)
Optical manipulation of a single Mn spin in a CdTe quantum dot

Tu-mP52 **M. Larsson, H. A. Nilsson, H. Q. Xu** (*Division of Solid State Physics, Lund University, Box 118, S-221 00 Lund , Sweden*)
g-factors and exchange energy of few-electron single and double quantum dots defined in an InGaAs/InP heterostructure

Tu-mP53 **J. Ogawa[1], M. Kohda[1,2], F. Matsukura[3], Y. Ohno[3], H. Ohno[3], J. Nitta[1]** (*[1]Department of Materials Science, Tohoku University, 6-6-02, Aramaki-aza Aoba, Aobaku, Sendai, Miyagi 9808579, Japan, [2]PRESTO, Japan Science and Technology Agency, 4-1-8, Honcho, Kawaguchi, Saitama 3320012, Japan, [3]Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, 2-1-1, Katahira, Aobaku, Sendai, Miyagi 9808577, Japan*)
Width and temperature dependences of lithographically induced magnetic anisotropy in (Ga,Mn)As wires

Tu-mP54 **Tetsuya Horii, Yuta Inoue, Jun Okabayashi, Junji Yoshino** (*Daprtment of Physics, Tokyo Institute of Technology, 2-12-1, Ookayama, Meguro-ku, Tokyo 1528551, Japan*)
Layer thickness dependence of magnetic anisotropy in (Ga,Mn)As

Tu-mP55 **T. Matsuura[1], N. Monta[2], T. Koga[1,2]** (*[1]Creative Research Initiative Sousei, Hokkaido University, Kita21 Nishi10, Kita-ku, Sapporo 001-0021, Japan, [2]Graduate School of Information Science and Technology, Hokkaido University , Kita14, Nishi9, Kita-ku, Sapporo, 060-0814, Japan*)
Magnetic control of Rashba splittings in symmetric InAs quantum wells

Tu-mP56 **W. Koehl, C. Poblenz, M. H. Wong, U. Mishra, J. Speck, D. D. Awschalom** (*Center for Spintronics and Quantum Computation, University of California, Santa Barbara California 93106 USA*)
Current-Induced Spin Polarization in Gallium Nitride

Tu-mP57 **Yu Nishitani, Masaki Endo, Fumihiro Matsukura, Hideo Ohno** (*Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Katahira 2-1-1, Aoba-ku, Sendai, Miyagi 980-8577, Japan*)
Magnetic anisotropy in a ferromagnetic (Ga,Mn)Sb thin film

Tu-mP58 **H. Nosho[1], T. Asami[1], T. Okamoto[1], T. Umi[1], S. L. Lu[2], Z. C. Niu[3], A. Tackeuchi[1]** (*[1]Department of Applied Physics, Waseda University, 3-4-1, Okubo, Shinjuku-ku, Tokyo 169-8555, Japan, [2]Suzhou Institute of Nano-tech and Nano-bionics, Chinese Academy of Sciences, Dushu Lake Higher Education Town, Ruoshui Road 398, Suzhou Industrial Park, Suzhou, 215125, China, [3]State Key Laboratory for Superlattice and Microstructure, Institute of Semiconductors, Chinese Academy of Sciences, No.A35, QingHua East Road, Haidian District, Beijing,100083, China*)

Spin relaxation in high In content InGaAs/GaAs quantum wells

Tu-mP59 **Yasuaki Masumoto, Keisuke Kawana, Shinichi Tomimoto** (*Institute of Physics, University of Tsukuba, 1-1-1 Tennoudai, Tsukuba, Ibaraki 3058571, Japan*)

Coherent spin precession of electrons and excitons in charge tunable InP quantum dots

Tu-mP60 **F. Matsukura[1,2], M. Sawicki[1,3], D. Chiba[2,1], A. Korbecka[4], Y. Nishitani[1], J. A. Majewski[4], T. Dietl[3,4,2], H. Ohno[1,2]** (*[1]Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan, [2]Semiconductor Spintronics Project, Exploratory Research for Advanced Technology, Japan Science and Technology Agency, Tokyo, Japan, [3]Institute of Physics, Polish Academy of Sciences, Warszawa, Poland, [4]Institute of Theoretical Physics, University of Warsaw, Warszawa, Poland*)

SQUID magnetometry of the effect of electric-field on magnetization of (Ga,Mn)As

Tu-mP61 **Y. Guo[1,2], F. Matsukura[2,1], K. Ohtani[2], H. Ohno[2,1]** (*[1]Semiconductor Spintronics Project, Exploratory Research for Advanced Technology, Japan Science and Technology Agency, Tokyo, Japan, [2]Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan*)

Epitaxy and characterization of Co doped ZnO on ZnO substrate

Tu-mP62 **T. Takahashi, S. Matsuzaka, Y. Ohno, H. Ohno** (*Research Institute of Electrical Communication, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, Miyagi*)

Optical detection of zero-field spin precession of high mobility two dimensional electron gas in a gated GaAs/AlGaAs quantum well

Tu-mP63 **N. T. Bagraev[1], O.N. Guimbitskaya[2], L. E. Klyachkin[1], A. M. Malyarenko[1], A. I. Ryskin[3], A. S. Shcheulin[3], I. A. Shelykh[2]** (*[1]Ioffe Physical-Technical Institute of RAS, Politekhnicheskaya 26 , St.Petersburg, Russia, [2]Polytechnical University, St. Petersburg, 195251, Russia, [3]St.Petersburg University of Information Technologies, Mechanics and Optics, St. Petersburg, Russia*)

Spin transistor and spin Hall effects in CdF_2 nanostructures

Tu-mP64 **M. Csontos[1], Y. Komijani[1], T. Ihn[1], K. Ensslin[1], D. Reuter[2], A. D. Wieck[2]** (*[1]Solid State Physics Laboratory, ETH Zürich, Schafmattstrasse 16, Zürich 8093, Switzerland, [2]Angewandte Festkörperphysik, Ruhr-Universität Bochum, 44780 Bochum, Germany*)

0.7 feature in p-type quantum point contacts tuned by combined in-plane and top gates

Tu-mP65 **G. D. Fuchs[1], C. D. Weis[2], D. M. Toyli[1], T. Schenkel[2], D. D. Awschalom[1]** (*[1]Center for Spintronics and Quantum Computation, University of California, Santa Barbara, CA 93106, USA, [2]Lawrence Berkeley National Lab, Berkeley, CA 94720, USA*)

Excited-state spectroscopy of single spins in diamond

Tu-mP66 **S. Matsuzaka[1], Y. Ohno[1], H. Ohno[1,2]** ([1]*Research Institute of Electrical Communication, Tohoku University, 2-1-1, Katahira, Aoba-ku, Sendai, Miyagi 9808577, Japan,* [2]*Exploratory Research for Advanced Technology, Japan Science and Technology Agency, Japan*)

Detection of local electron and nuclear spin dynamics by time-resolved Kerr microscopy

Tu-mP67 **D. Chiba[1,2,3], M. Endo[2], Y. Nishitani[2], F. Matsukura[2,1], H. Ohno[2,1]** ([1]*Semiconductor Spintronics Project, ERATO, Japan Science and Technology Agency, Sanban-cho 5, Chiyouda-ku, Tokyo, Japan,* [2]*Laboratory for Nanoelectronics and Spintronics, RIEC, Tohoku University, Katahira 2-1-1, Aoba-ku, Sendai, Miyagi, Japan,* [3]*Institute for Chemical Research, Gokasho, Uji, Kyoto, Japan*)

Electric-field control of the anomalous Hall effect in (Ga,Mn)As thin films

Tu-mP68 **T. Fukumura[1,2], T. Yamasaki[1], Y. Yamada[1], K. Ueno[3], M. Nakano[1], T. Makino[3], M. Kawasaki[3,1,4]** ([1]*Institute for Materials Science, Tohoku University, Sendai 980-8577, Japan,* [2]*PRESTO, Japan Science and Technology Agency, Saitama 332-0012, Japan,* [3]*WPI Advanced Institute for Materials Research, Tohoku University, Sendai 980-8577, Japan,* [4]*CREST, Japan Science and Technology Agency, Tokyo 102-0075, Japan*)

Room temperature ferromagnetic semiconductor Co-doped TiO_2 films grown on glass by sputtering method

Tu-mP69 **D. Bougeard[1], J. M. LeBeau[2], D. Saxey[3], S. Ahlers[1], N. Sircar[1], V. Lang[1], A. Cerezo[3], G. Abstreiter[1], S. Stemmer[2]** ([1]*Walter Schottky Institut, Technische Universitaet Muenchen, Am Coulombwall 3 85748, Germany,* [2]*Materials Department, University of California, Santa Barbara, Santa Barbara, CA 93106-5050, USA,* [3]*Department of Materials, University of Oxford, Parks Road, Oxford OX1 3PH, UK*)

String-like self-assembly in $Ge_{1-x}Mn_x$

Tu-mP70 **J. D. Song[1], J. K. Hong[2], S. J. Joo[1,2], S. H. Shin[1], S. H. Han[1], K. H. Shin[1]** ([1]*Korea Institute of Science and Technology, Nano Science Research Division, Korea institute of Science and Technology, Seoul 136-791, Korea,* [2]*Korea University, Department of Display Semiconductor, Korea University, Chungnam 339-700, Korea*)

InSb-based switching device operating at room temperature using magnetic controlled avalanche process for the application to magnetologic devices

Tu-mP71 **D. M. Gvozdi'c[1], N. Čukari'c[1], U. Ekenberg[2]** ([1]*Faculty of Electrical Engineering, University of Belgrade, Bulevar Kralja Aleksandra 73b, Beograd 11120, Serbia,* [2]*School of Information and Communication Technology, Royal Institute of Technology, Isafjordsgatan 28, Electrum 213, SE-164 40, Kista, Sweden*)

Comparison between spin splitting obtained with an 8x8 matrix and various 2x2 matrices

Tu-mP72 **S. Souma, M. Ogawa** (*Deparatment of Electrical and Electronics Engineering, Kobe University, Kobe Japan*)

Effect of interface structure on current spin-polarization in narrow gap semiconductor heterostructures

Tu-mP73 **T. Kaizu[1], N. Kakuda[2], M. Takahasi[3], S. Fujikawa[3], K. Yamaguchi[2]** ([1]*Quantum Dot Research Center, National Institute for Materials Science, 3-13 Sakura, Tsukuba, Ibaraki 3050003, Japan,* [2]*Department of Electronic Engineering, The University of Electro-Communications, 1-5-1 Chofugaoka, Chofu, Tokyo 1828585, Japan,* [3]*Synchrotron Radiation Research Center, Japan Atomic Energy Agency, 1-1-1 Koto, Sayo-cho, Sayo-gun, Hyogo 6795148,Japan*)

Real-time X-ray diffraction measurements during Sb-mediated SK growth and annealing of InAs quantum dots

Tu-mP74 **M. Ahmad Kamarudin[1], Q. D. Zhuang[1], T. N. Nuytten[2], V. V. Moshchalkov[2], M. Hayne[1]** ([1]*Department of Physics, Lancaster University, Lancaster, United Kingdom,* [2]*INPAC-Institute for Nanoscale Physics and Chemistry, Pulsed Field Group, K. U. Leuven, Leuven, Belgium*)

Influence of growth and capping layer temperatures on the properties of GaSb/GaAs quantum dots

Wednesday July 22nd

Session M5 (International Conference Room) 9:00 – 10:30 Spintronics I

M5a 9:00 – 9:30 **T. Jungwirth[1,2]** (Invited) ([1]*Institute of Physics ASCR, v.v.i., Cukrovarnicka 10, 162 53 Praha 6, Czech Republic,* [2]*School of Physics and Astronomy, University of Nottingham, Nottingham NG7 2RD, United Kingdom*)

Spin-orbit coupling induced magneto-resistance effects in ferromagnetic semiconductor structures

M5b 9:30 – 9:45 **A. Werpachowska[1], T. Dietl[1,2]** ([1]*Institute of Physics, Polish Academy of Sciences, Warsaw , Poland,* [2]*Institute of Theoretical Physics, University of Warsaw, Warsaw , Poland*)

Effect of inversion asymmetry on anomalous Hall effect in ferromagnetic (Ga,Mn)As

M5c 9:45 – 10:00 **L. Rokhinson[1], A. Chernyshov[1], M. Overby[1], Y. Lyanda-Geller[1], X. Liu[2], J.K. Furdyna[2]** ([1]*Purdue University, Department of Physics and Birck Nanotechnology Center, Purdue University, West Lafayette, IN 47907 USA,* [2]*University of Notre Dame, Department of Physics, University of Notre Dame, Notre Dame, IN 46556 USA*)

Electric control of magnetization via control of carriers' spectrum anisotropy

M5d 10:00 – 10:15 **P. Olbrich[1], S.A. Tarasenko[2], V.V. Bel'kov[2], Ch. Brinsteiner[1], W. Eder[1], D.R. Yakovlev[2,3], V. Kolkovsky[4], W. Zaleszczyk[4], G. Karczewski[4], T. Wojtowicz[4], D. Weiss[1], S.D. Ganichev[1]** ([1]*Terahertz Center, University of Regensburg, 93040 Regensburg, Germany,* [2]*A.F. Ioffe Physico-Technical Institute, Russian Academy of Sciences, 194021 St. Petersburg, Russia,* [3]*Experimental Physics 2, TU Dortmund University, 44221 Dortmund, Germany,* [4]*Institute of Physics, Polish Academy of Sciences, 02-668 Warsaw, Poland*)

Spin currents in diluted magnetic semiconductors induced by THz radiation

M5e 10:15 – 10:30 **M. Harada, T. Uemura, Y. Imai, K. Matsuda, M. Yamamoto** (*Division of Electronics for Informatics, Hokkaido University, North14 West9,Kitaku,Sapporo 0600814, Japan*)
Tunneling anisotropic magneto-resistance in an epitaxial Co_2MnSi/n-GaAs junction

10:30 – 11:00 **Coffee Break**

Session Plenary 3,4 (Main Hall) 11:00 – 12:30

PL3 11:00 – 11:45 **Andre Geim** (*Centre for Mesoscience & Nanotechnology, University of Manchester, Oxford Road, Manchester M13 9PL, UK*)
Outlook over graphene flatland

PL4 11:45 – 12:30 **Leaven M.K. Vandersypen** (*Kavli Institute of Nanoscience, Delft University of Technology, Delft, the Netherlands*)
Coherence and control of single electron spins in quantum dots

12:30 – **Optional Excursion**

Thursday July 23rd

Session M6 (International Conference Room) 9:00 – 11:15 **Spintronics II**

M6a 9:00 – 9:30 **P. N. Hai**[1]**, S. Ohya**[1,2]**, S.E. Barnes**[3]**, S. Makeawa**[4,5]**, M. Tanaka**[1,2] (Invited) ([1]*Department of Electrical Engineering and Information Systems, University of Tokyo, Japan, ,* [2]*Japan Science and Technology Agency, ,* [3]*Physics Department, University of Miami, USA, ,* [4]*Institute for Materials Research, Tohoku University, Japan, ,* [5]*CREST, Japan Science and Technology Agency,*)
Electromotive force and magnetoresistance (∼100,000%) in magnetic tunnel junctions with zinc-blende MnAs nanomagnets

M6b 9:30 – 9:45 **V. Jovanov, D. Heiss, F. Klotz, D. Rudolph, M. Bichler, M. S. Brandt, G. Abstreiter, J. J. Finley** (*Walter Schottky Institut, TU München, Am Coulombwall 3, 85748 Garching, Germany*)
All optical spin storage and readout in a single quantum dot

M6c 9:45 – 10:00 **M. Ciorga, A. Einwanger, U. Wurstbauer, D. Schuh, W. Wegscheider, D. Weiss** (*Institute for Experimentall and Applied Physics, University of Regensburg, Universitaetsstrasse 31 D-93040 , Germany*)
All-eletrical spin injection and detection scheme in an all-semiconductor lateral device

M6d 10:00 – 10:15 **S. Lazic, P.V. Santos, R. Hey** (*Paul Drude Institute , Hausvogteiplatz 5-7 10117, Germany*)
Exciton transport by moving strain dots in GaAs quantum wells

M6e 10:15 – 10:30 **K. Morita[1,2], H. Sanada[2], S. Matuzaka[2], Y. Ohno[2], H. Ohno[2,1]** ([1]*Semiconductor Spintronics Project, Exploratory Research for Advanced Technology, Japan Science and Technology Agency, 2-1-1 Katahira, Aoba-ku, Sendai 980-8577, Japan,* [2]*AgencyLaboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai 980-8577, Japan,* [3]*Center for Frontier Research of Engineering, Institute of Technology and Science, The University of Tokushima, 2-1 Minami-jyosanjima-cho, Tokushima 770-8506, Japan*)

Two-color pump-probe measurements of intersubband excitonic interactions in GaAs/AlGaAs quantum wells

10:30 – 11:00 **Coffee Break**

Session M7 (International Conference Room) 11:15 – 12:30 Nanostructure growth

M7a 11:00 – 11:30 **K. Kishino[1,2,3], H. Sekiguchi[1,3], A. Kikuchi[1,2,3]** (Invited) ([1]*Department of Engineering and Applied Sciences, Sophia University, 7-1 Kioi-cho, Chiyoda-ku, Tokyo 102-8554, Japan,* [2]*Sophia Nanotechnology Research Center, Sophia University, 7-1 Kioi-cho, Chiyoda-ku, Tokyo 102-8554, Japan,* [3]*CREST, Japan Science and Technology Agency, Kawaguchi, Saitama 330-0012, Japan*)

Growth and applications of GaN-based nanocolumns emitting from blue to red

M7b 11:30 – 11:45 **B. Kim, Tomoyuki Tanikawa, Yoshio Honda, Masahito Yamaguchi, Nobuhiko Sawaki** (*Department of Electronics and Akasaki Research Center, Nagoya University, Furo-cho 3C-1, Chikusa-ku, Nagoya, Aichi 4648603, Japan*)

Fabrication of InGaN/GaN stripe structure on (111)Si and stimulated emission properties under photo-excitation

M7c 11:45 – 12:00 **D. Spirkoska[1], M. Heigoldt[1], J. Arbiol[2,3], J. R. Morante[3], G. Abstreiter[1], A. Fontcuberta i Morral[4]** ([1]*Technische Universität München, Walter Schottky Institut, Am Coulombwall 3 85748 Garching, Germany,* [2]*TEM-MAT, Serveis Cientificotecnics, Universitat de Barcelona, C/ Llus Sole i Sabars 1-3, E-08028 Barcelona, CAT, Spain,* [3]*EME/CeRMAE/IN2UB, Departament d'Electronica, Universitat de Barcelona, C/ Mart i Franques 1, E-08028 Barcelona, CAT, Spain,* [4]*Laboratoire des materiaux Semiconducteurs, Instiut de Materiaux, Ecole Polytechnique Federale de Lausanne, 1015, Lausanne, Switzerland*)

Adding functionality to GaAs nanowires: from prismatic heterostructures to band gap engineering with only one material

M7d 12:00 – 12:15 **M. Grydlik, M. Brehm, N. Hrauda, T. Fromherz, J. Stangl, F. Schäffler, G. Bauer** (*Institute of Semiconductor and Solid State Physics, University of Linz , Altenbergerstrasse 69 4040 Linz, Austria*)

Ordered SiGe islands on Si (001) for spectrally narrow photoluminescence

M7e 12:15 – 12:30 **P. Jedrasik[1], U. Södervall[1], C.A. Dutu[2], D.A. Serban[2], P. Guillet[3], A. Vlad[2], C.-A. Fustin[3], J.F. Gohy[3], S. Melinte[3]** (*[1]MC2, Chalmers University of Technology, Göteborg, 41296, Sweden, [2]Unité CMAT, Université catholique de Louvain, Louvain-la-Neuve, 1348, Belgium, [3]Unité DICE, Université catholique de Louvain, Louvain-la-Neuve, 1348, Belgium*)

Ordered semiconducting functional polymer nano-architectures with three-dimensional structural control

12:30 – 14:00 **Lunch Break**

Session M8 (International Conference Room) 14:00 – 16:00 Novel materials and physics

M8a 14:00 – 14:30 **M. Kawasaki[1,2]** (Invited) (*[1]WPI Advanced Institute for Materials Research (AIMR), Tohoku University, Japan, [2]CREST, Japan Science and Technology Agency (JST), Tokyo, Japan*)

ZnO/MgZnO heterostructures for optoelectronic devices

M8b 14:30 – 15:00 **A. F. Morpurgo** (Invited) (*DPMC and Gap, University of Geneva, 24 quai Ernest-Ansermet, CH1211 Geneva, Switzerlands*)

New two-dimensional electronic systems at the surface of organic crystals

M8c 15:00 – 15:15 **S. Moriyama[1], D. Tsuya[1], E. Watanabe[1], S. Uji[1], M. Shimizu[2], T. Mori[2], T. Yamaguchi[2], K. Ishibashi[2]** (*[1]International Center for Materials Nanoarchitectonics, National Institute for Materials Science, 1-1 Namiki, Tsukuba, Ibaraki 3050044, Japan, [2]Advanced Science Institute, RIKEN, 2-1 Hirosawa, Wako, Saitama 351-0198, Japan*)

Double quantum-dot devices in triple-layer graphene

M8d 15:15 – 15:30 **A. Umeno[1,2], K. Yoshida[1,2], S. Sakata[1,2], K. Hirakawa[1,2]** (*[1]Institute of Industrial Science and INQIE, Univ. of Tokyo, 4-6-1 Komaba, Meguro-ku Tokyo, 153-8505 Japan, [2]CREST-JST, 4-1-8 Honcho, Kawaguchi, Saitama 332-0012, Japan*)

Elementary process of electromigraion at gold nanojunctions

M8e 15:30 – 15:45 **Q. P. Unterreithmeier, T. Faust, E. M. Weig, J. P. Kotthaus** (*Fakultät für Physik and Center for NanoScience (CeNS), Ludwig-Maximilians-Universität, München, Geschwister-Scholl-Platz 1, München 80539, Germany*)

Novel Transduction Schemes for Nanoelectromechanical Systems

M8f 15:45 – 16:00 **I. Mahboob, C. Froitier, H. Yamaguchi** (*NTT Basic Research Labs., 3-1, Morinosato Wakamiya Atsugi-shi, Kanagawa 243-0198 , Japan*)

Manipulating the dynamical potential well of a parametric resonator

Poster Session Th-mP (Meeting Room 501, 502) 16:00–18:00

Th-mP1 **L. He[1], M. Gong[1], C-F. Li[1], G-C. Guo[1], A. Zunger[2]** (*[1]Key Laboratory of Quantum Information, University of Science and Technology of China, 96 Jinzhai Road, Hefei, Anhui, P. R. China 230026, China, [2]National Renewable Energy Laboratory, Golden, Colorado, 410012,USA*)

Highly-reduced Fine-structure splitting in InAs/InP quantum dots

Th-mP2 **A. J Bennett[1], R. B. Patel[1,2], C. A. Nicoll[2], D. A. Ritchie[2], A. J. Shields[1]** (*[1]Toshiba Research Europe Limited, 260 Science Park, Milton Road, Cambridge CB58QE, UK, [2]Cavendish Laboratory, Cambridge University, JJ Thomson Avenue, Cambridge, CB3 0HE, U K.*)

Interference of photons from a weak laser and a quantum dot

Th-mP3 **Masayuki Shirane[1,2], Yuichi Igarashi[1,2], Yasutomo Ota[2,3], Masahiro Nomura[2], Naoto Kumagai[2], Shunsuke Ohkouchi[1,2], Akihiro Kirihara[1,2], Satomi Ishida[2], Satoshi Iwamoto[2,3], Shinichi Yorozu[1,2], Yasuhiko Arakawa[2,3]** (*[1]Nano Electronics Research Laboratories, NEC Corporation, 34 Miyukigaoka, Tsukuba, Ibaraki 3058501, JAPAN, [2]Institute for Nano Quantum Information Electronics, the University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, JAPAN, [3]Research Center for Advanced Science and Technology, the University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8904, JAPAN*)

Photon correlation spectroscopy of a single quantum dot within a photonic bandgap

Th-mP4 **Y. Chen[1,2], N.Regnault[1], R. Ferreira[1], Bang - Fen Zhu[2], G.A. Bastard[1]** (*[1]LPA-ENS, 24 rue Lhomond F75005 Paris (France), [2]Department of Physics, Tsinghua University, Beijing (China)*)

Electron-phonon interaction in Quantum Cascade Lasers subjected to a strong magnetic field

Th-mP5 **O. D. D. Couto, Jr.[1], S. Lazic[1], F. Iikawa[2], J. Stotz[3], R. Hey[1], P. V. Santos[1]** (*[1]Paul Drude Institute , Hausvogteiplatz 5-7 10117, Germany, [2]Institute of Physics, University of Campinas, Campinas-SP, Brazil, [3]Department of Physics, Engineering and Astronomy, Queens University, Kingston, ON, Canada*)

Evidence for photon anti-bunching in acoustically pumped dots

Th-mP7 **O. Kojima[1], S. Watanabe[1], T. Kita[1], O. Wada[1], T. Isu[2]** (*[1]Department of Electrical and Electronics Engineering, Graduate School of Engineering, Kobe University, 1-1 Rokkodai, Nada, Kobe 6578501, Japan, [2]Department of Nano-Technology, Institute of Technology and Science, The University of Tokushima, 2-1 Minamijosanjima-cho, Tokushima 7708506, Japan*)

Spatial coherence effect on transient response of confined excitons in GaAs thin films

Th-mP8 **S. Wiedmann[1], N.C. Mamani[2], G.M. Gusev[2], A.K. Bakarov[2], J. Claude PORTAL[1,3]** (*[1]LNCMI-CNRS / INSA, 135,avenue de rangueil TOULOUSE 31077 CEDEX 4, FRANCE , [2]Instituto de Fsica da Universidade de So Paulo, So Paulo, SP, Brazil, [3]Institut Universitaire de France, 103, bd Saint-Michel 75005 Paris*)

Magnetoresistance oscillations in triple quantum wells under microwave irradiation

Th-mP9 **Y. Yonezawa[1], R. Hiraike[1], K. Miura[2], Y. Iguchi[2], Y. Kawamura[1]** (*[1]Frontier Science Innovation Center, Osaka Prefecture University, Osaka, Japan, [2]Transmission Devices RandD Laboratories, Sumitomo Electric Industries, Ltd, Osaka, Japan*)

Growth and characterization of strain-compensated InGaAs/GaAsSb type II multiple quantum wells on InP Substrate

Th-mP10 **K. Koike, R. Kawaguchi, M. Yano** (*Nanomaterials Microdevices Research Center, Osaka Institute of Technology, 5-16-1 Omiya, Asahi-ku, Osaka 535-8585, Japan*)

Midinfrared photoluminescence from SnTe/PbTe/CdTe double quantum wells grown by molecular beam epitaxy

Th-mP11 **H. Jeon[1], Seung Joo Lee[1], Seoung-Hwan Park[2], Tae Won Kang[1], Doyeol Ahn[3], G. Ihm[4]** (*[1]Dongguk University, 26, 3ga, Pil-dong, Chung-gu, Seoul 100-715, Korea, [2]Department of Electronics Engineering, Catholic University of Daegu, Kyeongbuk 712-702, Korea , [3]Institute of Quantum Information Processing and Systems, University of Seoul, Seoul 130-743, Korea, [4]Department of Physics, Chungnam National University, Daejeon 305-764, Korea*)

Enhancement of optical gain in Li:CdZnO/ZnMgO quantum well lasers

Th-mP12 **T. Hasegawa[1], S. Okamoto[2], M. Nakayama[2]** (*[1]Department of Material Science, University of Hyogo, 3-2-1 Koto, Kamigori, Ako-gun, Hyogo 6781297, Japan, [2]Department of Applied physics, Osaka City University, 3-3-138 Sugimoto, Sumiyoshi-ku, Osaka 5588585, Japan*)

Upconversion of photoluminescence due to subband resonances in a GaAs/AlAs multiple quantum well structure

Th-mP13 **O. A. Shegai, V. I. Mashanov, A. I. Nikiforov, V. V. Ulyanov, O. P. Pchelyakov** (*Institute of Semiconductor Physics, pr.Lavrentieva 13, Novosibirsk 630090, Russia*)

Photoconductivity of Si/Ge/Si structures with 1.5 and 2ML of Ge layer

Th-mP14 **K. Fujiwara[1], A. Satake[1], N. Takata[1], U. Jahn[2], E. Luna[2], H. T. Grahn[2]** (*[1]Dept of Electrical Engineering and Electronics, Kyushu Institute of Technology, Tobata, Kitakyushu 804-8550, Japan, [2]Paul Drude Institute for Solid State Electronics, Hausvogteiplatz 5-7, 10117 Berlin, Germany*)

Anti-Stokes and Stokes photoluminescence in non-uniform GaAs-based quantum wells

Th-mP15 **Y. Sakasegawa, T. Ihara, K. Hirakawa** (*Institute of Industrial Science and Institute for Nano Quantum Information Electronics, University of Tokyo,, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, Japan 1538505, Japan*)

Terahertz emission from semiconductor superlattices with photonic crystal structures

Th-mP16 **K. Furuya[1], O. Numakami[2], T. Sugaya[1], N. Yagi[2], K. Komori[1], M. Mori[1], Y. Okano[2], M. Asada[3]** (*[1]Photonics Reserach Institute, National Institute of Advanced Industrial Science and Technology (AIST), AIST Tsukuba Central 2, 1-1-1 UMEZONO, TSUKUBA, IBARAKI 3058568, Japan, [2]Faculty of Knowledge Engineering, Tokyo City University, 1-28-1, TAMAZUTSUMI, SETAGAYA-KU, TOKYO 1588557, Japan, [3]Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology, 2-12-1, S9-3 O-OKAYAMA, MEGURO-KU, TOKYO 1528552, Japan*)

Analysis of antenna integrated NDR-DCT oscillator for variable oscillation frequency in THz band

Th-mP17 **M. P Mikhailova[1], K.D. Moiseev[1], E.V. Ivanov[1], Yu.P. Yakovlev[1], E.Hulicius[2,2], A. Hospodkova[2,1], J. Pangrac[2,1], K. Melichar[2,1], T. Šimeček[2,1]** (*[1]Ioffe Physical-Technical Institute RAS, 26, Politekhnichekaya street, St Petersburg 194021, Russia, [2]Institute of Physics AS CR, v.v.i., Prague, Czech Pepublic, 1600. Prague, Cukrovarnicka 10*)

Positive and negative electroluminescence in the type II heterostructures with a deep AlSb/InAsSb/AlSb quantum well

Th-mP18 **R. Kido, A. Satake, K. Fujiwara** (*Dept of Electrical Engineering and Electronics, Kyushu Institute of Technology, Tobata, Kitakyushu 804-8550, Japan*)

Photoluminescence dynamics due to exciton and free carrier transport in GaAs/AlAs superlattices

Th-mP19 **L. Schrottke, M. Giehler, R. Hey, H. T. Grahn** (*Paul Drude Institute for Solid State Electronics, Hausvogteiplatz 5-7, 10117 Berlin , Germany*)

Simulation of the interplay between stimulated emission and carrier distribution in quantum-cascade lasers

Th-mP20 **A. Satake, T. Tanigawa, Y. Tanaka, K. Fujiwara** (*Kyushu Institute of Technology, Tobata, Kitakyushu 804-8550, Japan*)

Thermal escape process of photogenerated carriers from GaAs single-quantum-well contained in GaAs/AlAs superlattices

Th-mP21 **K. S. Chang[1], Y. M. Song[2], Y. T. Lee[2], S. C. Yang[1], G. H. Kim[1]** (*[1]Korea Basic Science Institute, 52 Eoeun-dong, Yuseong-gu, Daejeon 305-333, Republic of Korea, [2]Gwangju Institute of Science and Technology, 1 Oryong-dong, Buk-gu, Gwangju 500-712, Republic of Korea*)

Circular and anamorphic microlens array fabricated by selective oxidation of chirped short-period superlattice of GaAs/AlGaAs

Th-mP22 **M. Nakayama[1], T. Hirao[1], T. Hasegawa[2]** (*[1]Department of Applied Physics, Osaka City University, 3-3-138 Sugimoto, Sumiyoshi-ku, Osaka 558-8585, Japan, [2]Department of Material Science, University of Hyogo, 3-2-1 Koto, Kamigori-cho, Ako-gun, Hyogo 678-1297, Japan*)

Photoluminescence properties of exciton-exciton scattering in GaAs/AlAs multiple quantum wells

Th-mP23 **M. Motyka[1], G. Sek[1], K. Ryczko[1], F. Janiak[1], J. Misiewicz[1], S. Belahsene[2], G. Boissier[2], Y. Rouillard[2]** (*[1]Institute of Physics, Wroc B w University of Technology, Wroc B w, Poland, Wybrzeze Wyspianskiego 27, 50-370 Wroclaw, Poland, [2]Institut d 窶ｦ lectronique du Sud, Université Montpellier 2-CNRS, Montpellier, France, Place Eugene Bataillon, 34095 Montpellier Cedex 5, France*)

Modulation spectroscopy determined band gap discontinuities in GaInAsSb/Al(In)GaASb quantum wells

Th-mP24 **M. Motyka[1], G. Sek[1], K. Ryczko[1], J. Misiewicz[1], T. Lehnhardt[2], S. Höfling[2], A. Forchel[2]** (*[1]Institute of Physics, Wroc B w University of Technology, Wroc B w, Poland, Wybrzeze Wyspianskiego 27, 50-370 Wroclaw, Poland, [2]Department of Applied Physics, University of Würzburg, Würzburg, Germany, Technische Physik Am Hubland, 97074 Würzburg, Germany*)

Optical properties of GaSb-based type II quantum wells emitting in the mid-infrared range

Th-mP25 **T. Noda**[1], **H. Sakaki**[1,2] (*[1]National Institute for Materials Science, 1-2-1 Sengen, Tsukuba, Ibaraki , Japan, [2]Toyota Technological Institute, 201201 Hisakata, Tempaku-ku, Nagoya 468-8511, Japan*)
Anisotropic effective mass and hole transport in p-type (311)A thin GaAs quantum wells

Th-mP26 **D. A. Kozlov, Z. D. Kvon, A. E. Plotnikov** (*Institute of Semiconductor Physics, Siberian Branch of the Russian Academy of Sciences (SB RAS), Novosibirsk, pr. Lavrentyeva 13, 630090, Russia*)
Semiclassical and quantum transport in the 2D electron gas in a hard-wall antidot lattice

Th-mP27 **S.Y. Kim**[1,2], **S.H. Shin**[1], **J. D. Song**[1], **I. K. Han**[1], **T. W. Kim**[2], **Y. D. Jho**[3] (*[1]Korea Institute of Science and Technology, Nano Science Research Division, Korea institute of Science and Technology, Seoul 136-791, Korea, [2]Hanyang University, Department of Electronic computer communication, Hanyang University, Seoul 133-791 , Korea, [3]Gwangju Inst. of Sci. and Tech, Dep. of Info. and Comm., Gwangju Inst. of Sci. and Tech., Gwangju 500-712*)
Structural and electrical properties of InAs grown on AlAs0.32Sb0.68 metamorphic buffer layer/GaAs and its application to THz emission

Th-mP28 **Y. Guo, T. C. Zhang, Z. X. Mei, C. Z. Gu, X. L. Du** (*Institute of Physics, Chinese Academy of Sciences, Zhong Guan Cun Nan San Jie Ba Hao,Beijing, China 100190, P.R.China*)
Double Heterojunction of n-ZnO/insulator-MgO/p-Si for Visible-Blind UV Detector

Th-mP29 **P. Rauter**[1], **T. Fromherz**[1], **N.Q. Vinh**[2], **B.N. Murdin**[3], **G. Mussler**[4], **D. Grützmacher**[4], **G. Bauer**[1] (*[1]Institute of Semiconductor and Solid State Physics, University of Linz, Altenbergerstr. 69, 4040 Linz , Austria, [2]FOM Institute for Plasma Physics Rijnhuizen, Postbus 1207, NL-3430 BE Nieuwegein, The Netherlands, [3]Advanced Technology Institute, University of Surrey, Guildford, Surrey, GU2 7XH, United Kingdom, [4]Institut für Bio- und Nanosysteme, Forschungszentrum J D-52425 Jülich, Germany*)
Bias-induced relaxation-time manipulation in SiGe quantum well structures

Th-mP30 **M. Nobile**[1], **S. Schartner**[1], **E. Mujagic**[1], **H. Detz**[1], **A. M. Andrews**[1], **P. Klang**[1], **W. Schrenk**[1], **G. Strasser**[1,2] (*[1]Center for Micro- und Nanostructures, Vienna University of Technology, Floragasse 7, 1040 Vienna, Austria, [2]University at Buffalo, The State University of New York, 332 Bonner Hall, Buffalo, NY 14260, USA*)
Intersubband absorption in InGaAs/GaAsSb multi quantum wells

Th-mP31 **S. Gozu, T. Mozume, H. Ishikawa** (*National Institute of Advanced Industrial Science and Technology(AIST), 1-1-1, Umezono, Tsukuba 205-8568, Japan*)
Refractive index of high-carrier-doped InGaAs/AlAsSb coupled double quantum wells

Th-mP32 **Y. Takada**[1], **M. Muraguchi**[2], **T. Endoh**[2], **S. Nomura**[1], **K. Shiraishi**[1] (*[1]Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan, [2]Center of Interdisciplinary Research, Tohoku University, Sendai, Japan.*)
Proposal of a new physical model for Ohmic contacts

Th-mP33 **W. Susaki, T. Igawa, T. Inada, A. Tomioka** (*Osaka Electro-Communication University, 18-8 Hatucho, Neyagawa, Osaka 572-8530, Japan*)
Determination of Band Offsets in a $Ga_{0.5}In_{0.5}P/GaAs_{0.9}P_{0.1}$ Single Quantum Well by Photoreflectance with a Semiconductor Laser

Th-mP34 **N. Ishimure, T. Akiyama, K. Nakamura, and T. Ito** (*Department of Physics Engineering, Mie University, Mie, Japan*)
Theoretical investigation for the strain effect on surface structure of InAs(111)A

Th-mP35 **D. C. Heo[1], J. D. Song[1], I. K. Han[1], J. I. Lee[1], J. M. Kim[2], Y. T. Lee[2]** ([1]*Korea Institute of Science and Technology, Nano Science Research Division, Korea institute of Science and Technology, Seoul 136-791, Korea,* [2]*Gwangju Inst. of Sci. and Tech., Dep. of Info. and Comm., Gwangju Inst. of Sci. and Tech., Gwangju 500-712, Korea*)
Optical properties of fully digital-alloyed 1.3 m MQW and its application to laser diodes

Th-mP36 **N. K. Cho[1,2], K. W. Kim[1], S. P. Ryu[1], J. D. Song[1], W. J. Choi[1], J. I. Lee[1], H. S. Jeon[2]** ([1]*Korea Institute of Science and Technology, Nano Device Research Center, KIST, Seoul 136-791, Korea* , [2]*Seoul National University, School of Physics, Seoul National University, Seoul 151-747, Korea*)
Digital-alloy AlGaAs/GaAs distributed Bragg reflector for the application to 1.3 m surface emitting laser diodes

Th-mP37 **Y. Yasutake, J. Igarashi, Y. Terada, N. Tana-ami, S. Fukatsu** (*Graduate School of Arts and Sciences, University of Tokyo, 3-8-1 Komaba, Meguro, Tokyo 1538902, Japan*)
Room temperature electroluminescence from 311 rod-like defects in InSb-quantum-dot-embedded-Si heterostructure

Th-mP38 **K. Kurata, M. Murata, K. Kashiwabara, N. Ohtani** (*Department of Electronics, Doshisha University, 1-3 Tatara-Miyakodani, Kyotanabe-shi, Kyoto, 610-0321, Japan*)
Effect of a thin hole-blocking layer on carrier transport and luminescent properties in organic light-emitting diodes

Th-mP39 **K. Nakajima, K. Bando, N. Ohtani** (*Department of Electronics, Doshisha University, 1-3, Tatara-Miyakodani, Kyotanabe-shi, Kyoto 610-0321, Japan*)
Improvement of dark current in organic near-infrared photodiodes by mixing a polymer in the active region

Th-mP40 **K. Kajimoto, K. Uno, I. Tanaka** (*Department of Materials Science and Chemistry, 930 Sakaedani, Wakayama 6408510, Japan*)
Memory effect of pentacene field-effect transistors with embedded monolayer of semiconductor colloidal nano-dots

Th-mP41 **L. Turyanska[1], U. Elfurawi[1], T. D. Bradshaw[1], M. Li[2], S. Mann[2], N. R. Thomas[1], A. Patane[1]** ([1]*School of Physics and Astronomy and Centre for Biomolecular Sciences, The University of Nottingham, Nottingham NG7 2RD, UK,* [2]*Centre for Organized Matter Chemistry, School of Chemistry, University of Bristol, Bristol BS8 1TS, UK*)
Hybrid nanocomposites based on colloidal PbS quantum dots

Th-mP42 **G. J. Matt[1], T. Fromherz[1], M. Bednorz[1], S. Zamiry[2], C. Lungenschmied[3], C. J. Brabec[3], G. Bauer[1]** (*[1]Institute for Semiconductor and Solid State Physics, Johannes Kepler University, Austria, [2]Christian Doppler Laboratory for Surface Optics, Johannes Kepler University, Austria, [3]Konarka Austria, Austria*)

Sensing near to mid infrared light with an organic/inorganic hybrid heterojunction

Th-mP43 **Won Tae Kim, Joo Hyung You, Jae Hun Jung, Tae Whan Kim*** (*National Research Laboratory for Nano Quantum Electronics, Division of Electronics and Computer Engineering, Hanyang University, Engineering center annex 509-1, Haengdang-dong, Seongdong-gu, Seoul*)

Carrier transport mechanisms of nonvolatile memory devices fabricated utilizing multi-walled carbon nanotubes embedded in a poly-4-vinyl-phenol layer

Th-mP44 **T. Kawase, S. Komura, K. Miyazaki, D. Kim, M. Nakayama** (*Department of Applied Physics, Graduate School of Engineering, Osaka City University, 3-3-138 Sugimoto, Sumiyoshi-ku, Osaka 5588585, Japan*)

Characteristics of exciton polaritons in a ZnO Microcavity

Th-mP45 **H. Okamoto[1], T. Kamada[1,2], K. Onomitsu[1], I. Mahboob[1], H. Yamaguchi[1,2]** (*[1]NTT Basic Research Laboratories, Atsugi, Kanagawa 243-0198, Japan, [2]Department of Physics, Tohoku University, Sendai, Miyagi 980-8578, Japan*)

Tunable coupling of mechanical vibration in GaAs microresonators

Th-mP46 **A. S. Samardak[1,4], A. Nogaret[1], N. B. Janson[2], A. Balanov[3], I. Farrer[5], D. A. Ritchie[5]** (*[1]Department of Physics, University of Bath, Bath, BA2 7AY, UK, [2]Department of Mathematics, University of Loughborough, Loughborough, LE11 3TU, UK, [3]Department of Physics, University of Loughborough, Loughborough, LE11 3TU, UK, [4]Department of Electronics, Far Eastern National University, Vladivostok, 690950, Russia, [5]Cavendish Laboratory, University of Cambridge, Cambridge, CB2 1TN, UK*)

Noise induced phenomena in multi-thread excitable semiconductor 'neuron'

Th-mP47 **F. Yamada, T. Shirasaka, K. Fukui, I. Kamiya** (*Toyota Technological Institute, 2-12-1 Hisakata, Tenpaku-ku Nagoya, Aichi 468-8511, Japan*)

Surface State Control of III-V Semiconductors using Molecular Modification

Th-mP48 **Cesar E.P. Villegas, M. R.S. Tavares** (*CCNH, Universidade Federal do ABC, R. Santa Adélia 166, Sto André, 09210170, Brazil*)

Effects of mass induced anisotropy on Dirac-Fermions in graphene-based double quantum wires

Th-mP49 **Nojoon Myoung[1], G. Ihm[1], S.J. Lee[2]** (*[1]Department of Physics, Chungnam National University, Gung Dong 220 Daejeon 305-764, Korea, [2]QSRC, Dongguk University, Seoul 100-715, Korea*)

Transport in zigzag graphene nanoribbons modulated by magnetic barriers

Th-mP50 **K. Ogata, H. Dobashi, K. Koike, S. Sasa, M. Inoue, M. Yano** (*Osaka Institute of Technology, Asahi-ku, Osaka, JAPAN*)

Selective area growth of ZnO nanorods and enzyme immobilization toward the fabrication of glucose sensors

Th-mP51 **Takaaki Tatani[1,2], Hiroki Asano[1,2], A. Ishii[1,2]** ([1]*Department of Applied Mathematics and Physics, Tottori University, Koyama, Tottori 680-8552, Japan,* [2]*JST-CREST , 5 Sanbancho, Chiyoda-ku, Tokyo 102-0075, Japan*)
Computational study for growth of GaN on graphite as 3D growth on 2D material

Th-mP52 **S. Tsai, J.H. Ho, Y.H. Chiu, M.F. Lin** (*Department of physics, National Cheng Kung University , Physics Department, National Cheng Kung University 1 Ta-Hsueh Road Tainan 70101, Taiwan*)
Band structures of Bernal graphenes modulated by electric fields

Th-mP53 **Y.H. Liu, J.Y. Wu, M.F. Lin** (*Department of Physics, National Cheng Kung University, No.1, Ta-Hsueh Road, Tainan City 701, Taiwan (R.O.C.)*)
The effects of the modulated magnetic field on the Landu levels of monolayer graphene ribbon

Th-mP54 **N. T. Bagraev[1], W. Gehlhoff[2], L. E. Klyachkin[1], A. A. Kudryavtsev[1], A. M. Malyarenko[1], V. V. Romanov[1], I. A. Shelykh[1]** ([1]*Ioffe Physical-Technical Institute of RAS, Politekhnicheskaya 26 , St.Petersburg, Russia,* [2]*Institut fuer Festkoerperphysik, Technische Universitaet Berlin, D-10623 Berlin, Germany,* [3]*Polytechnical University, St. Petersburg, 195251, Russia*)
Proximity effects in S-Si-QW-S sandwich nanostructures

Th-mP55 **J. Park, H. Smith, L. Grazulis, K. Eyink, W. C. Mitchel** (*Air Force Research Laboratory, Materials and Manufacturing Directorate, AFRL/RXPS, Wright -Patterson Air Force Base, Ohio, 45433*)
X-ray photoelectron spectroscopy study of interface structure of epitaxial graphene on 4H-SiC(0001)

Th-mP56 **T. Lüdtke[1], P. Mirovski[1], R. Hüther[1], Leonid Govor[2], G. H. Bauer[2], J. Parisi[2], R. J. Haug[1]** ([1]*Abteilung Nanostrukturen, Institut für Festkörperphysik, Universität Hannover, Appelstr. 2, Hannover , Germany,* [2]*Institut für Physik, Universität Oldenburg, Carl-von-Ossietzky-Straße 9-11, Oldenburg*)
Charge transport through chains of nanoparticles

Th-mP57 **Q. P. Unterreithmeier, T. Faust, J. P. Kotthaus** (*Fakultät für Physik and Center for NanoScience (CeNS), Ludwig-Maximilians-Universität, Geschwister-Scholl-Platz 1, München 80539, Germany*)
Nonlinear Switching Dynamics in Nanoelectromechanical Systems

Th-mP58 **Y. H. Chiu[1], Y. Y. Liao[2], M. F. Lin[1]** ([1]*Department of Physics, National Cheng Kung University, Department of Physics, National Cheng Kung University, Tainan 70101, Taiwan 70101, Taiwan,* [2]*Department of Applied Physics, National University of Kaohsiung, Department of Applied Physics, National University of Kaohsiung, Kaohsiung 81148, Taiwan*)
Optical absorption spectra of monolayer graphene in spatially modulated electric potentials

Th-mP59 **S. Kim[1], B.-Y. Yu[2], J. Lee[1], S.-I. Lim[1], I. Han[1], G. Ghibaudo[3]** ([1]*Korea Institute of Science and Technology(KIST), Nano Device Research Center, Korea Institute of Science and Technology, 39-1 Hawolkok, Seongbuk, Seoul , Republic of Korea,* [2]*Korea Institute of Science and Technology(KIST), Advanced Metal Research Center, Korea Institute of Science and Technology, 39-1 Hawolkok Seongbuk, Seoul, Republic of Korea ,* [3]*IMEP-MINATEC, INPG-CNRS, IMEP-MINATEC, INPG-CNRS, 3 rue Parvis Louis Neel, BP257, 38016 Grenoble, France*)
Low-frequency noise in GaAs Solar Cell with Multi-Quantum Well

Th-mP60 **K. Konishi, K. Yoh** (*Research Center for Integrated Quantum Electronics, Hokkaido University, Sapporo, 060-8628 Japan*)

Transport characteristics of a single layer graphene grown on semi-insulating 4H silicon carbide

Th-mP61 **K. Lee[1,2], Y. Lin[2], Y. Chen[2], Y. Huang[1,2]** ([1]*Graduate Institute of Electro-Optical Engineering, National Taiwan University of Science and Technology, No. 43, Sec. 4, Keelung Rd., Taipei 106, Taiwan,* [2]*Deaprtment of Electronic Engineering, National Taiwan University of Science and Technology, No. 43, Sec. 4, Keelung Rd., Taipei 106, Taiwan*)

Characterization of supercapacitor of variable content of nitrogen doping in carbon nanotubes with ruthenium dioxide

Th-mP62 **T. Suzuki[1,2], Y. Yokomizo[2]** ([1]*Tokyo Metropolitan College of Industrial Technology, 8-17-1 Minami-senju, Arakawa-ku, Tokyo 116-0003, Japan,* [2]*Tokyo Metropolitan College of Aeronautical Engineering, 8-17-1 Minami-senju, Arakawa-ku, Tokyo 116-0003, Japan*)

Electronic states of atomic monolayers of various materials: Possibility of energy gap engineering

Th-mP63 **S. Mtéfi-Tempfli[1], M. Mtéfi-Tempfli[1], S. Melinte[2], A. Vlad[2]** ([1]*Unité PCPM, Université catholique de Louvain, Place du Levant 3 B-1348, Belgium,* [2]*Unité DICE, Université catholique de Louvain, Place du Levant 3 B-1348, Belgium*)

Statistics and single element processing in nanoporous templates

Th-mP64 **Hongwu Zhang[1], Nao Terasaki[1], Hiroshi Yamada[1], Chao-Nan Xu[1,2]** ([1]*National Institute of Advanced Industrial Science and Technology (AIST),kyushu center, Kyushu, Shuku807-1, Tosu, Saga, 841-0052,JAPAN,* [2]*CREST, Japan Science and Technology Corporation, Honcho 4, Kawaguchi, Saitama 32-0012, JAPAN*)

Detection of Stress distribution using Ca2MgSi2O7:Eu,Dy micro-particles

Th-mP65 **K. I. Lin[1], J. T. Tsai[1], J. S. Hwang[1], M. C. Chen[2]** ([1]*Department of Physics, National Cheng Kung University, No.1, University Road, Tainan City 701 , Taiwan,* [2]*Institute of Nuclear Energy Research, No. 1000, Wenhua Rd., Longtan, Taoyuan 325, Taiwan*)

Polarity determination of InN by terahertz radiation

Th-mP66 **I. Tanaka[1], Y. Tada[1], S. Nakatani[1], K. Uno[1], I. Kamiya[2], H. Sakaki[2]** ([1]*Wakayama University, 930 Sakaedani, Wakayama 640-8510, Japan,* [2]*Toyota Technological Institute, 2-12-1 Hisakata, Tempaku, Nagoya 468-8511, Japan*)

Resonant tunneling of electrons through single self-assembled InAs quantum dot studied by conductive atomic force microscopy

Th-mP67 **J. T. Tsai[1], K. I. Lin[1], Y.T. Lu[1], J. S. Hwang[1], S. Gwo[2], M. C. Chen[3], G. C. Chi[3]** ([1]*Department of physics, National Cheng Kung University, No.1, University Road, Tainan City 701, Taiwan,* [2]*Department of Physics, National Tsing-Hua University, 101, Section 2, Kuang-Fu Road, Hsinchu 30013, Taiwan ,* [3]*Institute of Optical Science, National Central University, No.300, Jhongda Rd., Jhongli City, Taoyuan County 32001, Taiwan*)

Characterization of photoelastic effects on the optical properties of strained InN films

Th-mP68 **K. Yoshida[1], A. Umeno[1], S. Sakata[1], K. Hirakawa[1,2]** (*[1]IIS, University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 1538505, Japan, [2]CREST-JST, 4-1-8 Honcho, Kawaguchi, Saitama 332-0012, Japan*)

Electromigration-induced breakage mechanism of Ni nanowires

Th-mP69 **H. Iwase[1], H. Choi[1], S. Yamada[1], M.Tanaka[2], I. Kimpara[3]** (*[1]Center for Nano Materials and Technology, Japan Advanced Institute of Sci. and Tech., 1-1, Asahidai, Nomi, Ishikawa 923-1292, Japan, [2]Department of Aeronautics, College of Engineering, Kanazawa Institute of Technology, 7-1, Ougigaoka, Nonoichi-machi, Ishikawa-gun, Ishikawa 921-8501, Japan, [3]Vice-president, Kanazawa Institute of Technology, 7-1, Ougigaoka, Nonoichi-machi, Ishikawa-gun, Ishikawa 921-8501, Japan*)

Study of rolled micro cantilever-like structures based on MBE-grown strained semiconductor layers

Th-mP70 **P. Rauter[1], T. Fromherz[1], S. Winnerl[2], M. Zier[2], A. Kolitsch[2], M. Helm[2], G. Bauer[1]** (*[1]Institute of Semiconductor and Solid State Physics, University of Linz, Altenbergerstr. 69, 4040 Linz , Austria, [2]Institute of Ion Beam Physics and Materials Research, Forschunsgzentrum Dresden-Rossendorf, P.O. Box 510119, 01314 Dresden, Germany*)

Terahertz Si:B blocked-impurity-band detectors by ion implantation

Th-mP71 **S. J. Jiao, P. D. Batista, K. Biermann, R. Hey, and P. V. Santos** (*Paul-Drude-Institut für Festkörperelektronik, Hausvogteiplatz 5-7, berlin 10117, Germany*)

Efficient photon detectors using surface acoustic waves

Th-mP72 **K. Ohmori[1], Y. Ohkura[2], K. Shiraishi[3], K. Yamada[1]** (*[1]Waseda University, Bldg 120-5, 513 Waseda Tsurumaki-cho, Shinjuku-ku, Tokyo 162-0041, Japan, [2]Semiconductor Leading Edge Technologies (Selete), 16-1 Onogawa, Tsukuba, Ibaraki 305-8569, Japan, [3]University of Tsukuba, 1-1-1 Tennoudai, Tsukuba, Ibaraki 305-8573, Japan*)

Effect of carrier transport on threshold voltage variability in Si MOSFET

Th-mP73 **T. Nuytten[1], M. Hayne[2], H. Y. Liu[3], M. Hopkinson[3], V. V. Moshchalkov[1]** (*[1]INPAC-Institute for Nanoscale Physics and Chemistry, Pulsed Fields Group, K.U.Leuven, Celestijnenlaan 200D, B-3001 Leuven 3001, Belgium, [2]Department of Physics, Lancaster University, Lancaster LA1 4YB, United Kingdom, [3]Department of Electronic and Electrical Engineering, University of Sheffield, Sheffield S1 3JD, United Kingdom*)

Band properties of $Ga_{1-x}In_xN_yAs_{1-y}$ multiple quantum wells studied by magneto-photoluminescence

Friday July 24th

Session M9 (International Conference Room) 9:00 – 10:30 Nanophotonics

M9a 9:00 – 9:30 **S. J. Boyle[1], A. J. Ramsay[1], A. P. Heberle[2,3], M. Hopkinson[4], A. M. Fox[1], M. S. Skolnick[1]** (Invited) (*[1]Department of Physics and Astronomy, University of Sheffield, Sheffield, S3 7RH, UK, [2]Department of Physics and Astronomy, University of Pittsburgh, Pittsburgh, Pennsylvania 15260, USA, [3]Sullivan Park, RandD Center, Corning Incorporated, Corning, NY, 14831, USA, [4]EPSRC National Centre for III-V Technologies, University of Sheffield, Sheffield, S1 3JD, UK*)

Picosecond coherent control of dressed states in a single quantum dot

M9b 9:30 – 9:45 **Ch. Strelow, C. M. Schultz, H. Rehberg, A. Stemmann, H. Welsch, Ch. Heyn, D. Heitmann, T. Kipp** (*Institute of Applied Physics, University of Hamburg, Jungiusstr. 11, 20355 Hamburg , Germany*)

Tailoring optical modes in semiconductor microtube bottle resonators

M9c 9:45 – 10:00 **M. Nomura[1], N. Kumagai[1], S. Iwamoto[1,2,3], Y. Ota[2], Y. Arakawa[1,2,2]** (*[1]Institute for Nano Quantum Information Electronics, University of Tokyo, 4-6-1, Komaba, Meguro-ku, Tokyo 153-8505, Japan, [2]Research Center for Advanced Science and Technology, University of Tokyo, 4-6-1, Komaba, Meguro-ku, Tokyo 153-8505, Japan, [3]Institute of Industrical Science, University of Tokyo, 4-6-1, Komaba, Meguro-ku, Tokyo 153-8505, Japan*)

Observation of unique photon statistics of single artificial atom laser

M9d 10:00 – 10:15 **D. Sanvitto[1], L. Vina[1], A. Lemaitre[2], J Bloch[2], E. Karimi[3,4], B. Piccirillo[3], L. Marrucci[3,4]** (*[1]Dept.. Fisica de Materiales. Universidad Autonoma, Campus de Cantoblanco. Madrid E28049, Spain, [2]LPN/CNRS, Route de Nozay, 91460, Marcoussis, France, [3]Dip. Scienze Fisiche, Universita' di Napoli, 80126 Napoli, Italy, [4]CNR-INFM Coherentia, Compl. Univ. di Monte S.Angelo, 80126 Napoli, Italy*)

Pulsed injection of vortices in a polariton condensate

M9e 10:15 – 10:30 **E. A. Cerda-Méndez[1], D. Krizhanovskii[2], K. Biermann[1], K. Guda[2], R. Bradley[2], P. V. Santos[1], R. Hey[1], M. S. Skolnick[2]** (*[1]Paul-Drude-Institut, Hausvogteiplatz 5-7, Berlin 10117, Germany, [2]Department of Physics and Astronomy, University of Sheffield, Sheffield S3 7RH, United Kingdom*)

Dynamic control of polariton condensates using surface acoustic waves

10:30 – 11:00 **Coffee Break**

Session Plenary 5,6 (Main Hall) 11:00 – 12:30

PL5 11:00 – 11:45 **Susumu Noda** (*Department of Electronic Science and Engineering, Kyoto University, Kyoto 615-8510, Japan*)

Manipulation of Photons by Photonic Crystals

PL6 11:45 – 12:30 **Moty Heiblum** (*Braun Center for Sub Micron Research, Dept. of Condensed Matter Physics, Weizmann Institute of Science, Rehovot 76100, Israel*)

Physics observed through shot noise measurements

12:30 – 13:00 **Closing**