

Program Leaflet

14th International Conference on Modulated Semiconductor Structures

2009.7.19 ~ 7.24

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	Session M3 Physics and devices for quantum information processing	Coffee	Coffee	Coffee
	Plenary 1		Coffee	Coffee	Coffee
11:00	Plenary 2		Plenary 3	Session M7 Nanostructure growth	Plenary 5
12:00	Photo		Plenary 4		Plenary 6
					Closing
13:00	Lunch	Lunch	Free afternoon or optional excursion	Lunch	
14:00					
15:00	Session M1 Transport in nanostructures	Session M4 Optical properties of quantum dots		Session M8 Novel materials and physics	
16:00					
17:00	Poster Session Mo-mP	Poster Session Tu-mP		Poster Session Th-mP	
		Special 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 Violla**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. Makarovskiy**¹, **O. Thomas**¹, **A.G. Balanov**¹, **A. Patané**¹, **L. Eaves**¹, **R. P. Campion**¹, **C. T. Foxon**¹, **E. E. Vdovin**¹, **D.K. Maude**² (¹*School of Physics and 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 wave-function 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. Hayashi¹, T. Ota¹, K. Muraki¹, T. Fujisawa²** (¹NTT Basic Research Laboratories, 3-1 Morinosato-Wakamiya, Atsugi, 243-0198, Japan, ²Research 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 Schlapps¹, Stefan Geissler¹, Teresa Lerner¹, Janusz Sadowski², Werner Wegscheider¹, Dieter Weiss¹** (¹Department of Applied Physics, University of Regensburg, Universitätsstr. 31, 93040 Regensburg, Germany, ²Max-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. Kodera¹, K. Ono², N. Kumagai¹, T. Nakaoka¹, S. Tarucha^{1,3,4}, Y. Arakawa^{1,5,6}** (¹Institute for Nano Quantum Information Electronics, the University of Tokyo, 4-6-1, Komaba, Meguro-ku, Tokyo 153-8505, Japan, ²RIKEN, 2-1, Hirosawa, Wako-shi, Saitama 351-0198, Japan, ³School of Engineering, the University of Tokyo, 7-3-1, Hongo, Bunkyo-ku, Tokyo 113-0033, Japan, ⁴ICORP-JST, 3-1, Morinosato Wakamiya, Atsugi-shi, Kanagawa 243-0198, Japan, ⁵Institute of Industrial Science, the University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, ⁶Research 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-μm 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. Brehm¹, M. Grydlik¹, G. Vastola², M. J. Beck³, H. Lichtenberger¹, T. Fromherz¹, F. Montalenti², F. Schaffler¹, L. Miglio², G. Bauer¹ (¹Institut of Semiconductor Physics, University of Linz, Austria, Altenbergerstrasse 65, A-4040 Linz, Austria, Austria, ²L-NESS and Materials Science Department, University of Milano-Bicocca, I-20125 Milano, Italy, ³Department of Physics and Astronomy, Vanderbilt University,, Nashville, Tennessee 37235, USA)
Morphological evolution at the early stages of Ge island formation on Si(001) re-visited: 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. Mckimming, 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. Toujyou¹, T. Noda², T. Teraoka¹, T. Konishi¹, S. Tsukamoto¹ (¹Anan National college of Technology, 265 Aoki Minobayashi Anan, Tokushima 7740017, Japan, ²National 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. Bonanni¹, A. Navarro-Quezada¹, T. Li¹, B. Faina¹, R. Lechner¹, G. Bauer¹, M. Rovezzi², F. D'Acapito², W. Stefanowicz³, M. Kiecana³, M. Sawicki³, T. Dietl³ (¹Institut für Halbleiter und Festkörperphysik, Johannes Kepler University, Altenbergerstr. 69, Linz - Austria, ²Italian Collaborating Research Group ESRF, Grenoble - France, ³Institute 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. Ishii¹, Hiroki Asano¹, Mami Yokoyama¹, Shiro Tsukamoto² (¹Dept. Applied Mathematics and Physics, Tottori University, 4-101 Koyama-Minami, Tottori-City, Tottori 680-8552, Japan, ²Center 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 Yokoyama¹, Shiro Tsukamoto², Akira Ishii¹ (¹Department of Applied Mathematics and Physics, Tottori University, 4-101 Koyama-Minami, Tottori 680-8552, Japan, ²Center 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. Rajesh¹, D. Guimard¹, M. Nishioka¹, E. Augendre³, L. Clavelier³, 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. Song¹, S. Y. Kim¹, H. J. Kim¹, J. Y. Chang¹, S. H. Han¹, T.G. Kim²** (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 -FeSi₂ 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. Kumagai¹, S. Ohkouchi^{1,2}, S. Nakagawa^{1,4}, M. Nomura¹, 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} (¹INQIE, Univ. of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 1538505, Japan, ²NEC, 34 Miyukigaoka, Tsukuba 3058501, Japan, ³IIS, Univ. of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 1538505, Japan, ⁴RCAST, 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. Hiratsuka¹, Y. Mizoguchi¹, S. Takeda¹, S. Saravanan², N. Ohtani¹ (¹Department of Electronics, Doshisha University, 3-1 Tatara-Miyakodani, Kyotanabe-shi, Kyoto 610-0321, Japan, ²ATR Wave Engineering Laboratories, Keihanna Science City, Kyoto, Japan)

Photoluminescence properties of annealed and non-annealed InAs quantum dots

Mo-mP28 D. Sarkar¹, H. P. van der Meulen¹, J. M. Calleja¹, J. M. Meyer², R. J. Haug², K. Pierz³ (¹Departamento de Física de Materiales, Universidad Autónoma de Madrid, E-28049 Madrid, Spain, ²Institut für Festkörperphysik, Leibniz Universität Hannover, D-30167 Hannover, Germany, ³Physikalisch-Technische Bundesanstalt Braunschweig, D-38116 Braunschweig, Germany,)

Magneto-photoluminescence spectroscopy of single InAs/AlAs quantum dots

Mo-mP29 K. Shibata¹, M. Jung¹, K. M. Cha¹, M. Sotome¹, K. Hirakawa^{1,2} (¹IIS and INQIE, University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, Japan, ²CREST-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. Ma¹, X.J. Yang¹, M. Chong¹, T. Yang¹, L.H. Chen¹, J. Shao², X. Lü², W. Lu², C.Y. Song³, H.C. Liu¹ (¹Institute 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. Nowak¹, E. Gallardo¹, D. Sarkar¹, D. Sanvitto¹, H. P. van der Meulen¹, J. M. Calleja¹, J. M. Ripalda², L. Gonzalez², Y. Gonzalez² (*¹Departamento de Física de Materiales, Universidad Autónoma de Madrid, E-28049 Madrid, Spain, , ²Instituto de Microelectrónica de Madrid, Centro Nacional de Microelectrónica, Consejo Superior de Investigaciones Científicas, Isaac Newton 8, PTM Tres Cantos, E-28760 Madrid, Spain,)*

Temperature dependent single photon emission in InP/GaInP quantum dots

Mo-mP33 E. Gallardo¹, L.J. Martínez², A.K. Nowak¹, D. Sarkar¹, D. Sanvitto¹, H.P. van der Meulen¹, J.M. Calleja¹, I. Prieto², A.R. Alija², D. Granados², A.G. Taboada², J.M. García², P.A. Postigo² (*¹Departamento de Física de Materiales, Universidad Autónoma de Madrid, E-28049 Madrid, Spain, Dpto. de Física de Materiales (C-IV), Facultad de Ciencias, C/ Francisco Tomás y Valiente, n 7, Ctra. Colmenar Viejo, Km. 15, 28049 Cantoblanco, MADRID, SPAIN 28049, Spain, ²Instituto de Microelectrónica de Madrid, Centro Nacional de Microelectrónica, Consejo Superior de Investigaciones Científicas, Isaac Newton 8, PTM Tres Cantos, E-28760 Madrid, Spain, Instituto de Microelectrónica de Madrid, Isaac Newton 8, PTM Tres Cantos, E-28760 Madrid, Spain)*

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

Mo-mP34 M. Mehta¹, D. Reuter², A. Melnikov², A. D. Wieck², S. Michaelis de Vasconcellos¹, T. Baumgarten¹, A. Zrenner¹, C. Meier¹ (*¹Experimental Physics, University of Paderborn, Warburger Strasse 100, Paderborn 33098, Germany, ²Applied Solid State Physics, Ruhr University , Bochum, Germany)*

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

Mo-mP35 L. Xu¹, K.Ozasa², H.Kakoi¹, Y.H.Liang¹, Y.Arai¹, W.Araki¹ (*¹School of Science and Engineering, Saitama University, 255 Shimo-Ohkubo, Sakuraku, Saitama 338-0825, Japan, ²RIKEN, 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-Hernandez¹, J. Hernandez-Rosas², J.S. Rojas-Ramirez², R. Contreras-Guerrero², R. Mendez-Camacho³, C. Mejia-Garcia³, V.H. Mendez-Garcia⁴, M. Lopez-Lopez² (*¹Graduate School of Science and Engineering, Ehime University, 3 Bunkyo-cho, Matsuyama, Ehime 790-8577, Japan, ²Physics Department, CINVESTAV-IPN, Mexico DF, 07000, Mexico, ³Superior School of Physics and Mathematics-IPN, Mexico DF, 07000, Mexico, ⁴Optical Communications Research Institute, UASLP, San Luis Potosi, 78210, Mexico)*

Optical transitions in AlGaAs/GaAs quantum wires on GaAs(631) substrates studied by photorefectance 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 $\text{In}_x\text{Ga}_{1-x}\text{As}$ 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
- Mo-mP40** Y. Saeki¹, Y. Nakazato¹, S. Izumi¹, T. Nukui¹, A. Tackeuchi¹, J. H. Jung², J. H. You², T. W. Kim², Y-H. Kim³ (¹Department of Applied Physics, Waseda University, 3-4-1 Okubo, Shinjuku-ku, Tokyo 169-8555, Japan, ²Division of Electronic and Computer Engineering, Hanyang University, Seoul 133-791, Korea, ³Division of Materials Science and Engineering, Hanyang University, Seoul 133-791, Korea)
Time-Resolved Photoluminescence Study of ZnO Nanocrystals Embedded in a Hybrid Polymer Composite Layer
- Mo-mP41** Y. Shoji^{1,3}, R. Oshima¹, A. Takata², A. Uedono³, Y. Okada^{1,2} (¹Research Center for Advanced Science and Technology (RCAST), The University of Tokyo, c/o Okada lab. 505 CCR, 4-6-1 Komaba, Meguro-ku 153-8904, Tokyo, Japan, ²Graduate School of Engineering, The University of Tokyo, c/o Okada lab. 505 CCR, 4-6-1 Komaba, Meguro-ku 153-8904, Tokyo, Japan, ³Institute of Applied Physics, University of Tsukuba, 1-1-1 Tennodai, Tsukuba 305-8973, Ibaraki, Japan)
The effect of spacer layer thickness on vertical alignment of InGaAs/GaAs quantum dots grown on GaAs(311)B substrate
- Mo-mP42** A. Takata¹, R. Oshima², Y. Shoji^{2,3}, Y. Okada^{1,2} (¹School of Engineering, The University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 1538904, Japan, ²Research Center for Advanced Science and Technology, The University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 1538904, Japan, ³Institute of Applied Physics, University of Tsukuba, 1-1-1 Tennodai, Tsukuba, Ibaraki 3058973, Japan)
Growth of multi-stacked InAs/GaAs quantum dots grown with As₂ source in atomic hydrogen-assisted molecular beam epitaxy
- Mo-mP43** B. Bansal^{1,2}, S. Godefroy², M. Hayne³, G. Medeiros-Ribeiro⁴, V. Moshchalkov² (¹IMM, High Field Magnet Laboratory, University of Nijmegen, Toernooiveld 7, 6525 ED Nijmegen, The Netherlands, ²INPAC-Institute for Nanoscale Physics and Chemistry, KU Leuven, Celestijnenlaan 200D, Leuven B-3001, Belgium, ³Department of Physics, Lancaster University, Lancaster LA1 4YB, UK, ⁴Laboratório Nacional de Luz Sincrotron, 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 Química Física i Analítica, Universitat Jaume I, Av./ de Vicent Sos Baynat, Castell 12071, Spain)
Electron-hole complexes in semiconductor nanorods
- Mo-mP45** D. Salloch¹, U. Wieser¹, U. Kunze¹, T. Hackbarth² (¹Werkstoffe und Nanoelektronik, Ruhr-Universität Bochum, Bochum 44780, Germany, ²DaimlerChrysler Forschungszentrum Ulm, Wilhelm-Runge-Straße 11, D-89081 Ulm, Germany)
Efficient injection-type ballistic rectification in Si/SiGe cross junctions

Mo-mP46 B. Marquardt¹, M. Geller¹, A. Lorke¹, D. Reuter², A. Wieck² (¹Experimental Physics, University Duisburg-Essen, Lotharstraße 1, Duisburg, Germany, ²Department 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. Climente¹, M.F. Doty², M. Korkusinski³, M. Scheibner⁴, A.S. Bracker⁴, D. Gammon⁴, P. Hawrylak³ (¹Department of Physical and Analytical Chemistry, Universitat Jaume I, Castellon, Spain, ²Department of Materials Science, University of Delaware, Newark, USA, ³Institute of Microstructural Sciences, National Research Council, Ottawa, Canada, ⁴Naval Research Labs, Washington, USA)

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

Mo-mP48 A. Babinski¹, A.Golnik¹, T.Tite¹, P.Kossacki¹, J.Gaj¹, S.Raymond², Z.Wasilewski^{1,2} (¹Institute of Experimental Physics, University of Warsaw, Hoza 69 00-681 Warszawa, POLAND, ²Institute for Microstructural Sciences, NRC, Ottawa, CANADA)

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. Oshima¹, A. Takata², Y. Shoji^{1,3}, Y. Okada^{1,2} (¹Research Center for Advanced Science and Technology, The University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8904, Japan, ²Graduate School of Engineering, The University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8904, Japan, ³Institute 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. Kawazu¹, T. Mano¹, T. Noda¹, H. Sakaki^{1,2} (¹National Institute for Materials Science, 1-2-1 Sengen, Tsukuba, Ibaraki, Japan, ²Toyota 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} (¹National Institute of Advanced Industrial Science and Technology, 1-1-1 Umezono, Tsukuba, Ibaraki 3058568, Japan, ²the Japan Society for the Promotion of Science, 5-3-1 kojimachi, chiyodaku, Tokyo, 1028471, Japan, ³CREST-JST, 4-1-8 Honcho, Kawaguchi, Saitama, 332-0012, Japan, ⁴ISIR, 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
- Mo-mP55 T. Endoh** (*Center for Interdisciplinary Research, TOHOKU UNIVERSITY, Aramaki aza Aoba 6-3, Aoba-ku, Sendai 980-8578, Japan*)
High Performance Multi-Nano-Pillar Vertical MOSFET Scaling from 50nm to 15nm Node
- Mo-mP56 L. Gence¹, V. Callegari², A. Dinescu³, S. Melinte¹, S. Demoustier-Champagne²** (¹*UCL-Ecole Polytechnique de Louvain - Laboratoire de Microélectronique DICE, 1, Rue Archimède, Louvain-la-Neuve 1348, Belgium*, ²*UCL-Ecole Polytechnique de Louvain - Laboratoire de chimie et de physique des hauts polymères, 1, Place croix du sud, Louvain-la-Neuve 1348, Belgium*, ³*National Institute for RandD in Microtechnologies IMT, 126A, Erou Iancu Nicolae street, 077190, Bucharest, ROMANIA*)
Hybrid polymer nanowire based electronic devices: correlated characterization
- Mo-mP57 Dong Uk Lee¹, E. Kim¹, Goon-Ho Park², Won-Ju Cho²** (¹*Department of Physics, Hanyang University, 17 Haengdang-dong, Seongdong-gu, Seoul 133-791, Korea*, ²*Department of Electronic Materials Engineering, Kwangwoon University, Seoul 139-701, Korea*)
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. Troiani¹, G. Goldoni^{1,2}** (¹*CNR-INFN 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
- Mo-mP59 K. Morita, T. Takahashi, T. Kanbara, S. Yano, T. Mukai, T. Kitada, T. Isu** (*Center for Frontier Research of Engineering, Institute of Technology and Science, The University of Tokushima, 2-1 Minami-jyosanjima-cho, Tokushima, 770-8506, Japan*)
Large optical Kerr signal of GaAs/AlAs multilayer cavity with InAs quantum dots embedded in strain-relaxed barriers
- Mo-mP60 T. Sogawa¹, H. Sanada¹, H. Gotoh¹, H. Yamaguchi¹, S. Miyashita², P. V. Santos³** (¹*NTT Basic Research Laboratories, NTT Corporation, 3-1 Morinosato Wakamiya, Atsugi-shi, Kanagawa 243-0198, Japan*, ²*NTT Advanced Technology Corporation, 3-1 Morinosato Wakamiya, Atsugi-shi, Kanagawa 243-0198, Japan*, ³*Paul Drude Institute, Hausvogteiplatz 5-7, 10117 Berlin, Germany*)
Polarization anisotropy of dynamic quantum wires formed by surface acoustic waves
- Mo-mP61 J. Renard, H. Mariette, E. Monroy, B. Gayral** (*CEA-CNRS "Nanophysique et semiconducteur" group, CEA-Grenoble, INAC/SP2M, 17 rue des Martyrs, 38054 Grenoble, France*)
Suppression of non-radiative recombination up to room temperature in long-lived GaN/AlN quantum dots

Mo-mP62 H. Wang¹, Liming Jiang¹, Huiting Wu¹, Qian Gong², Songlin Feng² (¹College of Physics and Engineering, Qufu Normal University, , ²Key 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

Mo-mP63 J.I.Climente^{1,2}, A. Bertoni², G. Goldoni^{2,3} (¹Departament de Química Física i Analítica, Universitat Jaume I, Castello, Spain, ²CNR-INFN research center for nanoStructures and bioSystems at Surfaces, Via Campi 213/a, Modena, Italy, ³Department of Physics, Univ. of Modena and Reggio E., Via Campi 213/a, Modena , Italy)

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

Mo-mP64 T. Okuhata¹, T. Sakka¹, S. Taguchi¹, A. A. Yamaguchi², T. Honda¹ (¹Department of Electrical Engineering and Electronics, Graduate School of Engineering, Kogakuin University, 2665-1 Nakano-machi, Hachiohji, Tokyo 1920015, Japan, ²Research Laboratory for Integrated Technological System, Kanazawa Institute of Technology, 1-2-3 Atago, Minato-ku, Tokyo, 1050002, Japan)

Surface recombination processes of GaN crystallites

Mo-mP65 R. B. Chen¹, C. Chang², M. F. Lin³ (¹Center of General Studies, National Kaohsiung Marine University, Center of General Studies, National Kaohsiung Marine University, Kaohsiung, Taiwan, ²Center of General Education, Tainan University of Technology, Center of General Education, Tainan University of Technology, Tainan, Taiwan, ³Department of Physics, National Cheng Kung University , Department of Physics, National Cheng Kung University, Tainan, Taiwan)

Electric-field-tunable electronic properties of graphene quantum dots

Mo-mP66 K. B. Hong¹, M. K. Kuo¹, T. R. Lin² (¹ Institute of Applied Mechanics, National Taiwan University, 1, Sec. 4, Roosevelt Road, Taipei 10672, TAIWAN, ²Department of Mechanical and Mechatronic Engineering, National Taiwan Ocean University, 2, Beining Road, Keelung 20224, TAIWAN)

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

Mo-mP67 EE Vdovin^{1,2}, O Makarovskiy¹, L. Eaves¹, Yu.N. Khanin², A. Patane¹ (¹University of Nottingham, School of Physics and Astronomy , United Kingdom, ²Institute of Microelectronics Technology RAS, 142432 Chernogolovka, Russia)

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

Mo-mP69 K. Fukui, I. Kamiya (Toyota Technological Institute, 2-12-1 Hisakata, Tempaku, Nagoya 468-8511, Japan)

Luminescence from InAs/GaAs surface related states

Mo-mP70 Y. Kitauchi¹, K. Tomioka^{1,2}, Y. Kobayashi¹, S. Hara^{1,2}, T. Fukui^{1,2}, J. Motohisa¹ (¹Graduate School of Information Science and Technology, Hokkaido University, North 14 West 9 Sapporo 060-0814, Japan, ²Research 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

- Mo-mP71 M. J. Korkusinski, M. Zielinski, E. Kadantsev, P. Hawrylak** (*Institute of Microstructural Sciences, National Research Council of Canada, 1200 Montreal Rd, Bldg M50, Office 105, Ottawa K1A0R6, Canada*)
Atomistic theory of electronic and optical properties of self-assembled quantum dots
- Mo-mP72 M. Mamizuka¹, O. Kojima¹, T. Kita¹, O. Wada¹, K. Akahane²** (*¹Department of Electrical and Electronics, Graduate School of Engineering, Kobe University, Rokkodai 1-1, Nada, Kobe, Japan, ²National Institute of Information and Communications Technology, 4-2-1 Nukui-kitamachi, Koganei, Tokyo, Japan*)
Resonant enhancement of excitonic photoluminescence via biexciton process in stacked InAs quantum dots
- Mo-mP73 Yasuaki Masumoto¹, Ken Goto¹, Bipul Pal¹, Michio Ikezawa¹, Premila Mohan², Junichi Motohisa², Takashi Fukui²** (*¹Institute of Physics, University of Tsukuba, 1-1-1 Tennoudai, Tsukuba, Ibaraki 3058571, Japan, ²Research Center for Integrated Quantum Electronics, Hokkaido University, Sapporo 060-8628, Japan*)
Spectral diffusion of type-II excitons in InP/InAs/InP core-multishell nanowires
- Mo-mP75 E. Storace¹, J. Weis¹, K. von Klitzing¹, S. De Franceschi^{2,3}, F. Jabeen³, S. Rubini³, F. Capotondi³, F. Martelli³** (*¹Max-Planck-Institut für Festkörperforschung, Heisenbergstrasse 1, Germany, ²CEA, INAC/SPSMS/LaTEQS, 17 Rue des Martyrs, 38054 Grenoble, France, ³Laboratorio Nazionale TASC-INFM-CNR, Area Science Park, S.S. 14, km. 163.5, I-34012 Trieste, Italy*)
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
- Mo-mP77 C.-H. Lee¹, J. Yoo¹, Y.-J. Doh¹, G.-C. Yi²** (*¹Department Materials Science and Engineering, POSTECH, Pohang, Gyeongbuk 790-784, Republic of Korea, ²National Creative Research Initiative Center for Semiconductor Nanorods, Department of Physics and Astronomy, Seoul National University, Seoul 151-747, Korea*)
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. Nishimura¹, G. Imamura¹, M. Fujii¹, T. Kawashima², T. Saitoh², S. Hayashi¹

(¹Department of Electrical and Electronic Engineering, Kobe University, Rokkodai, Nada, Kobe 657-8501, Japan, ²Panasonic 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 science 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. Csontos¹, Y. Komijani¹, T. Ihn¹, K. Ensslin¹, D. Reuter², A. D. Wieck²

(¹Solid State Physics Laboratory, ETH Zürich, Schafmattstrasse 16, Zürich 8093, Switzerland, ²Angewandte 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. Huber¹, A. A. Anappara¹, A. Sell¹, G. Günter¹, G. Biasiol², L. Sorba², S. De

Liberato³, C. Ciuti³, A. Tredicucci², A. Leitenstorfer¹ (Invited) *(¹Department of Physics and Center for Applied Photonics, University of Konstanz, Germany, ²Laboratorio NEST CNR-INFM and Scuola Normale Superiore, Pisa; Laboratorio Nazionale TASC CNR-INFM, Trieste, Italy, ³Laboratoire Matériaux et Phénomènes Quantiques, Université Paris Diderot - Paris 7 and CNRS, Paris; Laboratoire Pierre Aigrain, Ecole Normale Supérieure, Paris, France)*

Non-adiabatic control of intersubband cavity polaritons

M2b 9:30 – 9:45 T. Unuma^{1,2}, Y. Ino³, M. Kuwata-Gonokami³, K. Hirakawa¹

(¹Institute of Industrial Science and INQIE, University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, Japan, ²Department of Applied Physics, Nagoya University, Furo-cho, Chikusa-ku, Nagoya 464-8603, Japan, ³Department 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. Wade¹, D. Smirnov¹, S. Kumar², B.S. Williams³, Q. Hu², J.L. Reno⁴

(¹National High Magnetic Field Laboratory, Tallahassee, Florida 32310, USA, ²Massachusetts Institute of Technology, Cambridge, Massachusetts 02139, USA, ³University of California at Los Angeles, Los Angeles, California 90095, USA, ⁴Sandia 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^{1,c}, S. Schartner¹, M. Nobile¹, H. Detz¹, A. M. Andrews¹, P. Klang¹, W. Schrenk¹, C. Deutsch², K. Unterrainer², M. P. Semtsiv³, W. T. Masselink³, G. Strasser^{1,4} (*¹Institute for Solid State Electronics, Vienna University of Technology, Floragasse 7, Vienna 1040, Austria, ²Photonics Institute, Vienna University of Technology, Gußhausstr. 25-29, Vienna 1040, Austria, ³Department of Physics, Humboldt University Berlin, Newtonstrasse 15, Berlin 12489, Germany, ⁴Department 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. Warburton¹, Daniel Brunner¹, Brian D. Gerardot¹, Paul A. Dalgarno¹, Nick G. Stoltz², Pierre M. Petroff² (Invited) (*¹School of Engineering and Physical Sciences, Heriot-Watt University, Edinburgh EH14 4AS, UK, ²Materials Department, University of California, Santa Barbara, California 93106, USA*)

Coherent Hole Spin in a Semiconductor Quantum Dot

M3b 11:30 – 11:45 A. J Bennett¹, R. M. Stevenson¹, A. J. Hudson^{1,2}, R. J. Young¹, C. A. Nicoll², D. A. Ritchie², A. J. Shields¹ (*¹Toshiba Research Europe Limited, 260 Science Park, Milton Road, Cambridge CB58QE, UK, ²Cavendish 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. Stock¹, A. Lochmann¹, J. A. Töflinger¹, W. Unrau¹, A. Toropv², A. Bakarov², A. Kalagin², V. Haisler², D.Bimberg¹ (*¹Institut für Festkörperphysik, Technische Universität Berlin, Germany , Hardenbergstr. 36, Berlin 10623, Germany, ²Institute of Semiconductor Physics, Novosibirsk, Russia*)

Microcavity quantum dot single photon source electrically driven at 1 GHz

M3d 12:00 – 12:15 S. Michaelis de Vasconcellos¹, S. Gordon¹, M. Bichler², D. Reuter³, A. Wieck³, A. Zrenner¹ (¹Department of Physics, University of Paderborn, Warburger Str. 100, 33098 Paderborn, Germany, ²Walter-Schottky-Institute, TU Munich, Am Coulombwall, 85748 Garching b. München, Germany, ³Applied 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. Watanabe¹, N. Kumagai¹, Y. Arakawa^{1,3} (¹Institute for Nano Quantum Information Electronics, the University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505 Japan, ²PRESTO, Japan Science and Technology Agency, 4-1-8 Honcho Kawaguchi, Saitama 332-0012, Japan, ³Institute 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. Ates¹, S. M. Ulrich¹, S. Reitzenstein², A. Löffler², A. Forchel², P. Michler¹ (¹Institut für Halbleiteroptik und Funktionelle Grenzflächen, Universität Stuttgart, Allmandring 3, 70569 Stuttgart, Germany, ²Technische 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. Kuroda¹, T. Mano¹, T. Belhadj^{1,2}, M. Abbarchi^{1,3}, C. Mastrandrea³, M. Gurioli³, B. Urbaszek², T. Amand², X. Marie², N. Ikeda¹, Y. Sugimoto¹, K. Asakawa¹, K. Sakoda¹ (¹Quantum Dot Research Center, National Institute for Materials Science, 1 Namiki, Tsukuba 305-0044, Japan, ²Université de Toulouse, LPCNO, INSA-CNRS-UPS, 135 avenue de Rangueil, 31077 Toulouse Cedex 4, France, ³Dipartimento 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. Grange¹, E. A. Zibik², B. A. Carpenter², N. E. Porter², R. Ferreira¹, G. Bastard¹, D. Stehr³, S. Winnerl³, M. Helm³, H. Y. Liu⁴, M. S. Skolnick², L. R. Wilson² (¹Laboratoire Pierre Aigrain, Ecole Normale Supérieure, CNRS, Paris, France, ²Department of Physics and Astronomy, University of Sheffield, UK, ³Institute of Ion Beam Physics and Material Research, Dresden, Germany, ⁴EPSRC National Centre for III-V Technologies, Sheffield, UK)

M4d 14:45 – 15:00 **C. Hermannstädter¹, G. J. Beirne^{1,4}, M. Witzany¹, L. Wang², A. Rastelli³, W.-M. Schulz¹, M. Jetter¹, O. G. Schmidt³, P. Michler¹** (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 Bree¹, N. A. J. M. Kleemans¹, P. J. van Veldhoven¹, R. Nötzel¹, A. Yu. Silov¹, C. Pryor², M. E. Flatté², P. M. Koenraad¹** (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 β -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. Kriechbaumer¹, G. Springholz¹, T. Schwarzl¹, A. Hochreiner¹, W. Heiss¹, E. Kaufmann¹, M. Simma¹, H. Groiss¹, F. Schäffler¹, T. Wojtowicz², K. Koike³, H. Harada³, Y. Yano³** (¹*Institut für Halbleiter- und Festkörperphysik, Johannes Kepler University, Altenbergerstr. 69, A-4040 Linz, Austria*, ²*Institute of Physics, Polish Academy of Sciences, Lotnikow 32/46, 02-668 Warszawa, Poland*, ³*Osaka Institute of Technology, Asahi-ku Ohmiya, Osaka 535-8585, Japan*)

Widely tunable intense MIR photoluminescence emission 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. Inoue¹, N. Yasuoka^{1,2}, O. Kojima¹, T. Kita¹, O. Wada¹** (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. Song¹, W. J. Choi¹, J. I. Lee¹, S. H. Han¹, H. S. Yang², J. S. Kim³
(¹Nano Science Research Division, Korea Institute of Science and Technology, 39-1 Hawolgok dong, Sungbuk gu, Seoul 136-791, Korea, ²Department of Physics, Chung-ang University, Seoul, Korea, ³Department of Physics, Yeungnam University, Gyeongsan, Korea)
Structural properties of GaP anti-quantum dots on the GaAs grown by droplet epitaxy
- Tu-mP4** S. Roddaro¹, P. Caroff², G. Biasiol³, F. Rossi⁴, C. Bocchi⁴, K. Nilsson², L. Fröberg², J.B. Wagner², L. Samuelson², L.-E. Wenersson², L. Sorba^{1,3} (¹NEST CNR-INFM and Scuola Normale Superiore, P.za S.Silvestro 12, 56127 Pisa, Italy, ²Solid State Physics and the Nanometer Structure Consortium, P.O. Box 118, Lund, Sweden, ³TASC CNR-INFM Laboratory, Area Science Park 34012 Trieste, Italy, ⁴Istituto CNR-IMEM, Parco Area delle Scienze 43100 Parma, Italy)
Controlled growth of InAs nanowires on engineered substrates
- Tu-mP5** T. Fukushima¹, M. Ito¹, Y. Hijikata¹, H. Yaguchi¹, S. Yoshida¹, M. Okano², M. Yoshita², H. Akiyama², S. Kuboya³, R. Katayama³, K. Onabe³ (¹Graduate School of Science and Engineering, Saitama University, 255 Shimo-Okubo, Sakura-ku, Saitama 338-8570, Japan, ²ISSP, The University of Tokyo, 5-1-5 Kashiwanoha, Kashiwa-shi, Chiba 277-8581 Japan, ³Department 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. Cuoghi³, A. Bertoni¹, G. Goldoni^{1,3}, E. Molinari^{1,3} (¹S3 CNR-INFM National Research Center, Via Campi 213/A, Modena 41100, Italy, ²CNISM Research Unit of Modena, Via Campi 213/A, 41100 Modena, Italy, ³Department 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 State 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. Schulz², T. Zander², Ch. Heyn², W. Hansen² (¹Optoelectronics Research Centre, Tampere University of Technology, Korkeakoulunkatu 3, 33720 Tampere, Finland, ²Institute 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. Jung¹, W. Song¹, J. S. Lee¹, N. Kim¹, B.-C. Woo¹, J. Kim¹, K. Hirakawa² (¹Korea Research Institute of Standards and Science, Daejeon 305600, Korea, ²IIS and INQIE, University of Tokyo, Tokyo, Japan)

Nanogap formation of indium oxide core/shell heterostructure nanowires

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

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

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(GaMn)As Nanowires- A Synchrotron-based Investigation

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

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Control of ensemble effect on Rabi oscillations in quantum dots

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Silicon nanowires, functionality at the nanoscale

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

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

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

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

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

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

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

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

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

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

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

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

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Study of Optical Bistability and Bimodal Lasing in Coupled Microdisks

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

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Cavity Quantum Electrodynamics in Electrically Contacted Quantum Dot-Micropillar Cavities

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Highly efficient extraction of spontaneous emission through coupling of evanescent waves

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

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

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

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Control of thermal radiation using intersubband transitions in quantum wells

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

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Anderson localization of light in random configuration of dielectric circular cylinders

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

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

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

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

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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. Wang¹, Y. Puttisong¹, I. A. Buyanova¹, H. Carrère^{1,2}, F. Zhao², A. Balocchi², X. Marie², C. W. Tu³, W. M. Chen¹ (¹Linköping University, Department of Physics, Chemistry and Biology, 58183 Linköping, Sweden, ²Université de Toulouse, LPCNO: INSA, UPS, CNRS, 135 avenue de Rangueil, 31077 Toulouse cedex, France, ³University of California, Department of Electrical and Computer Engineering, La Jolla, CA92093, USA)

Efficient room temperature spin filter based on GaNAs quantum wells

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A method for detecting polarity of wurtzite semiconductor

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Influence of antiferromagnetic interactions and of alloy disorder on the ferromagnetic properties of p-(Cd,Mn)Te quantum wells

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Optical spin injection in novel InAs quantum dots structures

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Optical manipulation of a single Mn spin in a CdTe quantum dot

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g-factors and exchange energy of few-electron single and double quantum dots defined in an InGaAs/InP heterostructure

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Width and temperature dependences of lithographically induced magnetic anisotropy in (Ga,Mn)As wires

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Layer thickness dependence of magnetic anisotropy in (Ga,Mn)As

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Magnetic control of Rashba splittings in symmetric InAs quantum wells

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Current-Induced Spin Polarization in Gallium Nitride

Tu-mP57 Yu Nishitani, Masaki Endo, Fumihiko 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

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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. Korbecka⁴, Y. Nishitani¹, J. A. Majewski⁴, T. Dietl^{3,4,2}, H. Ohno^{1,2} (¹Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan, ²Semiconductor Spintronics Project, Exploratory Research for Advanced Technology, Japan Science and Technology Agency, Tokyo, Japan, ³Institute of Physics, Polish Academy of Sciences, Warszawa, Poland, ⁴Institute 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. Ohtani², H. Ohno^{2,1} (¹Semiconductor Spintronics Project, Exploratory Research for Advanced Technology, Japan Science and Technology Agency, Tokyo, Japan, ²Laboratory 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. Bagraev¹, O.N. Guimbitskaya², L. E. Klyachkin¹, A. M. Malyarenko¹, A. I. Ryskin³, A. S. Shcheulin³, I. A. Shelykh² (¹Ioffe Physical-Technical Institute of RAS, Politekhnicheskaya 26, St.Petersburg, Russia, ²Polytechnical University, St. Petersburg, 195251, Russia, ³St.Petersburg University of Information Technologies, Mechanics and Optics, St. Petersburg, Russia)
Spin transistor and spin Hall effects in CdF₂ nanostructures
- Tu-mP64** M. Csontos¹, Y. Komijani¹, T. Ihn¹, K. Ensslin¹, D. Reuter², A. D. Wieck² (¹Solid State Physics Laboratory, ETH Zürich, Schafmattstrasse 16, Zürich 8093, Switzerland, ²Angewandte 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. Fuchs¹, C. D. Weis², D. M. Toyli¹, T. Schenkel², D. D. Awschalom¹ (¹Center for Spintronics and Quantum Computation, University of California, Santa Barbara, CA 93106, USA, ²Lawrence Berkeley National Lab, Berkeley, CA 94720, USA)
Excited-state spectroscopy of single spins in diamond

- Tu-mP66 S. Matsuzaka¹, Y. Ohno¹, H. Ohno^{1,2}** (¹Research Institute of Electrical Communication, Tohoku University, 2-1-1, Katahira, Aoba-ku, Sendai, Miyagi 9808577, Japan, ²Exploratory 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. Endo², Y. Nishitani², F. Matsukura^{2,1}, H. Ohno^{2,1}** (¹Semiconductor Spintronics Project, ERATO, Japan Science and Technology Agency, Sanban-cho 5, Chiyoda-ku, Tokyo, Japan, ²Laboratory for Nanoelectronics and Spintronics, RIEC, Tohoku University, Katahira 2-1-1, Aoba-ku, Sendai, Miyagi, Japan, ³Institute 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. Yamasaki¹, Y. Yamada¹, K. Ueno³, M. Nakano¹, T. Makino³, M. Kawasaki^{3,1,4}** (¹Institute for Materials Science, Tohoku University, Sendai 980-8577, Japan, ²PRESTO, Japan Science and Technology Agency, Saitama 332-0012, Japan, ³WPI Advanced Institute for Materials Research, Tohoku University, Sendai 980-8577, Japan, ⁴CREST, Japan Science and Technology Agency, Tokyo 102-0075, Japan)
Room temperature ferromagnetic semiconductor Co-doped TiO₂ films grown on glass by sputtering method
- Tu-mP69 D. Bougeard¹, J. M. LeBeau², D. Saxey³, S. Ahlers¹, N. Sircar¹, V. Lang¹, A. Cerezo³, G. Abstreiter¹, S. Stemmer²** (¹Walter Schottky Institut, Technische Universitaet Muenchen, Am Coulombwall 3 85748, Germany, ²Materials Department, University of California, Santa Barbara, Santa Barbara, CA 93106-5050, USA, ³Department 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. Song¹, J. K. Hong², S. J. Joo^{1,2}, S. H. Shin¹, S. H. Han¹, K. H. Shin¹** (¹Korea Institute of Science and Technology, Nano Science Research Division, Korea institute of Science and Technology, Seoul 136-791, Korea, ²Korea 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. Gvozdić¹, N. Čukarić¹, U. Ekenberg²** (¹Faculty of Electrical Engineering, University of Belgrade, Bulevar Kralja Aleksandra 73b, Beograd 11120, Serbia, ²School 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** (Department 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. Kaizu¹, N. Kakuda², M. Takahasi³, S. Fujikawa³, K. Yamaguchi² (¹Quantum Dot Research Center, National Institute for Materials Science, 3-13 Sakura, Tsukuba, Ibaraki 3050003, Japan, ²Department of Electronic Engineering, The University of Electro-Communications, 1-5-1 Chofugaoka, Chofu, Tokyo 1828585, Japan, ³Synchrotron 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 Kamarudin¹, Q. D. Zhuang¹, T. N. Nuytten², V. V. Moshchalkov², M. Hayne¹ (¹Department of Physics, Lancaster University, Lancaster, United Kingdom, ²INPAC-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) (¹Institute of Physics ASCR, v.v.i., Cukrovarnicka 10, 162 53 Praha 6, Czech Republic, ²School 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. Werpachowska¹, T. Dietl^{1,2} (¹Institute of Physics, Polish Academy of Sciences, Warsaw, Poland, ²Institute 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. Rokhinson¹, A. Chernyshov¹, M. Overby¹, Y. Lyanda-Geller¹, X. Liu², J.K. Furdyna² (¹Purdue University, Department of Physics and Birck Nanotechnology Center, Purdue University, West Lafayette, IN 47907 USA, ²University 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. Olbrich¹, S.A. Tarasenko², V.V. Bel'kov², Ch. Brinsteiner¹, W. Eder¹, D.R. Yakovlev^{2,3}, V. Kolkovsky⁴, W. Zaleszczyk⁴, G. Karczewski⁴, T. Wojtowicz⁴, D. Weiss¹, S.D. Ganichev¹ (¹Terahertz Center, University of Regensburg, 93040 Regensburg, Germany, ²A.F. Ioffe Physico-Technical Institute, Russian Academy of Sciences, 194021 St. Petersburg, Russia, ³Experimental Physics 2, TU Dortmund University, 44221 Dortmund, Germany, ⁴Institute 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, North 14 West 9, Kitaku, Sapporo 0600814, Japan*)

Tunneling anisotropic magneto-resistance in an epitaxial Co₂MnSi/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. Hai¹, S. Ohya^{1,2}, S.E. Barnes³, S. Makeawa^{4,5}, M. Tanaka^{1,2}** (Invited)
(¹Department of Electrical Engineering and Information Systems, University of Tokyo, Japan, , ²Japan Science and Technology Agency, , ³Physics Department, University of Miami, USA, , ⁴Institute for Materials Research, Tohoku University, Japan, , ⁵CREST, 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 Experimental and Applied Physics, University of Regensburg, Universitätsstrasse 31 D-93040, Germany*)

All-electrical 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. Sanada², S. Matuzaka², Y. Ohno², 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-jyosan-jima-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. Spirkoska¹, M. Heigoldt¹, J. Arbiol^{2,3}, J. R. Morante³, G. Abstreiter¹, A. Fontcuberta i Morral⁴ (¹*Technische Universität München, Walter Schottky Institut, Am Coulombwall 3 85748 Garching, Germany,* ²*TEM-MAT, Serveis Científicotecnics, 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 matériaux Semiconducteurs, Instiut de Matériaux, 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. Jedrasik¹, U. Södervall¹, C.A. Dutu², D.A. Serban², P. Guillet³, A. Vlad², C.-A. Fustin³, J.F. Gohy³, S. Melinte³** (¹MC2, Chalmers University of Technology, Göteborg, 41296, Sweden, ²Unité CMAT, Université catholique de Louvain, Louvain-la-Neuve, 1348, Belgium, ³Unité 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) (¹WPI Advanced Institute for Materials Research (AIMR), Tohoku University, Japan, ²CREST, 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, Switzerland)

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

M8c 15:00 – 15:15 **S. Moriyama¹, D. Tsuya¹, E. Watanabe¹, S. Uji¹, M. Shimizu², T. Mori², T. Yamaguchi², K. Ishibashi²** (¹International Center for Materials Nanoarchitectonics, National Institute for Materials Science, 1-1 Namiki, Tsukuba, Ibaraki 3050044, Japan, ²Advanced 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}** (¹Institute of Industrial Science and INQIE, Univ. of Tokyo, 4-6-1 Komaba, Meguro-ku Tokyo, 153-8505 Japan, ²CREST-JST, 4-1-8 Honcho, Kawaguchi, Saitama 332-0012, Japan)

Elementary process of electromigration 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. He¹, M. Gong¹, C-F. Li¹, G-C. Guo¹, A. Zunger² (¹Key Laboratory of Quantum Information, University of Science and Technology of China, 96 Jinzhai Road, Hefei, Anhui, P. R. China 230026, China, ²National Renewable Energy Laboratory, Golden, Colorado, 410012, USA)
Highly-reduced Fine-structure splitting in InAs/InP quantum dots
- Th-mP2** A. J Bennett¹, R. B. Patel^{1,2}, C. A. Nicoll², D. A. Ritchie², A. J. Shields¹ (¹Toshiba Research Europe Limited, 260 Science Park, Milton Road, Cambridge CB58QE, UK, ²Cavendish 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 Nomura², Naoto Kumagai², Shunsuke Ohkouchi^{1,2}, Akihiro Kirihara^{1,2}, Satomi Ishida², Satoshi Iwamoto^{2,3}, Shinichi Yorozu^{1,2}, Yasuhiko Arakawa^{2,3} (¹Nano Electronics Research Laboratories, NEC Corporation, 34 Miyukigaoka, Tsukuba, Ibaraki 3058501, JAPAN, ²Institute for Nano Quantum Information Electronics, the University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, JAPAN, ³Research 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. Regnault¹, R. Ferreira¹, Bang - Fen Zhu², G.A. Bastard¹ (¹LPA-ENS, 24 rue Lhomond F75005 Paris (France), ²Department 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. Lazic¹, F. Iikawa², J. Stotz³, R. Hey¹, P. V. Santos¹ (¹Paul Drude Institute, Hausvogteiplatz 5-7 10117, Germany, ²Institute of Physics, University of Campinas, Campinas-SP, Brazil, ³Department of Physics, Engineering and Astronomy, Queens University, Kingston, ON, Canada)
Evidence for photon anti-bunching in acoustically pumped dots
- Th-mP7** O. Kojima¹, S. Watanabe¹, T. Kita¹, O. Wada¹, T. Isu² (¹Department of Electrical and Electronics Engineering, Graduate School of Engineering, Kobe University, 1-1 Rokkodai, Nada, Kobe 6578501, Japan, ²Department 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. Wiedmann¹, N.C. Mamani², G.M. Gusev², A.K. Bakarov², J. Claude PORTAL^{1,3} (¹LNCMI-CNRS / INSA, 135, avenue de rangueil TOULOUSE 31077 CEDEX 4, FRANCE, ²Instituto de Física da Universidade de São Paulo, São Paulo, SP, Brazil, ³Institut Universitaire de France, 103, bd Saint-Michel 75005 Paris)
Magnetoresistance oscillations in triple quantum wells under microwave irradiation

Th-mP9 Y. Yonezawa¹, R. Hiraike¹, K. Miura², Y. Iguchi², Y. Kawamura¹ (¹Frontier Science Innovation Center, Osaka Prefecture University, Osaka, Japan, ²Transmission 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. Jeon¹, Seung Joo Lee¹, Seoung-Hwan Park², Tae Won Kang¹, Doyeol Ahn³, G. Ihm⁴ (¹Dongguk University, 26, 3ga, Pil-dong, Chung-gu, Seoul 100-715, Korea, ²Department of Electronics Engineering, Catholic University of Daegu, Kyeonbuk 712-702, Korea, ³Institute of Quantum Information Processing and Systems, University of Seoul, Seoul 130-743, Korea, ⁴Department of Physics, Chungnam National University, Daejeon 305-764, Korea)

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

Th-mP12 T. Hasegawa¹, S. Okamoto², M. Nakayama² (¹Department of Material Science, University of Hyogo, 3-2-1 Koto, Kamigori, Ako-gun, Hyogo 6781297, Japan, ²Department 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. Fujiwara¹, A. Satake¹, N. Takata¹, U. Jahn², E. Luna², H. T. Grahn² (¹Dept of Electrical Engineering and Electronics, Kyushu Institute of Technology, Tobata, Kitakyushu 804-8550, Japan, ²Paul 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. Furuya¹, O. Numakami², T. Sugaya¹, N. Yagi², K. Komori¹, M. Mori¹, Y. Okano², M. Asada³ (¹Photonics Reserach Institute, National Institute of Advanced Industrial Science and Technology (AIST), AIST Tsukuba Central 2, 1-1-1 UMEZONO, TSUKUBA, IBARAKI 3058568, Japan, ²Faculty of Knowledge Engineering, Tokyo City University, 1-28-1, TAMAZUTSUMI, SETAGAYA-KU, TOKYO 1588557, Japan, ³Interdisciplinary 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. Mikhailova¹, K.D. Moiseev¹, E.V. Ivanov¹, Yu.P. Yakovlev¹, E.Hulicius^{2,2}, A. Hospodkova^{2,1}, J. Pangrac^{2,1}, K. Melichar^{2,1}, T. Šimeček^{2,1}** (¹Ioffe Physical-Technical Institute RAS, 26, Politekhnicheskaya street, St Petersburg 194021, Russia, ²Institute of Physics AS CR, v.v.i., Prague, Czech Republic, 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. Chang¹, Y. M. Song², Y. T. Lee², S. C. Yang¹, G. H. Kim¹** (¹Korea Basic Science Institute, 52 Eoeun-dong, Yuseong-gu, Daejeon 305-333, Republic of Korea, ²Gwangju 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. Nakayama¹, T. Hirao¹, T. Hasegawa²** (¹Department of Applied Physics, Osaka City University, 3-3-138 Sugimoto, Sumiyoshi-ku, Osaka 558-8585, Japan, ²Department 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. Motyka¹, G. Sek¹, K. Ryczko¹, F. Janiak¹, J. Misiewicz¹, S. Belahsene², G. Boissier², Y. Rouillard²** (¹Institute of Physics, Wrocław University of Technology, Wrocław, Poland, Wybrzeże Wyspiańskiego 27, 50-370 Wrocław, Poland, ²Institut d'Électronique 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)GaAs quantum wells
- Th-mP24 M. Motyka¹, G. Sek¹, K. Ryczko¹, J. Misiewicz¹, T. Lehnhardt², S. Höfling², A. Forchel²** (¹Institute of Physics, Wrocław University of Technology, Wrocław, Poland, Wybrzeże Wyspiańskiego 27, 50-370 Wrocław, Poland, ²Department 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. Noda¹, H. Sakaki^{1,2}** (¹National Institute for Materials Science, 1-2-1 Sengen, Tsukuba, Ibaraki, Japan, ²Toyota 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. Shin¹, J. D. Song¹, I. K. Han¹, T. W. Kim², Y. D. Jho³** (¹Korea Institute of Science and Technology, Nano Science Research Division, Korea institute of Science and Technology, Seoul 136-791, Korea, ²Hanyang University, Department of Electronic computer communication, Hanyang University, Seoul 133-791, Korea, ³Gwangju 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 AlAs_{0.32}Sb_{0.68} 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. Rauter¹, T. Fromherz¹, N.Q. Vinh², B.N. Murdin³, G. Mussler⁴, D. Grützmacher⁴, G. Bauer¹** (¹Institute of Semiconductor and Solid State Physics, University of Linz, Altenbergerstr. 69, 4040 Linz, Austria, ²FOM Institute for Plasma Physics Rijnhuizen, Postbus 1207, NL-3430 BE Nieuwegein, The Netherlands, ³Advanced Technology Institute, University of Surrey, Guildford, Surrey, GU2 7XH, United Kingdom, ⁴Institut für Bio- und Nanosysteme, Forschungszentrum J D-52425 Jülich, Germany)
Bias-induced relaxation-time manipulation in SiGe quantum well structures
- Th-mP30 M. Nobile¹, S. Schartner¹, E. Mujagic¹, H. Detz¹, A. M. Andrews¹, P. Klang¹, W. Schrenk¹, G. Strasser^{1,2}** (¹Center for Micro- und Nanostructures, Vienna University of Technology, Floragasse 7, 1040 Vienna, Austria, ²University 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. Takada¹, M. Muraguchi², T. Endoh², S. Nomura¹, K. Shiraishi¹** (¹Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan, ²Center 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 $\text{Ga}_{0.5}\text{In}_{0.5}\text{P}/\text{GaAs}_{0.9}\text{P}_{0.1}$ 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. Heo¹, J. D. Song¹, I. K. Han¹, J. I. Lee¹, J. M. Kim², Y. T. Lee² (¹Korea Institute of Science and Technology, Nano Science Research Division, Korea institute of Science and Technology, Seoul 136-791, Korea, ²Gwangju 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 μm MQW and its application to laser diodes

Th-mP36 N. K. Cho^{1,2}, K. W. Kim¹, S. P. Ryu¹, J. D. Song¹, W. J. Choi¹, J. I. Lee¹, H. S. Jeon² (¹Korea Institute of Science and Technology, Nano Device Research Center, KIST, Seoul 136-791, Korea, ²Seoul 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 μm 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. Turyanska¹, U. Elfurawi¹, T. D. Bradshaw¹, M. Li², S. Mann², N. R. Thomas¹, A. Patane¹ (¹School of Physics and Astronomy and Centre for Biomolecular Sciences, The University of Nottingham, Nottingham NG7 2RD, UK, ²Centre 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. Matt¹, T. Fromherz¹, M. Bednorz¹, S. Zamiry², C. Lungenschmied³, C. J. Brabec³, G. Bauer¹ (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 hetero-junction

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. Okamoto¹, T. Kamada^{1,2}, K. Onomitsu¹, I. Mahboob¹, 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. Nogaret¹, N. B. Janson², A. Balanov³, I. Farrer⁵, D. A. Ritchie⁵ (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 Myoung¹, G. Ihm¹, S.J. Lee² (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} (¹Department of Applied Mathematics and Physics, Tottori University, Koyama, Tottori 680-8552, Japan, ²JST-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 Landau levels of monolayer graphene ribbon

Th-mP54 N. T. Bagraev¹, W. Gehlhoff², L. E. Klyachkin¹, A. A. Kudryavtsev¹, A. M. Malyarenko¹, V. V. Romanov¹, I. A. Shelykh¹ (¹Ioffe Physical-Technical Institute of RAS, Politekhnicheskaya 26, St. Petersburg, Russia, ²Institut fuer Festkoerperphysik, Technische Universitaet Berlin, D-10623 Berlin, Germany, ³Polytechnical 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. Lüdtkke¹, P. Mirovski¹, R. Hüther¹, Leonid Govor², G. H. Bauer², J. Parisi², R. J. Haug¹ (¹Abteilung Nanostrukturen, Institut für Festkörperphysik, Universität Hannover, Appelstr. 2, Hannover, Germany, ²Institut 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. Chiu¹, Y. Y. Liao², M. F. Lin¹ (¹Department of Physics, National Cheng Kung University, Department of Physics, National Cheng Kung University, Tainan 70101, Taiwan 70101, Taiwan, ²Department 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. Kim¹, B.-Y. Yu², J. Lee¹, S.-I. Lim¹, I. Han¹, G. Ghibaudo³ (¹Korea Institute of Science and Technology(KIST), Nano Device Research Center, Korea Institute of Science and Technology, 39-1 Hawollk, Seongbuk, Seoul, Republic of Korea, ²Korea Institute of Science and Technology(KIST), Advanced Metal Research Center, Korea Institute of Science and Technology, 39-1 Hawollk Seongbuk, Seoul, Republic of Korea, ³IMEP-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. Lin², Y. Chen², Y. Huang^{1,2} (*¹Graduate Institute of Electro-Optical Engineering, National Taiwan University of Science and Technology, No. 43, Sec. 4, Keelung Rd., Taipei 106, Taiwan, ²Department 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. Yokomizo² (*¹Tokyo Metropolitan College of Industrial Technology, 8-17-1 Minami-senju, Arakawa-ku, Tokyo 116-0003, Japan, ²Tokyo 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-Tempfli¹, M. Mtéfi-Tempfli¹, S. Melinte², A. Vlad² (*¹Unité PCPM, Université catholique de Louvain, Place du Levant 3 B-1348, Belgium, ²Unité DICE, Université catholique de Louvain, Place du Levant 3 B-1348, Belgium*)

Statistics and single element processing in nanoporous templates

Th-mP64 Hongwu Zhang¹, Nao Terasaki¹, Hiroshi Yamada¹, Chao-Nan Xu^{1,2} (*¹National Institute of Advanced Industrial Science and Technology (AIST),kyushu center, Kyushu, Shuku807-1, Tosu, Saga, 841-0052,JAPAN, ²CREST, 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. Lin¹, J. T. Tsai¹, J. S. Hwang¹, M. C. Chen² (*¹Department of Physics, National Cheng Kung University, No.1, University Road, Tainan City 701 , Taiwan, ²Institute of Nuclear Energy Research, No. 1000, Wenhua Rd., Longtan, Taoyuan 325, Taiwan*)

Polarity determination of InN by terahertz radiation

Th-mP66 I. Tanaka¹, Y. Tada¹, S. Nakatani¹, K. Uno¹, I. Kamiya², H. Sakaki² (*¹Wakayama University, 930 Sakaedani, Wakayama 640-8510, Japan, ²Toyota 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. Tsai¹, K. I. Lin¹, Y.T. Lu¹, J. S. Hwang¹, S. Gwo², M. C. Chen³, G. C. Chi³ (*¹Department of physics, National Cheng Kung University, No.1, University Road, Tainan City 701, Taiwan, ²Department of Physics, National Tsing-Hua University, 101, Section 2, Kuang-Fu Road, Hsinchu 30013, Taiwan , ³Institute of Optical Science, National Central University, No.300, Zhongda Rd., Zhongli City, Taoyuan County 32001, Taiwan)*

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

Th-mP68 K. Yoshida¹, A. Umeno¹, S. Sakata¹, K. Hirakawa^{1,2} (¹IIS, University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 1538505, Japan, ²CREST-JST, 4-1-8 Honcho, Kawaguchi, Saitama 332-0012, Japan)

Electromigration-induced breakage mechanism of Ni nanowires

Th-mP69 H. Iwase¹, H. Choi¹, S. Yamada¹, M. Tanaka², I. Kimpara³ (¹Center for Nano Materials and Technology, Japan Advanced Institute of Sci. and Tech., 1-1, Asahidai, Nomi, Ishikawa 923-1292, Japan, ²Department of Aeronautics, College of Engineering, Kanazawa Institute of Technology, 7-1, Ougigaoka, Nonoichi-machi, Ishikawa-gun, Ishikawa 921-8501, Japan, ³Vice-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. Rauter¹, T. Fromherz¹, S. Winnerl², M. Zier², A. Kolitsch², M. Helm², G. Bauer¹ (¹Institute of Semiconductor and Solid State Physics, University of Linz, Altenbergerstr. 69, 4040 Linz, Austria, ²Institute of Ion Beam Physics and Materials Research, Forschungszentrum 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. Ohmori¹, Y. Ohkura², K. Shiraishi³, K. Yamada¹ (¹Waseda University, Bldg 120-5, 513 Waseda Tsurumaki-cho, Shinjuku-ku, Tokyo 162-0041, Japan, ²Semiconductor Leading Edge Technologies (Selete), 16-1 Onogawa, Tsukuba, Ibaraki 305-8569, Japan, ³University 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. Nuytten¹, M. Hayne², H. Y. Liu³, M. Hopkinson³, V. V. Moshchalkov¹ (¹INPAC-Institute for Nanoscale Physics and Chemistry, Pulsed Fields Group, K.U.Leuven, Celestijnenlaan 200D, B-3001 Leuven 3001, Belgium, ²Department of Physics, Lancaster University, Lancaster LA1 4YB, United Kingdom, ³Department of Electronic and Electrical Engineering, University of Sheffield, Sheffield S1 3JD, United Kingdom)

Band properties of $\text{Ga}_{1-x}\text{In}_x\text{N}_y\text{As}_{1-y}$ 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. Boyle¹, A. J. Ramsay¹, A. P. Heberle^{2,3}, M. Hopkinson⁴, A. M. Fox¹, M. S. Skolnick¹** (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. Nomura¹, N. Kumagai¹, S. Iwamoto^{1,2,3}, Y. Ota², 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 Industrial 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. Sanvitto¹, L. Vina¹, A. Lemaitre², J Bloch², E. Karimi^{3,4}, B. Piccirillo³, 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-Méndez¹, D. Krizhanovskii², K. Biermann¹, K. Guda², R. Bradley², P. V. Santos¹, R. Hey¹, M. S. Skolnick²** (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