

Semiconductor Physics Division Fachverband Halbleiterphysik (HL)

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Overview of Invited Talks and Sessions

(lecture rooms HSZ 01, BEY 81 BEY 118, BEY 154, POT 51 and POT 151; Poster P2)

Invited Talks

HL 6.1	Mon	11:00–11:45	HSZ 01	Three dimensional SiGe quantum dot crystals — ●THOMAS FROMHERZ
HL 8.1	Mon	14:00–14:45	HSZ 01	Phonon-mediated non-equilibrium interactions between mesoscopic devices — GEORG SCHINNER, ●STEFAN LUDWIG
HL 10.1	Mon	14:45–15:30	HSZ 01	The Bose-Einstein condensation of excitons in quantum-Hall bilayers — ●WERNER DIETSCHKE, LARS TIEMANN
HL 20.1	Tue	14:00–14:45	HSZ 01	Electron spin coherence in singly charged quantum dots — ●DMITRI R. YAKOVLEV
HL 24.1	Tue	14:45–15:30	HSZ 01	Phase coherent transport in (Ga,Mn)As — ●D. NEUMAIER, K. WAGNER, U. WURSTBAUER, M. REINWALD, W. WEGSCHEIDER, D. WEISS
HL 45.1	Thu	11:45–12:30	HSZ 01	Strain Induced Growth Instability and Island Nucleation on Patterned Substrate — ●FENG LIU
HL 47.1	Thu	14:00–14:45	HSZ 01	Homoepitaxy and optical properties of ZnO epilayers grown on Zn- and O-polar substrates — BRUNO MEYER, STEFAN LAUTENSCHLAEGER, MARKUS WAGNER, ●AXEL HOFFMANN
HL 54.1	Fri	11:00–11:45	HSZ 01	Spin Noise Spectroscopy in Semiconductor Nanostructures — ●JENS HÜBNER, MICHAEL RÖMER, GEORG MÜLLER, HANNES BERNIEN, TAMMO BÖNTGEN, HAUKE HORN, MICHAEL OESTREICH

Focused Sessions within HL

Focused Session: Semi- and nonpolar group III nitrides I

Organization: Ferdinand Scholz (Universität Ulm), Ulrich T. Schwarz (Universität Regensburg)

HL 11.1	Tue	9:30–10:00	HSZ 01	Characterization and Control of Recombination Dynamics in Low-dimensional InGaN-based Semiconductors — ●YOICHI KAWAKAMI, AKIO KANETA, MASAYA UEDA, MITSURU FUNATO
HL 11.2	Tue	10:00–10:30	HSZ 01	Optical polarization properties of nonpolar-oriented GaN films for polarization-sensitive and narrow-band photo-detectors — ●HOLGER T. GRAHN
HL 11.3	Tue	10:45–11:15	HSZ 01	Growth and characterisation of planar (11-20) and (11-22) GaN-based multiple quantum well structures — ●MENNO KAPPERS
HL 11.4	Tue	11:15–11:45	HSZ 01	Materials issues towards green laser diodes — ●ANDREAS HANGLEITER
HL 11.5	Tue	12:00–12:15	HSZ 01	Thermal trap emissions associated with stacking faults in undoped non c-plane GaN — ●KAY-MICHAEL GÜNTHER, HARTMUT WITTE, MATTHIAS WIENEKE, JÜRGEN BLÄSING, ARMIN DADGAR, ALOIS KROST
HL 11.6	Tue	12:15–12:30	HSZ 01	Facet formation and ohmic contacts for laser diodes on non- and semipolar GaN — ●JENS RASS, SIMON PLOCH, TIM WERNICKE, LUCA REDAELLI, PATRICK VOGT, SVEN EINFELDT, MICHAEL KNEISSL
HL 11.7	Tue	12:30–12:45	HSZ 01	Growth of nonpolar a-plane GaN on r-plane Sapphire via HVPE — ●STEPHAN SCHWAIGER, THOMAS WUNDERER, FRANK LIPSKI, FERDINAND SCHOLZ

Focused Session: Semi- and nonpolar group III nitrides II

Organization: Ferdinand Scholz (Universität Ulm), Ulrich T. Schwarz (Universität Regensburg)

HL 22.1	Tue	14:00–14:30	BEY 118	Optical anisotropy of nitride semiconductors — ●RÜDIGER GOLDHAHN
HL 22.2	Tue	14:30–15:00	BEY 118	Growth on nonpolar and semipolar GaN: The substrate dilemma — ●T. WERNICKE, M. WEYERS, M. KNEISSL
HL 22.3	Tue	15:00–15:30	BEY 118	Microscopic Correlation of Structural, Electrical and Optical Properties of semi- and non-polar grown Group-III-Nitrides — ●FRANK BERTRAM
HL 22.4	Tue	15:45–16:00	BEY 118	Fabrication of high quality semipolar GaN on full 2 inch for green light emitters — ●THOMAS WUNDERER, FRANK LIPSKI, STEPHAN SCHWAIGER, FERDINAND SCHOLZ, MICHAEL WIEDENMANN, MARTIN FENEBERG, KLAUS THONKE
HL 22.5	Tue	16:00–16:15	BEY 118	Characterization of photoluminescence (PL) emission from semipolar {1-101} InGaN quantum wells — ●HANS-JÜRGEN MÖSTL, CLEMENS VIERHEILIG, ULRICH T. SCHWARZ, THOMAS WUNDERER, STEPHAN SCHWAIGER, FRANK LIPSKI, FERDINAND SCHOLZ
HL 22.6	Tue	16:15–16:30	BEY 118	GaInN quantum wells with high indium concentrations on polar and nonpolar surfaces — ●HOLGER JÖNEN, TORSTEN LANGER, DANIEL DRÄGER, LARS HOFFMANN, HEIKO BREMERS, UWE ROSSOW, SEBASTIAN METZNER, FRANK BERTRAM, JÜRGEN CHRISTEN, ANDREAS HANGLEITER

Focused Session: Novel nanowires electronic device concepts

Organization: Raffaella Calarco (Forschungszentrum Jülich), Joachim Knoch (Technische Universität Dortmund)

HL 26.1	Wed	9:30–10:00	HSZ 01	Nanoelectronics - Why 1D nanowires? — ●JOERG APPENZELLER
HL 26.2	Wed	10:00–10:30	HSZ 01	Doping limits in silicon nanowires — ●MIKAEL BJÖRK, HEINZ SCHMID, JOACHIM KNOCH, HEIKE RIEL, WALTER RIESS
HL 26.3	Wed	10:45–11:15	HSZ 01	Polarity control of silicon nanowire transistors by electrostatic coupling to the Schottky contacts — WALTER MICHAEL WEBER, LUTZ GEELHAAR, FRANZ KREUPL, HENNING RIECHERT, ●PAOLO LUGLI
HL 26.4	Wed	11:15–11:45	HSZ 01	Antimonide-based nanowire devices — ●LARS-ERIK WERNERSSON
HL 26.5	Wed	12:00–12:30	HSZ 01	Rf-characterization of III-V-Nanowire FET: Problems and Results — ●FRANZ TEGUDE, WERNER PROST
HL 26.6	Wed	12:30–13:00	HSZ 01	Semiconductor nanowires as building blocks for quantum devices — ●THOMAS SCHÄPERS, SERGIO ESTEVEZ HERNANDEZ, GUNNAR PETERSEN, ROBERT FRIELINGHAUS, SHIMA ALAGHA, CHRISTIAN BLÖMERS, THOMAS RICHTER, RAFFAELLA CALARCO, HANS LÜTH, MICHEL MARSO, MICHAEL INDLEKOFER

Focused Session: Quantum optomechanics

Organization: Eva Weig, Khaled Karrai (Ludwig-Maximilians-Universität München)

HL 32.1	Wed	14:00–14:30	HSZ 01	Cavity Optomechanics using Optical Microresonators — ●TOBIAS KIPPENBERG, ALBERT SCHLIESSER, REMI RIVIERE, OLIVIER ARCIZET
HL 32.2	Wed	14:30–15:00	HSZ 01	Experimental quantum optical control of micromechanical resonators — ●MARKUS ASPELMEYER
HL 32.3	Wed	15:00–15:30	HSZ 01	Optomechanical correlations between light and mirrors — ●ANTOINE HEIDMANN, PIERRE-FRANCOIS COHADON, TRISTAN BRIANT

Focused Session: Different realizations of quantum registers

Organization: Jonathan Finley, Gerhard Abstreiter (Walter-Schottky-Institut München)

HL 38.1	Thu	9:30–10:00	HSZ 01	Quantum control of spins and photons in diamond — ●MIKHAIL LUKIN
HL 38.2	Thu	10:00–10:30	HSZ 01	Quantum Information processing in diamond — ●FEDOR JELEZKO, JÖRG WRACHTRUP
HL 38.3	Thu	10:45–11:15	HSZ 01	Coherence of a single spin in a tunable environment — ●RONALD HANSON

HL 38.4 Thu 11:15–11:45 HSZ 01 **Spectroscopy and Coherent Control of Single Spins** — ●GREGORY FUCHS

Symposia with participation of HL

Invited talks of the joint symposium **Ab-Initio approaches to excitations in condensed matter (SYAI)**

See SYAI for the full program of the Symposium.

(arranged by the divisions O, DS, HL and MA)

Organization: Claudia Ambrosch-Draxl (Montanuniversität Leoben), Matthias Scheffler (Fritz-Haber-Institut Berlin)

SYAI 1.1	Thu	15:00–15:30	SCH 251	Insights and Progress in Density Functional Theory — PAULA PAULA MORI-SANCHEZ, ARON COHEN, ●WEITAO YANG
SYAI 1.2	Thu	15:30–16:00	SCH 251	Quasiparticle energy calculations in a new light: from defects in semiconductors to the f-electron challenge — ●PATRICK RINKE
SYAI 1.3	Thu	16:00–16:30	SCH 251	LDA+DMFT approach to excitations spectrum in Half-Metallic Ferromagnets — ●ALEXANDER LICHTENSTEIN
SYAI 1.4	Thu	17:00–17:30	SCH 251	Insight and prediction of material properties from ab initio calculations of electronic excitations — ●LUCIA REINING, MATTEO GATTI, RALF HAMBACH, CHRISTINE GIORGETTI
SYAI 1.5	Thu	17:30–18:00	SCH 251	Local excitations in strongly interacting charge-transfer insulators: Frenkel excitons within TD-LDA+U and strong coupling theory — ●WEI KU
SYAI 1.6	Thu	18:00–18:30	SCH 251	Electron tunneling and transport at molecular junctions — ●ROBERTO CAR

Invited talks of the joint symposium **Anderson Localization in Nonlinear and Many-Body Systems (SYAL)**

See SYAL for the full program of the Symposium.

(arranged by the divisions DY, HL, MM and TT)

Organization: Sergej Flach (Max-Planck-Institut für Physik komplexer Systeme Dresden), Arkady Pikovsky (Universität Potsdam)

SYAL 1.1	Mon	14:00–14:30	BAR SCHÖ	Delocalization by nonlinearity and interactions in systems with disorder — ●DIMA SHEPELYANSKY
SYAL 1.2	Mon	14:30–15:00	BAR SCHÖ	Absence of Diffusion in a Fröhlich-Spencer-Wayne model for nonlinear random systems — ●SERGE AUBRY
SYAL 1.3	Mon	15:00–15:30	BAR SCHÖ	Anderson localization and nonlinearity in disordered photonic lattices — ●YARON SILBERBERG
SYAL 1.4	Mon	15:30–16:00	BAR SCHÖ	Many Body Localization — ●BORIS ALTSHULER
SYAL 1.5	Mon	16:00–16:30	BAR SCHÖ	Localized states and interaction induced delocalization in Bose gases with quenched disorder — ●THOMAS NATTERMANN
SYAL 1.6	Mon	16:30–17:00	BAR SCHÖ	Single-particle and many-body Anderson localizations with Bose-Einstein condensates — ●LAURENT SANCHEZ-PALENCIA

Invited talks of the joint symposium **Organic photovoltaics: from single molecules to devices (SYOP)**

See SYOP for the full program of the Symposium.

(arranged by the divisions CPP, DS, HL and O)

Organization: Silke Rathgeber (Max-Planck-Institut für Polymerforschung Mainz), Karl Leo (Technische Universität Dresden), Thomas Thurn-Albrecht (Martin-Luther-Universität Halle-Wittenberg)

SYOP 2.1	Thu	9:30–10:00	BAR SCHÖ	Material Design for Organic and Hybrid Solar Cells – structural to functional control on all length scales — ●MUKUNDAN THELAKKAT, MICHAEL SOMMER, RUTH LOHWASSER, SEBASTIEN MARIA
SYOP 2.2	Thu	10:00–10:30	BAR SCHÖ	Triplet exciton formation in organic photovoltaics — XUDONG YANG, SEBASTIAN WESTENHOFF, IAN HOWARD, THOMAS FORD, RICHARD FRIEND, JUSTIN HODGKISS, ●NEIL GREENHAM

SYOP 2.3	Thu	10:30–11:00	BAR SCHÖ	Charge Carrier Dissociation and Recombination in Polymer Solar Cells — •VLADIMIR DYAKONOV, CARSTEN DEIBEL
SYOP 2.4	Thu	11:00–11:30	BAR SCHÖ	Modeling exciton diffusion and dissociation at organic-organic interfaces — •DAVID BELJONNE
SYOP 2.5	Thu	11:30–12:00	BAR SCHÖ	Correlation of Interfacial Composition and Bulk Morphology to Device Performance in Organic Bulk Heterojunction Solar Cells — DAVID GERMACK, •JOSEPH KLINE, DANIEL FISCHER, LEE RICHTER, CALVIN CHAN, DAVID GUNDLACH, MICHAEL TONEY, DEAN DELONGCHAMP
SYOP 2.6	Thu	12:00–12:30	BAR SCHÖ	Developments on the acceptor side in plastic PV — •JAN C. HUMMELEN

Invited talks of the joint symposium Spincoherence in Solids (SYSC)

See SYSC for the full program of the Symposium.

(arranged by the divisions MA, HL and DS)

Organization: Christian Back (Universität Regensburg), Michael Oestreich (Universität Hannover)

SYSC 1.1	Wed	9:30–10:00	BAR SCHÖ	Optical Pumping of Nuclear Spins in Semiconductor Quantum Dots — •X. MARIE, B. URBASZEK, T. AMAND, O. KREBS, A. LEMAÎTRE, P. VOISIN, B. EBLE, C. TESTELIN, M. CHAMARRO
SYSC 1.2	Wed	10:00–10:30	BAR SCHÖ	Dyakonov-Perel' Spin-Dynamics in GaAs Quantum Wells — •RICHARD HARLEY
SYSC 1.3	Wed	10:30–11:00	BAR SCHÖ	Quantum dot spins in optical microcavities — •RUDOLF BRATSCHITSCH
SYSC 1.4	Wed	11:00–11:30	BAR SCHÖ	Spin relaxation in quasi-one-dimensional electron systems: transition from 2D to 1D — •ALEXANDER HOLLEITNER
SYSC 1.5	Wed	11:30–12:00	BAR SCHÖ	Triggering phase-coherent spin packets by pulsed electrical spin injection across an Fe/GaAs Schottky barrier — •BERND BESCHOTEN
SYSC 1.6	Wed	12:00–12:30	BAR SCHÖ	Quantum Spin Hall Effect in HgTe Quantum Well Structures — •HARTMUT BUHMANN

Invited talks of the joint symposium Transport in Graphene (SYTG)

See SYTG for the full program of the Symposium.

(arranged by the divisions HL and DY)

Organization: Klaus Ensslin (Eidgenössische Technische Hochschule Zürich)

SYTG 1.1	Tue	14:00–14:30	BAR SCHÖ	The nature of localization in graphene under quantum Hall conditions — •JURGEN SMET
SYTG 1.2	Tue	14:30–15:00	BAR SCHÖ	Electronic Transport in Graphene Nanostructures — •THOMAS IHN, CHRISTOPH STAMPFER, JOHANNES GÜTTINGER, FRANCOISE MOLITOR, STEPHAN SCHNEZ, ARNHILD JACOBSEN, KLAUS ENSSLIN
SYTG 1.3	Tue	15:00–15:30	BAR SCHÖ	Spins and valley-spins in graphene nanostructures — •INANC ADAGIDELI
SYTG 1.4	Tue	15:30–16:00	BAR SCHÖ	Theory of ballistic transport in graphene — •BJOERN TRAUZETTEL

Walter Schottky Prize

HL 31.1 Wed 13:00–13:45 HSZ 01 **Optomechanics** — •FLORIAN MARQUARDT

Sessions

HL 1.1–1.9	Mon	10:15–12:45	BEY 81	III-V semiconductors I
HL 2.1–2.7	Mon	10:15–12:15	BEY 118	GaN: devices
HL 3.1–3.9	Mon	10:15–12:45	BEY 154	Heterostructures
HL 4.1–4.9	Mon	10:15–12:45	POT 51	II-VI semiconductors

HL 5.1–5.10	Mon	10:15–13:15	POT 151	Photovoltaic
HL 6.1–6.1	Mon	11:00–11:45	HSZ 01	Invited Talk Fromherz
HL 7.1–7.12	Mon	13:30–17:00	BEY 118	Quantum dots: Optical properties I
HL 8.1–8.1	Mon	14:00–14:45	HSZ 01	Invited Talk Ludwig
HL 9.1–9.120	Mon	14:30–17:00	P2	Poster 1
HL 10.1–10.1	Mon	14:45–15:30	HSZ 01	Invited Talk Dietsche
HL 11.1–11.7	Tue	9:30–12:45	HSZ 01	Focused Session: Semi- and nonpolar group III nitrides I
HL 12.1–12.10	Tue	9:30–12:30	BEY 81	Spin controlled transport I
HL 13.1–13.13	Tue	9:30–13:00	BEY 118	Optical properties
HL 14.1–14.2	Tue	9:30–10:00	BEY 154	Preparation and characterization
HL 15.1–15.13	Tue	9:30–13:00	POT 51	C/diamond I
HL 16.1–16.9	Tue	9:30–12:00	POT 151	III-V semiconductors II
HL 17.1–17.10	Tue	10:00–13:00	BEY 154	Quantum wires: Optical and transport properties
HL 18.1–18.4	Tue	12:00–13:00	POT 151	Impurities/amorphous semiconductors
HL 19.1–19.2	Tue	12:30–13:00	BEY 81	Theory of electronic structure
HL 20.1–20.1	Tue	14:00–14:45	HSZ 01	Invited Talk Yakovlev
HL 21.1–21.7	Tue	14:00–16:00	BEY 81	Devices
HL 22.1–22.6	Tue	14:00–16:30	BEY 118	Focused Session: Semi- and nonpolar group III nitrides II
HL 23.1–23.5	Tue	14:00–15:15	BEY 154	Transport in high magnetic field/quantum-Hall-effect
HL 24.1–24.1	Tue	14:45–15:30	HSZ 01	Invited Talk Neumaier
HL 25.1–25.2	Tue	16:00–16:30	POT 51	C/diamond II
HL 26.1–26.6	Wed	9:30–13:00	HSZ 01	Focused Session: Novel nanowires electronic device concepts
HL 27.1–27.12	Wed	9:30–13:00	BEY 81	GaN: preparation and characterization I
HL 28.1–28.12	Wed	9:30–13:00	BEY 118	ZnO: preparation and characterization I
HL 29.1–29.12	Wed	9:30–13:00	BEY 154	Quantum dots: Optical properties II
HL 30.1–30.13	Wed	9:30–13:00	POT 51	Si/Ge
HL 31.1–31.1	Wed	13:00–13:45	HSZ 01	Walter Schottky Prize
HL 32.1–32.3	Wed	14:00–15:30	HSZ 01	Focused Session: Quantum optomechanics
HL 33.1–33.11	Wed	14:00–17:15	BEY 81	Quantum wires: preparation and characterization
HL 34.1–34.10	Wed	14:00–17:00	BEY 118	Spin controlled transport II
HL 35.1–35.13	Wed	14:00–17:45	BEY 154	Semiconductor Laser
HL 36.1–36.8	Wed	14:00–16:15	POT 51	ZnO: preparation and characterization II
HL 37.1–37.6	Wed	16:15–18:00	POT 51	ZnO: devices
HL 38.1–38.4	Thu	9:30–11:45	HSZ 01	Focused Session: Different realizations of quantum registers
HL 39.1–39.12	Thu	9:30–13:00	BEY 81	Quantum dots: Optical and transport properties
HL 40.1–40.11	Thu	9:30–12:45	BEY 118	ZnO: preparation and characterization III
HL 41.1–41.12	Thu	9:30–13:00	BEY 154	GaN: preparation and characterization II
HL 42.1–42.5	Thu	9:30–10:45	POT 51	Interfaces/surfaces
HL 43.1–43.10	Thu	9:30–12:30	POT 151	Photonic crystals I
HL 44.1–44.8	Thu	10:45–13:00	POT 51	Organic semiconductors I
HL 45.1–45.1	Thu	11:45–12:30	HSZ 01	Invited Talk Liu
HL 46.1–46.2	Thu	12:30–13:00	POT 151	Hybrid systems
HL 47.1–47.1	Thu	14:00–14:45	HSZ 01	Invited Talk Meyer
HL 48.1–48.91	Thu	15:00–17:30	P2	Poster 2
HL 49.1–49.9	Fri	10:15–12:45	BEY 81	Quantum dots: preparation and characterization
HL 50.1–50.9	Fri	10:15–12:45	BEY 118	Ultra fast phenomena
HL 51.1–51.9	Fri	10:15–12:45	BEY 154	Photonic crystals II
HL 52.1–52.8	Fri	10:15–12:30	POT 51	Organic semiconductors II
HL 53.1–53.6	Fri	10:15–11:45	POT 151	Transport properties
HL 54.1–54.1	Fri	11:00–11:45	HSZ 01	Invited Talk Hübner

AIW: Quo vadis, Halbleiter?

AIW 1.1	Wed	10:00–10:15	POT 151	Begrüßung und Einführung — •BERND SCHINELLER
AIW 1.2	Wed	10:15–11:00	POT 151	Anorganische Leuchtdioden – Gegenwart und Zukunft — •KLAUS STREUBEL
AIW 1.3	Wed	11:00–11:45	POT 151	Anorganische Photovoltaik – Energie für die Zukunft? — •JÖRG MÜLLER
AIW 1.4	Wed	11:45–12:30	POT 151	Organische Optoelektronik — •JAN BLOCHWITZ-NIMOTH

AIW 2.1	Wed	14:00–14:45	POT 151	Produktionstechnologien für Halbleiterschichten — ●MICHAEL HEUKEN
AIW 2.2	Wed	14:45–15:30	POT 151	Dielektrische Materialien für die Halbleitertechnik — ●SUSANNE HOFFMANN-EIFERT
AIW 2.3	Wed	15:30–16:15	POT 151	Semiconductor Markets and Business Outlook — ●TOM P. PEARSALL

Annual General Meeting Semiconductor Physics Division

Thursday 18:00–20:00 HSZ 101

- Begrüßung und Bericht
- Stichwortkatalog
- Wahl des Fachverbandsvorsitzenden und dessen Stellvertreter
- Verschiedenes