

Thin Films Division Fachverband Dünne Schichten (DS)

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Overview of Invited Talks and Sessions

(lecture rooms GER 37 and GER 38; Poster P1 and P2)

Gaede Prize

DS 29.1 Wed 14:00–14:45 TRE Phy **Spin-split metallic surface states on semimetals and topological insulators** — ●PHILIP HOFMANN

Invited Talks

DS 1.1 Mon 10:15–11:00 GER 37 **High-performance liquid- and vacuum-processed CZTSSe photovoltaic devices** — ●DAVID B. MITZI, OKI GUNAWAN, TEODOR K. TODOROV, AARON R. BARKHOUSE, KEJIA WANG, BYUNGHA SHIN, RICHARD HAIGHT, SUPRATIK GUHA, KATHLEEN B. REUTER, THOMAS GOISLARD DE MONSABERT, S. JAY CHEY, ANDREW J. KELLOCK

DS 4.1 Mon 14:00–14:45 GER 37 **Low temperature grown high efficiency Cu(In,Ga)Se₂ and CdTe flexible solar cells** — ●AYODHYA TIWARI, ADRIAN CHIRILA, PATRICK BLOESCH, JULIAN PERRENOUD, KRENTZ LUKAS, SIGHRAD SEYRLING, FABIAN PIANEZZI, RAJNEESH VERMA, SHIORO NISHIWAKI, STEPHAN BUECHELER, YAROSLAV ROMANYUK

DS 17.1 Tue 10:15–11:00 GER 37 **Chemical Nanolithography** — ●MICHAEL GRUNZE, MICHAEL ZHARNIKOV

DS 19.1 Tue 14:00–14:45 GER 37 **Laser micro- and nanoprocessing** — ●BORIS CHICHKOV

DS 27.1 Wed 10:15–11:00 GER 37 **Stochastic approach to electronic and spin thermal transport** — ●ROBERTO D'AGOSTA

DS 30.1 Wed 15:00–15:45 GER 37 **Electrical spin injection in a hybrid organic/inorganic spin-polarized light emitting diode (spin-LED)** — ●EZEKIEL JOHNSTON-HALPERIN

DS 44.1 Thu 10:15–11:00 GER 37 **Electronic Properties of Metal Nanoclusters Measured by Low Energy Ion-Surface Charge Exchange** — ●JORY YARMOFF

DS 46.1 Thu 14:00–14:45 GER 37 **Structuring Graphene with He Ions** — ●DAVID C. BELL

DS 58.1 Fri 10:15–11:00 GER 37 **Development of Highly Efficient IV-VI Thermoelectric Materials** — ●YANIV GELBSTEIN

Invited talks of the joint symposium SKM-SYOP

See SKM-SYOP for the full program of the symposium.

SKM-SYOP 1.1 Mon 10:30–11:00 TRE Ma **Charge separation in organic solar cells and the principle of detailed balance** — ●UWE RAU, THOMAS KIRCHARTZ

SKM-SYOP 1.2 Mon 11:00–11:30 TRE Ma **Three-Dimensional Nanoscale Organization of Bulk Heterojunction Polymer Solar Cells** — ●JOACHIM LOOS

SKM-SYOP 1.3 Mon 11:30–12:00 TRE Ma **Reliable prediction of charge transfer excitations using optimally tuned range-separated hybrid functionals** — ●LEEOR KRONIK

SKM-SYOP 1.4 Mon 12:00–12:30 TRE Ma **Charge separation and recombination in organic solar cells** — ●JAMES DURRANT

SKM-SYOP 1.5 Mon 12:30–13:00 TRE Ma **Efficient and stable organic vacuum deposited p-i-n-type tandem solar cells** — ●MARTIN PFEIFFER

Invited talks of the joint symposium SKM-SYNP

See SKM-SYNP for the full program of the symposium.

SKM-SYNP 1.1 Wed 14:30–15:00 TRE Ma **Quantum Optics on Photonic Chips** — ●DIRK ENGLUND, BRENDAN SHIELDS, HONGKUN PARK, MIKHAIL LUKIN, KELLEY RIVOIRE, JELENA VUCKOVIC, FARIBA HATAMI

SKM-SYNP 1.2 Wed 15:00–15:30 TRE Ma **Two-photon Interference from Separate Quantum Dots** — EDWARD FLAGG, ANDREAS MULLER, SERGEY POLYAKOV, ALEXANDER LING, ALAN MIGDALL, ●GLENN S. SOLOMON

SKM-SYNP 1.3 Wed 15:30–16:00 TRE Ma **Coherent optoelectronic control of a single exciton qubit** — ●ARTUR ZRENNER, STEFFEN MICHAELIS DE VASCONCELLOS, SIMON GORDON, DIRK MANTEI, WADIM QUIRING, MOHANNAD AL-HMOUD, TORSTEN MEIER, MAX BICHLER, ANDREAS D. WIECK, DIRK REUTER

SKM-SYNP 1.4 Wed 16:15–16:45 TRE Ma **Generation of non-classical states of light with site- and potential-controlled pyramidal quantum dots** — ●ELI KAPON

SKM-SYNP 1.5 Wed 16:45–17:15 TRE Ma **Semiconductor Devices for Quantum Photonics** — ●ANDREW SHIELDS, ANTHONY BENNETT, MARK STEVENSON, CAMERON SALTER, RAJ PATEL, IAN FARRER, CHRISTINE NICOLL, DAVID RITCHIE

Invited talks of the joint symposium SKM-SYMF

See SKM-SYMF for the full program of the symposium.

SKM-SYMF 1.1 Thu 14:30–15:00 TRE Ma **Visualizing the structural solid-liquid transition with colloidal suspensions** — ●PETER SCHALL

SKM-SYMF 1.2 Thu 15:00–15:30 TRE Ma **Crystallization process in suspensions of hard spheres** — ●TANJA SCHILLING, HANS-JOACHIM SCHOEPE, MARTIN OETTEL, GEORGE OPLETAL, IAN SNOOK

SKM-SYMF 1.3 Thu 15:30–16:00 TRE Ma **Homogeneous bulk, surface, and edge nucleation in crystalline nanodroplets** — ●KARI DALNOKI-VERESS, JESSICA CARVALHO

SKM-SYMF 1.4 Thu 16:00–16:30 TRE Ma **Polymer Crystallization: Ordered Structures in Complex Systems** — ●JENS-UWE SOMMER

SKM-SYMF 1.5 Thu 16:30–17:00 TRE Ma **Phase formation and microstructure development in multi-component alloys** — ●JÜRGEN ECKERT

Topical Talks

DS 2.1 Mon 11:00–11:30 GER 37 **Cu(In,Ga)Se₂ solar cells: the importance of lateral variations of the absorber quality** — ●SUSANNE SIEBENTRITT

DS 2.2 Mon 11:30–12:00 GER 37 **Efficient Photovoltaic Devices using Multinary Chalcogenide Semiconductors** — ●HANS-WERNER SCHOCK, THOMAS UNOLD

DS 2.3 Mon 12:00–12:30 GER 37 **From Micro Meter to Mega Watt: Pentanary Chalcopyrite Thin film Solar Cells** — JOERG PALM, ALEJANDRO AVELLAN, ●THOMAS DALIBOR, STEFAN JOST, HELMUT VOGT, THOMAS NIESEN, PAUL MOGENSEN, FRANZ KARG

DS 2.4 Mon 12:30–13:00 GER 37 **Electrical Characterization of Cu(In,Ga)(Se,S)₂ -Based Solar Cells at Low Temperatures** — ●UDO REISLÖHNER

DS 5.1 Mon 14:45–15:15 GER 37 **Dünnschicht-Chalkogenid-Solarzellen: Überblick und Forschungsfelder** — ●MICHAEL POWALLA

DS 18.1 Tue 11:00–11:30 GER 37 **Microcontact chemistry: surface reactions in nanoscale confinement** — ●BART JAN RAVOO

DS 18.2 Tue 11:30–12:00 GER 37 **Electrochemical Microstructuring** — XINZHOU MA, VADYM HALKA, ●ROLF SCHUSTER

DS 18.3	Tue	12:00–12:30	GER 37	Electrochemical Oxidation and Anodization Lithography on Self-Assembled Monolayers — ●STEPHANIE HOEPPENER
DS 18.4	Tue	12:30–13:00	GER 37	Surface Structuring by Single Pulse Laser Interference: Principles and Applications — ●JOHANNES BONEBERG
DS 28.1	Wed	11:00–11:30	GER 37	Selective spin-blockade in interacting molecular interferometers — ●MILENA GRIFONI, ANDREA DONARINI, GEORG BEGEMANN
DS 28.2	Wed	11:30–12:00	GER 37	Charge and Spin Transport through Single-Atom and Single-Molecule Junctions — ●JÖRG KRÖGER
DS 28.3	Wed	12:00–12:30	GER 37	The strange life of a molecular spin observed under a microscope — ●GERMAR HOFFMANN
DS 31.1	Wed	15:45–16:15	GER 37	Organic spintronics and the great potential of ferromagnetic metal-organic interfaces — ●MARTIN AESCHLIMANN
DS 45.2	Thu	11:15–11:45	GER 37	Energy dissipation in the scattering of N₂ from W(110) — ●J. INAKI JUARISTI
DS 47.1	Thu	14:45–15:15	GER 37	Trails of kilovolt ions created by subsurface channeling — ●THOMAS MICHELY, ALEX REDINGER, SEBASTIAN STANDOP, YUDI ROSANDI, HERBERT URBASSEK
DS 47.2	Thu	15:15–15:45	GER 37	The impact of fast ions in pulsed laser deposition — ●MICHAEL SCHMID
DS 48.1	Thu	16:00–16:30	GER 37	Ion beam doping of semiconductor nanowires — ●CARSTEN RONNING
DS 49.1	Thu	17:45–18:15	GER 37	Nano-scale surface modifications produced by highly charged ion impact — ●FRIEDRICH AUMAYR
DS 59.1	Fri	11:00–11:30	GER 37	Nanocrystalline silicon for thermoelectricity — ●GABI SCHIERNING
DS 59.2	Fri	11:30–12:00	GER 37	Nanoscale Thermoelectrics — ●JAN D. KÖNIG
DS 59.3	Fri	12:00–12:30	GER 37	Thermal transport and thermoelectric effect in thin semiconductor membranes — ●MATTHIAS SCHMIDT, THORBEN BARTSCH, CHRISTIAN HEYN, WOLFGANG HANSEN
DS 59.4	Fri	12:30–13:00	GER 37	Theoretical studies of electrical cross-plane transport in semiconductor multilayer heterostructures — ●PETER KRATZER, VLADIMIR M. FOMIN

Sessions

DS 1.1–1.1	Mon	10:15–11:00	GER 37	Invited – Mitzi
DS 2.1–2.4	Mon	11:00–13:00	GER 37	Thin Film Chalcogenide Photovoltaics I (Focused Session – Organiser: Ronning)
DS 3.1–3.1	Mon	13:00–13:30	POT 06	Invited – Böer
DS 4.1–4.1	Mon	14:00–14:45	GER 37	Invited – Tiwari
DS 5.1–5.3	Mon	14:45–15:45	GER 37	Thin Film Chalcogenide Photovoltaics II (Focused Session – Organiser: Ronning)
DS 6.1–6.6	Mon	16:00–17:30	GER 37	Thin Film Chalcogenide Photovoltaics III (Focused Session – Organiser: Ronning)
DS 7.1–7.7	Mon	17:45–19:30	GER 37	Layer Properties: Electrical, Optical and Mechanical Properties
DS 8.1–8.6	Mon	10:15–11:45	GER 38	Thin Film Characterisation: Structure Analysis and Composition (XRD, TEM, XPS, SIMS, RBS, ...) I
DS 9.1–9.4	Mon	12:00–13:00	GER 38	Thin Film Characterisation: Structure Analysis and Composition (XRD, TEM, XPS, SIMS, RBS, ...) II
DS 10.1–10.6	Mon	14:00–15:30	GER 38	Thin Film Characterisation: Structure Analysis and Composition (XRD, TEM, XPS, SIMS, RBS, ...) III
DS 11.1–11.5	Mon	15:45–17:00	GER 38	Thin Film Characterisation: Structure Analysis and Composition (XRD, TEM, XPS, SIMS, RBS, ...) IV
DS 12.1–12.5	Mon	17:15–18:30	GER 38	Layer Deposition Processes
DS 13.1–13.12	Mon	14:00–17:30	ZEU 222	Organic Electronics and Photovoltaics CPP-I (jointly with CPP, HL, and O)
DS 14.1–14.4	Mon	17:45–18:45	FOE Anorg	Organic Electronics and Photovoltaics HL-I (jointly with CPP, HL, and O)
DS 15.1–15.8	Mon	15:00–17:00	PHY C213	Plasmonics and Nanophotonics O-I (jointly with HL and O)
DS 16.1–16.8	Mon	17:15–19:15	PHY C213	Plasmonics and Nanophotonics O-II (jointly with HL and O)

DS 17.1–17.1	Tue	10:15–11:00	GER 37	Invited – Grunze
DS 18.1–18.4	Tue	11:00–13:00	GER 37	Progress in Micro- and Nanopatterning: Techniques and Applications I (Focused Session, jointly with O – Organisers: Graaf, Hartmann)
DS 19.1–19.1	Tue	14:00–14:45	GER 37	Invited – Chichkov
DS 20.1–20.8	Tue	10:15–12:15	GER 38	Application of Thin Films
DS 21.1–21.6	Tue	13:45–15:15	GER 38	High-k and Low-k Dielectrics (jointly with DF)
DS 22.1–22.6	Tue	10:15–13:00	POT 151	Focussed Session: Inorganic/Organic Semiconductor Hybrid Structures I (jointly with HL and O)
DS 23.1–23.2	Tue	14:15–15:15	POT 151	Focussed Session: Inorganic/Organic Semiconductor Hybrid Structures II (jointly with HL and O)
DS 24.1–24.9	Tue	10:30–13:00	ZEU 222	Organic Electronics and Photovoltaics CPP-II (jointly with CPP, HL, and O)
DS 25.1–25.5	Tue	14:00–15:15	ZEU 222	Organic Electronics and Photovoltaics CPP-III (jointly with CPP, HL, and O)
DS 26.1–26.7	Tue	11:15–13:00	WIL A317	Plasmonics and Nanophotonics O-III (jointly with HL and O)
DS 27.1–27.1	Wed	10:15–11:00	GER 37	Invited – D’Agosta
DS 28.1–28.5	Wed	11:00–13:00	GER 37	Spins in Organic Materials I (Focused Session, jointly with MA – Organisers: Salvan, Hess, Timm)
DS 29.1–29.1	Wed	14:00–14:45	TRE Phy	Gaede Prize Talk – Philip Hofmann
DS 30.1–30.1	Wed	15:00–15:45	GER 37	Invited – Johnston-Halperin
DS 31.1–31.3	Wed	15:45–16:45	GER 37	Spins in Organic Materials II (Focused Session, jointly with MA – Organisers: Salvan, Hess, Timm)
DS 32.1–32.6	Wed	17:00–18:30	GER 37	Spins in Organic Materials III (Focused Session, jointly with MA – Organisers: Salvan, Hess, Timm)
DS 33.1–33.8	Wed	11:00–13:00	GER 38	Progress in Micro- and Nanopatterning: Techniques and Applications II (Focused Session, jointly with O – Organisers: Graaf, Hartmann)
DS 34.1–34.8	Wed	15:00–17:00	GER 38	Progress in Micro- and Nanopatterning: Techniques and Applications III (Focused Session, jointly with O – Organisers: Graaf, Hartmann)
DS 35.1–35.8	Wed	17:15–19:15	GER 38	Plasmonics and Nanophotonics (jointly with HL and O)
DS 36.1–36.8	Wed	10:15–12:15	POT 251	Plasmonics and Nanophotonics HL-I (jointly with HL and O)
DS 37.1–37.7	Wed	11:15–13:00	WIL A317	Plasmonics and Nanophotonics O-IV (jointly with HL and O)
DS 38.1–38.8	Wed	15:00–17:00	WIL A317	Plasmonics and Nanophotonics O-V (jointly with HL and O)
DS 39.1–39.10	Wed	14:00–17:00	ZEU 222	Organic Electronics and Photovoltaics CPP-IV (jointly with CPP, HL, and O)
DS 40.1–40.12	Wed	10:15–13:30	FOE Anorg	Organic Electronics and Photovoltaics HL-II (jointly with CPP, HL, and O)
DS 41.1–41.6	Wed	18:00–19:30	FOE Anorg	Organic Electronics and Photovoltaics HL-III (jointly with CPP, HL, and O)
DS 42.1–42.125	Wed	15:00–17:30	P1	Poster I: Progress in Micro- and Nanopatterning: Techniques and Applications (jointly with O); Spins in Organic Materials; Ion Interactions with Nano Scale Materials; Organic Electronics and Photovoltaics; Plasmonics and Nanophotonics (jointly with HL and O); High-k and Low-k Dielectrics (jointly with DF); Organic Thin Films; Nano-engineered Thin Films; Layer Deposition Processes; Layer Properties: Electrical, Optical, and Mechanical Properties; Thin Film Characterisation: Structure Analysis and Composition; Application of Thin Films
DS 43.1–43.18	Wed	15:00–17:30	P2	Poster II: Thin Film Chalcogenide Photovoltaics; Thermoelectric Materials, Thin Films, and Nanostructures
DS 44.1–44.1	Thu	10:15–11:00	GER 37	Invited – Yarmoff
DS 45.1–45.7	Thu	11:00–13:00	GER 37	Ion Interactions with Nano Scale Materials I (Focused Session – Organisers: Diesing, Facsko)
DS 46.1–46.1	Thu	14:00–14:45	GER 37	Invited – Bell

DS 47.1–47.2	Thu	14:45–15:45	GER 37	Ion Interactions with Nano Scale Materials II (Focused Session – Organisers: Diesing, Facsko)
DS 48.1–48.5	Thu	16:00–17:30	GER 37	Ion Interactions with Nano Scale Materials III (Focused Session – Organisers: Diesing, Facsko)
DS 49.1–49.5	Thu	17:45–19:15	GER 37	Ion Interactions with Nano Scale Materials IV (Focused Session – Organisers: Diesing, Facsko)
DS 50.1–50.6	Thu	10:15–11:45	GER 38	Organic Electronics and Photovoltaics I (jointly with CPP, HL, and O)
DS 51.1–51.4	Thu	12:00–13:00	GER 38	Organic Electronics and Photovoltaics II (jointly with CPP, HL, and O)
DS 52.1–52.8	Thu	14:00–16:00	GER 38	Organic Electronics and Photovoltaics III (jointly with CPP, HL, and O)
DS 53.1–53.6	Thu	16:15–17:45	GER 38	Organic Electronics and Photovoltaics IV (jointly with CPP, HL, and O)
DS 54.1–54.6	Thu	18:00–19:30	GER 38	Nanoengineered Thin Films
DS 55.1–55.5	Thu	14:30–17:15	POT 51	Focused Session: Novel Green Laser Diodes (jointly with HL and O)
DS 56.1–56.7	Thu	11:15–13:00	WIL A317	Plasmonics and Nanophotonics O-VI (jointly with HL and O)
DS 57.1–57.5	Thu	15:00–16:15	WIL A317	Plasmonics and Nanophotonics O-VII (jointly with HL and O)
DS 58.1–58.1	Fri	10:15–11:00	GER 37	Invited – Gelbstein
DS 59.1–59.4	Fri	11:00–13:00	GER 37	Thermoelectric Materials, Thin Films, and Nanostructures I (Focused Session – Organisers: Nielsch, Rastelli, Balke)
DS 60.1–60.7	Fri	14:00–15:45	GER 37	Thermoelectric Materials, Thin Films, and Nanostructures II (Focused Session – Organisers: Nielsch, Rastelli, Balke)
DS 61.1–61.6	Fri	16:00–17:30	GER 37	Thermoelectric Materials, Thin Films, and Nanostructures III (Focused Session – Organisers: Nielsch, Rastelli, Balke)
DS 62.1–62.6	Fri	10:15–11:45	GER 38	Organic Thin Films I
DS 63.1–63.4	Fri	12:00–13:00	GER 38	Organic Thin Films II
DS 64.1–64.7	Fri	14:00–15:45	GER 38	Organic Thin Films III
DS 65.1–65.6	Fri	16:00–17:30	GER 38	Organic Thin Films IV
DS 66.1–66.5	Fri	11:15–12:30	WIL B122	Organic Electronics and Photovoltaics O-I (jointly with CPP, HL, and O)

Annual General Meeting: German Vacuum Society (DVG)

Monday 18:45–19:15 GER 38

Annual General Meeting: Thin Films Division (DS)

Monday 19:15–19:45 GER 38