8th International Conference on Spectroscopic Ellipsometry

May 26th - 31st, 2019, Barcelona

Scientific Program

Provisional version 2019.04.11

SCHEDULE ICSE-8, BARCELONA 2019

SUNDAY, 26TH MAY

9:00	Registration Open
10:00	Tutorial 1: Jellison, Arteaga
11:30	Tutorial 2: Diebold
12:30	Lunch Break
14:00	Tutorial 3: Ossikovski
15:00	Tutorial 4: Petrik
16:00	Coffee
16:20	Homage Introduction
16:30	Homage 1: Aspnes
17:15	Homage 2: Viña
17:50	Homage 3: Humlíček
18:25	Welcome Reception

MONDAY, 27TH MAY

8:30		Registration Open		
9:00		Opening Ceremony		
9:20		Keynote 1 Azzam		
		Auditorium	A Rooms	
10:00	Nanostructured and Metamaterials I	IN1-1 Bernhard	IN2-1 Kim	New Instrumental Developments I
10:30		1-2 Humlíček	2-2 Jiang	
10:50		Coffee		
11:20		1-3 Briley	2-3 Pápa	
11:40		1-4 Ponsinet	2-4 Espinoza	
12:00		1-5 Pauly	2-5 Chen, C.-W.	
12:20		Lunch Break		
13:50	Nanostructured and Metamaterials II	IN3-1 Zapien	IN4-1 Ogieglo	Organic and Polymer Materials I
14:20		3-2 García-Pomar	4-2 Chen, S.	
14:40		3-3 Battie	4-3 Pflug	
15:00		3-4 Budai	4-4 Zhao	
15:20		3-5 Maudet	4-5 Koenig	
15:40		3-6 Gutiérrez	4-6 Yang	
16:00		Coffee		
16:30	Mueller-Matrix Ellipsometry I	IN5-1 Chen, X.	IN6-1 Kildemo	Optical Modeling and Simulation I
17:00		5-2 Wang	6-2 Franta	
17:20		5-3 Ruder	6-3 Likhachev	
17:40		5-4 Wurm	6-4 Foldyna	
18:00		5-5 Walmsness	6-5 Postava	
18:20		5-6 Valyukh	6-6 Samarasingha	
18:40		5-7 Álvarez-Herrero	6-7 Schmidt-Grund	

TUESDAY, 28TH MAY

8:30		Keynote 2 Bittrich		
	Two-Dimensional Systems I	Auditorium	A Rooms	Organic and Polymer Materials II
9:10		IN7-1 Kuzmenko	IN8-1 Schiek	
9:40		7-2 Mellor	8-2 Campoy-Quiles	
10:00		7-3 Liu, S.	8-3 Cobet	
10:20		Coffee		
10:50	Anisotropic Materials	IN9-1 Mock	IN10-1 Gompf	Optical Modeling and Simulation II
11:20		9-2 Herrfurth	10-2 Skowronski	
11:40		9-3 Jellison Jr.	10-3 Vohánka	
12:00		9-4 Schubert	10-4 Perin	
12:20		9-5 Jin, K.-W.	10-5 Ohlídal	
12:40		Lunch Break		
14:10		Poster Session A	A1+A4 Rooms	
16:10		Exhibitor Session		
17:25		Keynote 3 Hinrichs		
18:05	Two-Dimensional Systems II	11-1 Hu, C.	12-1 Zachariadis	New Instrumental Developments II
18:25		11-2 Ermolaev	12-2 Negara	
18:45		11-3 Mamedov	12-3 Shan	
19:05		11-4 Shim	12-4 Duwe	

WEDNESDAY, 29TH MAY

8:30		Keynote 4 Jin		
	Mueller Matrix II	Auditorium	A Rooms	Electronic Mat. and Band Str. I
9:10		IN13-1 Mendoza-Galván	IN14-1 Hu, Z.	
9:40		IN13-2 Furchner	IN14-2 Logothetidis	
10:10		Coffee		
10:40	Bio-Related Systems and Life Science Appl.	IN15-1 Novikova	IN16-1 Podraza	Energy Applications
11:10		15-2 Liu, W.	16-2 Sachse	
11:30		15-3 Tumenas	16-3 Koirala	
11:50		15-4 Lizana	16-4 Morata	
12:10		15-5 Niu	16-5 Chattopadhyay	
12:30		Free		
20:00		Conference Dinner		

THURSDAY, 30TH MAY

8:30		Keynote 5 Hofmann		
	THz Applications	Auditorium	A Rooms	Data Analysis and Modeling Accuracy on Advanced Materials
9:10		IN17-1 Darakchieva	IN18-1 Sturm	
9:40		17-2 Uprety	18-2 Aspnes	
10:00		17-3 Kühne	18-3 Gilliot	
10:20		17-4 Junda	18-4 Fried	
10:40		Coffee		
11:10		IN17-5 Knight	18-5 Le	
11:30			18-6 Stchakovsky	
11:40	Electr. Mat. & Band Str. II	IN19-1 Richter		
11:50			20-1 Vázquez-Miranda	Solid-Liquid I.
12:10		19-2 Ochoa-Martinez	20-2 Zimmer	
12:30		Lunch Break		
14:00		Poster Session B	A1+A4 Rooms	
16:00		Keynote 6 Fujiwara		
16:40	Electronic Materials and Band Structure III	IN21-1 Marsik	IN22-1 Germer	Imaging and Process Monitoring
17:10		21-2 Dubroka	22-2 Fischer	
17:30		Coffee		
18:00		21-3 Emminger	22-3 Kilic	
18:20		21-4 Hilfiker	22-4 Olbrich	
18:40		21-5 Tejada	22-5 Funke	
19:00		21-6 Carrasco	22-6 Magnozzi	

FRIDAY, 31TH MAY

8:30		Keynote 7 Losurdo		
	Optical and Electronic Applications	Auditorium	A Rooms	Polarimetry and Scatterometry
9:10		IN23-1 Toudert	IN24-1 Hingerl	
9:40		23-2 Balzer	24-2 Martínez-Prat	
10:00		23-3 Gu	24-3 Dembele	
10:20		23-4 Serna	24-4 van Eeckhout	
10:40		Coffee		
11:10		23-5 Bundesmann	24-5 Álvarez-Herrero	
11:30		23-6 Bulkin	24-6 Zhang	
11:50		Award Ceremony	Auditorium	
12:50		Closing Remarks		

09:00 – 10:00 **Registration**

Tutorial Session I Sunday 10:00-12:30
Chair: Josef Humlíček Auditorium

Tutorial 1
10:00 – 11:30 **Ellipsometric Data Analysis: I. Basic Concepts, II. Anisotropic and Complex Materials**
•Gerald E. Jellison Jr.[1], •Oriol Arteaga[2]
[1]*Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN 37831, USA, retired*
[2]*Dep. Física Aplicada, Feman Group, IN2UB, Universitat de Barcelona, 08028 Barcelona, Catalonia, Spain* 47

Tutorial 2
11:30 – 12:30 **The Application of Mueller Matrix Spectroscopic Ellipsometry based Scatterometry to determination of the feature shape and dimensions of integrated circuit structures**
Alain C. Diebold
SUNY Polytechnic Institute, Albany NY 12309, USA 49

12:30 – 14:00 **Lunch Break**

Tutorial Session II Sunday 14:00-16:00
Chair: Tatiana Novikova Auditorium

Tutorial 3
14:00 – 15:00 **Phenomenological Modelling in Mueller Matrix Polarimetry**
Razvigor Ossikovski
LPICM, CNRS, École Polytechnique, Université Paris-Saclay, 91128 Palaiseau, France 50

Tutorial 4
15:00 – 16:00 **In situ bioellipsometry**
Peter Petrik
Institute for Technical Physics and Materials Science, Centre for Energy Research, Hungarian Academy of Sciences, Konkoly Thege Miklós út 29-33, H-1121 Budapest, Hungary 51

16:00 – 16:20 **Coffee Break**

In Memoriam Sunday 16:20-18:25
Chair: Stefan Zollner Auditorium

16:20 – 16:30 **Introduction**

Homage 1
16:30 – 17:15 **Manuel Cardona and Science: A Lasting Legacy**
D. E. Aspnes
Department of Physics, North Carolina State University, Raleigh, NC 27695-8202 USA 52

Homage 2
17:15 – 17:50 **The Persuasive and Inestimable Insistence of Manuel Cardona: How Spectroscopic Ellipsometry Was Born in Max-Planck Stuttgart**
Luis Viña
Departamento de Física de Materiales, Instituto Nicolás Cabrera and Condensed Matter Physics Center (IFIMAC), Universidad Autónoma, Madrid 28049, Spain 53

Homage 3
17:50 – 18:25 **Understanding optical response: lessons learned from Manuel Cardona**
Josef Humlíček
CEITEC MU and Department of Condensed Matter Physics, Masaryk University, Kotlářská 2, 611 37 Brno, Czech Republic 54

18:25 – 19:40 **Welcome Reception**

08:30 – 09:00 **Registration**

09:00 – 09:20 **Opening Ceremony**

Keynote 1 **Polarization, Thin-Film Optics, Ellipsometry, and Polarimetry: Retrospective** Monday 09:20-10:00 Auditorium

R. M. A. Azzam
Department of Electrical Engineering, University of New Orleans, New Orleans, Louisiana 70148, USA 55

Chair: Thomas A. Germer

Session 1 **Nanostructured and Metamaterials I** Monday 10:00-12:20 Auditorium

Chair: Thomas A. Germer

Invited 1-1 10:00 – 10:30 **Infrared ellipsometry study of confined charge carriers in complex oxide heterostructures**

F. Lyzwa, P. Marsik, •C. Bernhard
Department of Physics and Fribourg Center for Nanomaterials, University of Fribourg, Chemin du Musee 3, 1700 Fribourg 56

Oral 1-2 10:30 – 10:50 **Ellipsometry, Reflectance, and Photoluminescence Studies of Nanocrystalline CuCl Thin Films on Silicon**

•Josef Humlíček[1], Karla Kuldová[2], Richard Krumpolec[3], David Cameron[3]
[1]*CEITEC MU and Department of Condensed Matter Physics, Masaryk University, Kotlářská 2, 611 37 Brno, Czech Republic*
[2]*Institute of Physics of the Czech Academy of Sciences, v.v.i., Cukrovarnická 10, 162 00 Prague 6, Czech Republic*
[3]*Department of Physical Electronics, Faculty of Science, Masaryk University, Kotlářská 2, 611 37 Brno, Czech Republic* 57

10:50 – 11:20 **Coffee Break**

Oral 1-3 11:20 – 11:40 **Magnetic properties of nanostructured hard-soft magnetic heterostructured thin films determined with vector magneto-optical generalized ellipsometry**

•Chad Briley[1], Derek Sekora[1], Alyssa Mock[1,2], Eva Schubert[1], Christian Binek[3], Heidemarie Schmidt[4], Mathias Schubert[1,2,5]
[1]*Department of Electrical and Computer Engineering, and Center for Nanohybrid Functional Materials, University of Nebraska-Lincoln, Lincoln, Nebraska 68588, USA*
[2]*Department of Physics, Chemistry and Biology, and THz Materials Analysis Center, Linköping University, 58183 Linköping, Sweden*
[3]*Department of Physics and Astronomy, Nebraska Center for Materials and Nanoscience, University of Nebraska-Lincoln, Lincoln, Nebraska 68588, USA*
[4]*Leibniz Institute of Photonic Technology (IPHT), 07745 Jena, Germany*
[5]*Leibniz Institute for Polymer Research, 01069 Dresden, Germany* 58

Oral 1-4 11:40 – 12:00 **Hyperbolic-by-design self-assembled metamaterial based on block copolymers lamellar phases**

Xuan Wang[1], Kevin Ehrhardt[1], Alexandre Baron[1], Ashod Aradian[1], Morten Kildemo[2], •Virginie Ponsinet[1]
[1]*CNRS, Centre de Recherche Paul Pascal, UMR 5031, 115 Avenue Schweitzer, 33600 Pessac, France*
[2]*Physics Department, NTNU, Høgskoleringen 1, 7491 Trondheim, Norway* 59

Oral 1-5 **Chiral plasmonic metasurfaces self-assembled from non-chiral metallic nanowires and**
12:00 – 12:20 **nanorods**

•Matthias Pauly, Vincent Lemaire, Sribharani Sekar, Wenbing Wu, Gero Decher
Université de Strasbourg, CNRS, Institut Charles Sadron, Strasbourg, France 60

Session 2 **New Instrumental Developments I** Monday 10:00-12:20
Chair: Uwe Beck A Rooms

Invited 2-1 **Dynamic spectroellipsometry based on a one-piece polarizing interferometric device**
10:00 – 10:30

•Daesuk Kim[1], Vamara Dembele[1], Sukhyun Choi[1,2], Won Chegal[2], Inho Choi[1], Junho Kim[1]
[1]*Department of Mechanical System Engineering, Chonbuk National University, 54896 Jeonju, Rep. of Korea*
[2]*Advanced Instrumentation Institute, Korea Research Institute of Standards and Science, 34113 Daejeon, Rep. of Korea* 61

Oral 2-2 **Dynamic response metrology based on ultrafast ellipsometry**
10:30 – 10:50

•Hao Jiang, Zhicheng Zhong, •Shiyuan Liu
State Key Laboratory of Digital Manufacturing Equipment and Technology, Huazhong University of Science and Technology, Wuhan 430074, China 62

10:50 – 11:20 **Coffee Break**

Oral 2-3 **Femtosecond Pump-probe Spectroscopic Ellipsometry**
11:20 – 11:40

János Csontos[1,2], •Zsuzsanna Pápa[2,3], Judit Budai[1,2]
[1]*ELI-ALPS Research Institute, ELI-HU Nonprofit Kft., 6720 Szeged, Hungary*
[2]*Department of Optics and Quantum Electronics, University of Szeged, 6720 Szeged, Hungary*
[3]*MTA "Lendület" Ultrafast Nanooptics Group, Wigner Research Centre for Physics, Budapest, Hungary* ...63

Oral 2-4 **Time-resolved spectroscopic ellipsometry on Ge and InP**
11:40 – 12:00

•Shirly Espinoza[1], Steffen Richter[1], Mateusz Rebarz[1], Oliver Herrfurth[2], Nuwanjula Samarasingha[3], Rüdiger Schmidt-Grund[2], Jakob Andreasson[1,4], Stefan Zollner[3]
[1]*ELI Beamlines, Institute of Physics, Czech Academy of Sciences, Prague, Czech Republic*
[2]*Felix Bloch Institute for Solid State Physics, Universität Leipzig, Leipzig, Germany*
[3]*Department of Physics, New Mexico State University, Las Cruces, NM 88003, USA*
[4]*Condensed Matter Physics, Dept. of Physics, Chalmers University of Technology, Gothenburg, Sweden* ..64

Oral 2-5 **Retroreflective Ellipsotopometry**
12:00 – 12:20

•Chia-Wei Chen[1,2], Matthias Hartrumpf[2], Thomas Längle[2], Jürgen Beyerer[1,2]
[1]*Vision and Fusion Laboratory, Karlsruhe Institute of Technology, Karlsruhe 76131, Germany*
[2]*Fraunhofer Institute of Optronics, System Technologies and Image Exploitation, Karlsruhe, Germany* ...65

12:20 – 13:50 **Lunch Break**

Session 3 **Nanostructured and Metamaterials II** Monday 13:50-16:00
Chair: Siyuan Liu Auditorium

Invited 3-1
13:50 – 14:20
FDTD Modeling of the Mueller Matrix Ellipsometric Response of Complex Structures: Challenges and Limitations for Plasmonic Metamaterials
•Juan Antonio Zapien, Yishu Foo
Department of Materials Science and Engineering, City University of Hong Kong, Tat Chee Ave, Kowloon Tong, Hong Kong, SAR, PRC 66

Oral 3-2
14:20 – 14:40
Optical properties of Photonic Architectures fabricated by Soft Nanoimprinting Lithography
•Juan Luis García-Pomar, Pau Molet, Cristiano Matricardi, Miquel Garriga, Maria-Isabel Alonso, Agustín Mihi
Institut de Ciència de Materials de Barcelona, ICMAB-CSIC, Campus de la UAB, 08193 Bellaterra, Spain . . 67

Oral 3-3
14:40 – 15:00
Gold Nanoparticle Chains: characterization and modelling using spectroscopic ellipsometry
•Y. Battie[1], J. Gao[2], M. Stchakovsky[3], A. En Naciri[1], R. Oda[2], E. Pouget[2]
[1]*LCP-A2MC, Institut Jean Barriol, Université de Lorraine, 1 Bd Arago, 57070 Metz, France*
[2]*CBMN, CNRS–Université Bordeaux–Bordeaux INP, UMR 5248, Allée St Hilaire, 33607 Pessac, France*
[3]*Horiba Scientific, Avenue de la Vauve, Passage Jobin Yvon, 91120 Palaiseau, France* 68

Oral 3-4
15:00 – 15:20
Plasmon Excitation Probed by Ellipsometry
Zsuzsanna Pápa[1,2], János Csontos[2], Péter Dombi[1,2], •Judit Budai[2,3]
[1]*MTA "Lendület" Ultrafast Nanooptics Group, Wigner Research Centre for Physics, 1121 Budapest, Hungary*
[2]*ELI-ALPS Research Institute, ELI-HU Nonprofit Kft., 6720 Szeged, Hungary*
[3]*Department of Optics and Quantum Electronics, University of Szeged, 6720 Szeged, Hungary* 69

Oral 3-5
15:20 – 15:40
Nanostructured layers by oblique incidence deposition: microstructure and optical properties correlations for application to high-performance anti-reflection coatings
•F. Maudet[1], B. Lacroix[2,3], A. J. Santos[2,3], F. Paumier[1], M. Paraillous[4], C. Dupeyrat[4], R. García[2,3], F. M. Morales[2,3], T. Girardeau[1]
[1]*Institut Pprime, Université de Poitiers CNRS SP2MI BP 30179, 86962, Chasseneuil Futuroscope, France*
[2]*Department of Materials Science and Metallurgic Engineering, and Inorganic Chemistry, Faculty of Sciences, University of Cádiz, Spain*
[3]*IMEYMAT: Institute of Research on Electron Microscopy and Materials of the University of Cádiz, Spain*
[4]*Safran Electronics and Defense 86280 Saint-Benoît, France* 70

Oral 3-6
15:40 – 16:00
First Principles Calculations of the Dielectric Function of Gallium Polymorphs: from Bulk to Nanoparticles
•Yael Gutiérrez[1], Maria Losurdo[2], Pablo García-Fernández[3], April S. Brown[4], Henry O. Everitt[5,6], Javier Junquera[3], Fernando Moreno[1]
[1]*Group of Optics. Dept. of Applied Physics, University of Cantabria, Avda. Los Castros s/n 39005 Santander, Spain*
[2]*Institute of Nanotechnology, CNR-NANOTEC, via Orabona 4, 70126 Bari, Italy*
[3]*Departamento de Ciencias de la Tierra y Física de la Materia Condensada, University of Cantabria, Avda. Los Castros s/n 39005 Santander, Spain*
[4]*Department of Electrical and Computer Engineering, Duke University, Durham, North Carolina 27708, USA*
[5]*Department of Physics, Duke University, Durham, North Carolina 27708, USA*
[6]*U.S. Army Aviation and Missile RD&E Center, Redstone Arsenal, Alabama 35898, USA* 71

Session 4 **Organic and Polymer Materials I** Monday 13:50-16:00
Chair: Klaus-Jochen Eichhorn A Rooms

Invited 4-1
13:50 – 14:20
Ultra-Thin Composite Carbon Molecular Sieve Membranes from a Polymer of Intrinsic Microporosity Precursor
•Wojciech Ogieglo[1], Khalid Hazazi[1], Abdulrahman T. Alhazmi[1], Andreas Furchner[2], Xiaohua Ma[1], •Ingo Pinnau[1]
[1]*Functional Polymer Membranes Group, Advanced Membranes and Porous Materials Center, King Abdullah University of Science and Technology (KAUST), Thuwal 23955, Kingdom of Saudi Arabia*
[2]*Leibniz-Institut für Analytische Wissenschaften-ISAS-e.V., Schwarzschildstraße 8, 12489 Berlin, Germany* 72

Oral 4-2
14:20 – 14:40
Optical conductivity of PEDOT:Tos from the THz to the UV spectral range determined by spectroscopic ellipsometry
•Shangzhi Chen[1], Philipp Kühne[2], Vallery Stanishev[2], Sean Knight[3], Robert Brooke[4], Ioannis Petsagkourakis[1], Xavier Crispin[1], Mathias Schubert[2,3,5], Vanya Darakchieva[2], Magnus P. Jonsson[1]
[1]*Laboratory of Organic Electronics, Department of Science and Technology (ITN), Linköping University, SE-601 74 Norrköping, Sweden*
[2]*Terahertz Materials Analysis Center (THeMAC) and Center for III-Nitride Technology, C3NiT-Janzén, Department of Physics, Chemistry and Biology (IFM), Linköping University, SE-581 83 Linköping, Sweden*
[3]*Department of Electrical and Computer Engineering, University of Nebraska-Lincoln, Lincoln, Nebraska 68588, USA*
[4]*Acreo Swedish ICT, SE-601 74 Norrköping, Sweden*
[5]*Leibniz-Institut für Polymerforschung Dresden e.V., 01069 Dresden, Germany* 73

Oral 4-3
14:40 – 15:00
Investigation on the molecular vibrational and non-linear electronic excitation of PMMA using ultrafast laser radiation
•Theo Pflug, Markus Olbrich, Philipp Lungwitz, Alexander Horn
Laserinstitut Hochschule Mittweida, University of Applied Sciences Mittweida, Schillerstrasse 10, 09648 Mittweida, Germany 74

Oral 4-4
15:00 – 15:20
Efficiency optimization of tandem organic solar cells under oblique incidence based on optical analysis method
•Xuenan Zhao[1], Honggang Gu[1], Xianhua Ke[1], Ruoxi Xia[2], Hin-Lap Yip[2], Weiqi Li[3], Shiyuan Liu[1]
[1]*State Key Laboratory of Digital Manufacturing Equipment and Technology, Huazhong University of Science and Technology, Wuhan 430074, China*
[2]*Institute of Polymer Optoelectronic Materials and Devices State Key Laboratory of LuminescentMaterials and Devices, South China University of Technology, Guangzhou, China*
[3]*Wuhan Eoptics Technology Co. Ltd. Wuhan, Hubei 430075, China* 75

Oral 4-5
15:20 – 15:40
Functional Poly-p-xylylene Coatings via Chemical Vapor Deposition Polymerization
•Meike Koenig[1], Joerg Lahann[1,2]
[1]*Karlsruhe Institute of Technology, Institute of Functional Interfaces, Department of Advanced Polymers and Biomaterials, Hermann-von-Helmholtz-Platz 1, 76344 Eggenstein-Leopoldshafen, Germany*
[2]*University of Michigan, Biointerfaces Institute, 2800 Plymouth Rd, Ann Arbor, MI 48109, USA* 76

Oral 4-6
15:40 – 16:00
Photo-elastic/Stress-optic Characterization of Transparent Polymers using Transmission Spectroscopic Ellipsometry
Sungmo Yang, Sera Hong, •Sang Youl Kim
Department of Physics, College of Natural Science, Ajou University, 16499 Suwon, Republic of Korea 77

16:00 – 16:30 **Coffee Break**

Session 5 **Mueller-Matrix Ellipsometry I** Monday 16:30-19:00
Chair: Nina Hong Auditorium

Invited 5-1 **Tomographic Mueller-matrix scatterometry for nanostructure metrology**
16:30 – 17:00
•Xiuguo Chen, Shiyuan Liu
State Key Laboratory of Digital Manufacturing Equipment and Technology, Huazhong University of Science and Technology, Wuhan 430074, China 78

Oral 5-2 **Magnetic-field tuning of plasmonic effects through Mueller Matrix spectroscopic ellipsometry**
17:00 – 17:20
•Meng Wang[1], Honggang Gu[1], Xiuguo Chen[1], Chunfu Guo[2], Shiyuan Liu[1]
[1]*State Key Laboratory of Digital Manufacturing Equipment and Technology, Huazhong University of Science and Technology, Wuhan 430074, China*
[2]*Wuhan Eoptics Technology Co. Ltd. Wuhan, Hubei 430075, China* 79

Oral 5-3 **Mueller matrix ellipsometry using rotating anisotropic mirrors**
17:20 – 17:40
•A. Ruder[1], B. Wright[1], D. Peev[1], M. Hilfiker[1], C. M. Herzinger[4], M. Schubert[1,2,3]
[1]*Department of Electrical and Computer Engineering, University of Nebraska-Lincoln, Lincoln, Nebraska 68588, USA*
[2]*Leibniz Institute for Polymer Research, Dresden D-01005, Germany*
[3]*Department of Physics, Chemistry and Biology (IFM), Linköping University, SE 58183 Linköping, Sweden*
[4]*J.A. Woollam Co., Inc., 645 M Street, Suite 102, Lincoln, NE 68508, USA* 80

Oral 5-4 **A new method to derive best-fit parameters and their uncertainties from depolarizing Mueller-matrices**
17:40 – 18:00
•Matthias Wurm[1], Tobias Grunewald[1], Sven Teichert[1], Bernd Bodermann[1], Johanna Reck[2], Uwe Richter[2]
[1]*Physikalisch-Technische Bundesanstalt (PTB), Bundesallee 100, 38116 Braunschweig, Germany*
[2]*SENTECH Instruments GmbH, Schwarzschildstraße 2, 12489 Berlin, Germany* 81

Oral 5-5 **Optical response of rectangular array of elliptical plasmonic particles on glass revealed by Mueller matrix ellipsometry and FEM modelling**
18:00 – 18:20
•Per Magnus Walmsness[1], Thomas Brakstad[1], Brage B. Svendsen[1], John Walmsley[2], Jean Philippe Banon[3], Morten Kildemo[1]
[1]*Department of Physics, NTNU Norwegian University of Science and Technology, NO-7491 Trondheim, Norway*
[2]*Department of Materials Science and Metallurgy, University of Cambridge, Pembroke Street, Cambridge CB2 3QZ, UK*
[3]*Institut Langevin, CNRS UMR 7587, Inserm U979, ESPCI Paris, PSL Research University, Paris, France* 82

Oral 5-6 **Characterization of Ferroelectric Liquid Crystal Cells by Means of Mueller Matrix Ellipsometry**
18:20 – 18:40
•Sergiy Valyukh[1], Kenneth Järrendahl[1], Evgeny Pozhidaev[2], Andriy Rybalochka[3]
[1]*Department of Physics, Chemistry and Biology, Linköping University, Linköping, Sweden*
[2]*P.N. Lebedev Physics Institute, Russian Academy of Sciences, 119991 Moscow, Russia*
[3]*V.E. Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kiev, Ukraine* 83

Oral 5-7
18:40 – 19:00
Non-ideal optical response of liquid crystal variable retarders and its impact on their performance when used as polarization modulators
P. García Parejo[1], A. Campos-Jara[2], E. García-Caurel[3], O. Arteaga[3,4], •A. Álvarez-Herrero[2]
[1]*ISDEFE, Beatriz de Bobadilla 3, 28040 Madrid, Spain*
[2]*Space Optics Area, Instituto Nacional de Técnica Aeroespacial, INTA, Ctra de Ajalvir km4, Madrid, Spain*
[3]*Laboratoire de Physique des Interfaces et des Couches Minces, Ecole Polytechnique, 91128 Palaiseau, France*
[4]*Dep. Física Aplicada, Feman Group, IN2UB, Universitat de Barcelona, 08028 Barcelona, Catalonia, Spain*

Session 6 **Optical Modeling and Simulation I** Monday 16:30-19:00
Chair: Alexey B. Kuzmenko A Rooms

Invited 6-1
16:30 – 17:00
Optical response of self-assembled gold hemispheroidal lattices on oxidized silicon
Per M. Walmsness[1], Alberto Álvarez-Fernández[2,3], Guillaume Fleury[2], Virginie Ponsinet[3], •Morten Kildemo[1]
[1]*Department of Physics, NTNU Norwegian University of Science and Technology, NO-7491 Trondheim, Norway*
[2]*Laboratoire de Chimie des Polymères Organiques, CNRS UMR 5629, ENSCPB, Université de Bordeaux, 16 Avenue Pey-Berland, F-33607 Pessac Cedex, France*
[3]*Centre de Recherche Paul Pascal, Université de Bordeaux, CNRS UMR 5031, 115 Avenue Schweitzer, 33600 Pessac, France*

Oral 6-2
17:00 – 17:20
Symmetry of Linear Dielectric Response Tensors: Three Fundamental Conditions
Daniel Franta
Department of Physical Electronics, Faculty of Science, Masaryk University, Kotlářská 2, 611 37 Brno, Czech Republic

Oral 6-3
17:20 – 17:40
An Effective Screening Approach for Parametric Sensitivity Analysis in Spectroscopic Ellipsometry Data Modeling
Dmitriy V. Likhachev
GLOBALFOUNDRIES Dresden Module One LLC & Co. KG, Wilschdorfer Landstr. 101, D-01109 Dresden, Germany

Oral 6-4
17:40 – 18:00
In-situ spectroscopic ellipsometry study of Sn reduction from fluorine doped tin oxide (FTO) by hydrogen plasma in PECVD reactor
Lukas Halagacka[1,2], Mutaz Al-Ghzaiwat[3], Ileana Florea[3], Zuzana Mrazkova[1], Kamil Postava[1,2], Jaromír Pištora[1,2], •Martin Foldyna[3]
[1]*IT4Innovations, VŠB - Technical University of Ostrava, Studentská 6231/1B, 70833, Ostrava-Poruba, Czech Republic*
[2]*Nanotechnology Centre, VŠB - Technical University of Ostrava, 17. Listopadu 15/2172, 70833, Ostrava-Poruba, Czech Republic*
[3]*Laboratoire de Physique des Interfaces et des Couches Minces, Ecole Polytechnique, CNRS, Université Paris-Saclay, 91128 Palaiseau, France*

Oral 6-5
18:00 – 18:20
Partial coherence phenomena in spectroscopic ellipsometry of anisotropic structures
•Kamil Postava[1], Přemysl Ciompa[1,2], Henri Jaffrès[2], Jan Peřina Jr.[3], Jaromír Pištora[1]
[1]*Nanotechnology Centre and IT4Innovations, VŠB-Technical University of Ostrava, 17. Listopadu 15, 70833 Ostrava - Poruba, Czech Republic*
[2]*Unité Mixte de Physique CNRS/Thales and Université Paris-Sud, 1 Avenue A. Fresnel, F-91767 Palaiseau Cedex, France*
[3]*Joint Laboratory of Optics of Palacký University and Institute of Physics of ASCR, Palacký University, 17. listopadu 12, 771 46 Olomouc, Czech Republic*

Oral 6-6
18:20 – 18:40
Thickness-dependent Optical Properties of ZnO Films from the Mid-infrared to the Vacuum-ultraviolet

•Nuwanjula Samarasingha[1], Stefan Zollner[1], Dipayan Pal[2], Aakash Mathur[2], Ajaib Singh[2], Rinki Singh[3], Sudeshna Chattopadhyay[2,3,4]

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[3]*Discipline of Biosciences and Biomedical Engineering, Indian Institute of Technology Indore, Indore 453552, India*

[4]*Discipline of Physics, Indian Institute of Technology Indore, Indore 453552, India* 90

Oral 6-7
18:40 – 19:00
Spectroscopic Study of Cationic Order in Spinel Ferrite Thin Films

Vitaly Zviagin[1], Paula Huth[2], Chris Sturm[1], Jörg Lenzner[1], Annette Setzer[1], Reinhard Denecke[2], Pablo Esquinazi[1], Marius Grundmann[1], •Rüdiger Schmidt-Grund[1]

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[2]*Universität Leipzig, Wilhelm-Ostwald-Institut für Physikalische und Theoretische Chemie, Linnéstr. 2, 04103 Leipzig, Germany* 91

Keynote 2
Spectroscopic VIS Ellipsometry on Functional Organic and Polymer Thin Films

Eva Bittrich

Leibniz-Institut für Polymerforschung Dresden e.V., Hohe Str. 6, 01069 Dresden, Germany 92

Tuesday 08:30-09:10
Auditorium
Chair:
Vanya Darakchieva

Session 7 **Two-Dimensional Systems I**
Chair: Vanya Darakchieva

Tuesday 09:10-10:20
Auditorium

Invited 7-1
09:10 – 09:40
Infrared magneto-optical polarimetry on graphene and related materials

Alexey B. Kuzmenko

Department of Quantum Matter Physics, University of Geneva, Quai Ernest-Ansermet-1211 Geneva, Switzerland 93

Oral 7-2
09:40 – 10:00
Variable Angle Spectroscopic Ellipsometry of Hexagonal Boron Nitride Grown By High-Temperature Molecular Beam Epitaxy

•C.J. Mellor[1], T.S. Cheng[1], A. Summerfield[1], A.N. Khlobystov[2], L. Eaves[1], C.T. Foxon[1], P.H. Beton[1], K. Watanabe[3], T. Taniguchi[3], G. Cassabois[4], B. Gil[4], S.V. Novikov[1]

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[2]*School of Chemistry, University of Nottingham, Nottingham, NG7 2RD, UK*

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[4]*Laboratoire Charles Coulomb, UMR 5221CNRS-Université de Montpellier, F-3409 Montpellier, France* . . . 94

Oral 7-3
10:00 – 10:20
Layer-dependent dielectric functions of emerging 2D materials revealed by spectroscopic ellipsometry

•Shiyuan Liu, Baokun Song, Honggang Gu

State Key Laboratory of Digital Manufacturing Equipment and Technology, Huazhong University of Science and Technology, Wuhan 430074, China 95

Session 8	**Organic and Polymer Materials II**	Tuesday 09:10-10:20
	Chair: Wojciech Ogieglo	A Rooms

Invited 8-1
09:10 – 09:40

Giant Circular Dichroism Boosted by Excitonic Coupling in Homochiral Organic Thin Films

Matthias Schulz[1], Jennifer Zablocki[1], Oliya S. Abdullaeva[2], Frank Balzer[3], Arne Lützen[1], Oriol Arteaga[4], •Manuela Schiek[2]

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[2]*Energy and Semiconductor Research Laboratory, Institute of Physics, Carl-von-Ossietzky-University of Oldenburg, D-26129 Oldenburg, Germany*

[3]*Mads Clausen Institute, University of Southern Denmark, DK-6400 Sønderborg, Denmark*

[4]*Department of Applied Physics and IN2UB, University of Barcelona, 08028 Barcelona, Catalonia, Spain* .96

Oral 8-2
09:40 – 10:00

Strong absorption by non-fullerene acceptors: The path towards high efficiency in organic solar cells

Xavier Rodríguez-Martínez[1], Elham Rezasoltani[2], Michelle Vezie[2], Enrique Pascual San Jose[1], Sheridan Few[2], Iain McCulloch[3], A. R. Goñi[1,4], Jenny Nelson[2], •Mariano Campoy-Quiles[1]

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[2]*Physics Department, Imperial College London, SW7 2AZ, London, UK*

[3]*Physical Sciences and Engineering Division, KAUST Solar Center, Kind Abdullah University of Science and Technology, KSC Thuwal, 23955-6900, Saudi Arabia*

[4]*ICREA, Passeig Lluís Companys 23, 08010 Barcelona, Spain* 97

Oral 8-3
10:00 – 10:20

In-Situ Study of the Conformation Dependent Polaron Formation in Poly(3-HexylThiophene) (P3HT) upon Electrochemical Doping

•Christoph Cobet[1,2], Kerstin Oppelt[3], Kurt Hingerl[2], Helmut Neugebauer[4], Günther Knör[3], Niyazi Serdar Sariciftci[4], Jacek Gasiorowski[2]

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[2]*Center for Surface- and Nanoanalytics, Johannes Kepler Universität, Altenbergerstr. 69, 4040, Linz, Austria*

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10:20 – 10:50 **Coffee Break**

Session 9	**Anisotropic Materials**	Monday 10:50-12:40
	Chair: Chris Sturm	Auditorium

Invited 9-1
10:50 – 11:20

Generalized Ellipsometry on Low Symmetry Materials

•Alyssa Mock[1,2], Rafał Korlacki[2], Sean Knight[2], Marko Tadjer[3], Vanya Darakchieva[1], Mathias Schubert[1,2,4]

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[3]*U.S. Naval Research Laboratory, Washington, District of Columbia 20375, USA*

[4]*Leibniz Institute for Polymer Research, 01069 Dresden, Germany* 99

Oral 9-2
11:20 – 11:40
Transient birefringence and dichroism of ZnO studied with femtosecond time-resolved spectroscopic ellipsometry

•Oliver Herrfurth[1], Steffen Richter[2], Mateusz Rębarz[2], Shirly Espinoza[2], Joshua A. Leveillee[3], André Schleife[3], Jakob Andreasson[2,4], Marius Grundmann[1], Rüdiger Schmidt-Grund[1]

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[2]*ELI Beamlines, Institute of Physics, Czech Academy of Sciences, Prague, Czech Republic*

[3]*Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, Urbana, USA*

[4]*Condensed Matter Physics, Dept. of Physics, Chalmers University of Technology, Gothenburg, Sweden* . 100

Oral 9-3
11:40 – 12:00
Normal Incidence Generalized Ellipsometry Examinations of Geological Materials

•Gerald E. Jellison Jr.[1], Donovan N. Leonard[2], Lawrence M. Anovitz[3], Thomas M. Rosseel[1]

[1]*Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN 37831, USA*

[2]*Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, Oak Ridge, TN 37831, USA*

[3]*Chemical Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN 37831, USA* 101

Oral 9-4
12:00 – 12:20
Longitudinal phonon plasmon mode coupling and the strain-stress relationships in β-Ga_2O_3

•M. Schubert[1,2,3], A. Mock[1,3,4], R. Korlacki[1], S. Knight[1], Z. Galazka[5], G. Wagner[5], V. Wheeler[4], M. Tadjer[4], K. Goto[6], V. Darakchieva[3]

[1]*Department of Electrical and Computer Engineering, University of Nebraska-Lincoln, Lincoln, Nebraska 68588, USA*

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[4]*United States Naval Research Laboratory, Washington, DC 20375, USA*

[5]*Leibniz-Institut für Kristallzüchtung, Berlin, 12489, Germany*

[6]*Novel Crystal Technology, Inc., Japan* 102

Oral 9-5
12:20 – 12:40
Analysis of α-Titanium Grain Orientation Using Forward Modeling of Polarized Light Optical Microscopy

•Ke-Wei Jin, Marc De Graef

Department of Materials Science and Engineering, Carnegie Mellon University, Pittsburgh, Pennsylvania 15232, USA 103

Session 10 **Optical Modeling and Simulation II** Tuesday 10:50-12:40
Chair: Premysl Marsik A Rooms

Invited 10-1
10:50 – 11:20
Microscopic nature of the insulator-metal transition in VO_2 revealed by spectroscopic ellipsometry

Ievgen Voloshenko[1], Florian Kuhl[2], Angelika Polity[2], Audrey Berrier[1], •Bruno Gompf[1], Gabriel Schnoering[1], Martin Dressel[1]

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[2]*1.Physikalisches Institut und Zentrum fur Materialforschung (LaMa), Justus Liebig Universität Giessen, Heinrich-Buff-Ring 16, 35392 Giessen, Germany* 104

Oral 10-2
11:20 – 11:40
Ellipsometry study of TiO_2/Ti/Glass decorative coatings - the effect of thickness and optical constants of the dielectric layer

Lukasz Skowronski

Institute of Mathematics and Physics, UTP University of Science and Technology, Bydgoszcz, Poland . . . 105

Oral 10-3 **Optical Characterization of Highly Non-uniform Thin Films Using Spectroscopic Ellipsometry**
11:40 – 12:00
•Jiří Vohánka[1], Martin Čermák[1], Daniel Franta[1], Ivan Ohlídal[1], Vilma Buršíková[1], Vojtěch Homola[1], Miloslav Ohlídal[2], Štěpán Šustek[2]
[1]*Dept. of Physical Electronics, Faculty of Science, Masaryk University, Kotlářská 2, 611 37 Brno, Czech Republic*
[2]*Inst. of Physical Engineering, Brno University of Technology, Technická 2, 616 69 Brno, Czech Republic* .106

Oral 10-4 **Can Ellipsometry beat the Diffraction Limit?**
12:00 – 12:20
•Jean Pierre Perin, Kurt Hingerl
Center for Surface- and Nanoanalytics, Johannes Kepler Universität, Altenbergerstr. 69, Linz, Austria ...107

Oral 10-5 **Ellipsometry and Reflectometry of Thin Films Exhibiting Thickness Non-uniformity and Inhomogeneity in Optical Constants**
12:20 – 12:40
•Ivan Ohlídal, Jiří Vohánka, Daniel Franta, Martin Čermák, Vilma Buršíková
Dept. of Physical Electronics, Faculty of Science, Masaryk University, Kotlářská 2, Brno, Czech Republic .108

12:40 – 14:10 **Lunch Break**

Poster Session A Tuesday 14:10-16:10
A Rooms

Poster A-1 **Analysis Based on Equi-azimuth Curves of Transmission Ellipsometric Constants in Polar Coordinate for Optical Characterization of Uniaxial/Biaxial-oriented Flexible Substrates**
14:10 – 16:10
Sungmo Yang, Sera Hong, •Sang Youl Kim
Department of Physics, College of Natural Science, Ajou University, 16499 Suwon, Republic of Korea ...109

Poster A-2 **Transmission Mueller-Matrix Characterization of Transparent Wood and Ramie Films**
14:10 – 16:10
•Arturo Mendoza-Galván[1,2], Yuanyuan Li[3], Xuan Yang[3], Roger Magnusson[2], Kenneth Järrendahl[2], Lars Berglund[3], Hans Arwin[2]
[1]*Cinvestav-Querétaro, Libramiento Norponiente 2000, 76230 Querétaro, Mexico*
[2]*Materials Optics, Department of Physics, Chemistry and Biology, Linköping University, SE-58183, Linköping, Sweden*
[3]*Wallenberg Wood Science Center, Department of Fiber and Polymer Technology, KTH, Teknikringen 42, SE-10044 Stockholm, Sweden* 110

Poster A-3 **Ellipsometry (VASE) for Describing Anisotropic Intermolecular Coupling in Thin Films of Small Molecule Organic Semiconductors**
14:10 – 16:10
•Valentina Belova[1,2], Alexander Hinderhofer[1], Alexander Gerlach[1], Frank Schreiber[1]
[1]*Institut für Angewandte Physik, Universität Tübingen, 72076 Tübingen, Germany*
[2]*Institut de Ciència de Materials de Barcelona, ICMAB-CSIC, Campus de la UAB, 08193 Bellaterra, Spain* 111

Poster A-4 **Optical Characterization of Methacrylic Polymers Based on 1-(4-Nitrophenyl)piperazine**
14:10 – 16:10
•Beata Derkowska-Zielinska[1], Lukasz Skowronski[2], Dariusz Chomicki[1], Malgorzata Sypniewska[1], Robert Szczesny[3], Vitaliy Smokal[4], Oksana Krupka[4]
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[3]*Faculty of Chemistry, Gagarina 7, 87-100 Torun, Nicolaus Copernicus University in Torun, Poland*
[4]*Taras Shevchenko National University of Kyiv - 60 Volodymyrska - 01033 Kyiv Ukraine* 112

Poster A-5 **Environmental ellipsometry on metal surfaces**

14:10 – 16:10 •Emil Agócs[1], Alekszej Romanenko[1,2], Benjamin Kalas[1,3], László Péter[4], Tamás Novotny[1], Erzsébet Perez-Feró[1], Tivadar Lohner[1], Zsolt Kerner[1], Penka Terziyska[5], Zoltán Hózer[1], Péter Petrik[1]

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[3]*Doctoral School of Physics, Faculty of Science, University of Pécs, Ifjúság út. 6, H-7624 Pécs, Hungary*

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[5]*Institute of Solid State Physics, Bulgarian Academy of Sciences, Tzarigradsko Chaussee 72, Sofia 1784, Bulgaria* 113

Poster A-6 **Development and Evaluation of Micro Spot Spectroscopic Ellipsometer**

14:10 – 16:10 •Sang Jun Kim, Hee Kyu Yoon, Min Ho Lee, Sun Ja In, Sung Yong Cho, Yong Hyun Kwon, Bo kyung Kim, Dong Han Bae, Joon Ho Shin

Ellipsotechnology.co.Ltd., (WooMan-dong)2F EL-Tower, 358, GwonGwang-ro, PalDal-gu, SuWon-si, GyeongGi-do, 16498, Korea 114

Poster A-7 **Practical considerations for the application of Abbe-Koenig prism in spectroscopic ellipsometers**

14:10 – 16:10 •László Makai, Szilvia Bíró

Semilab Semiconductor Physics Laboratory Co. Ltd., Hungary 115

Poster A-8 **Micro-spot Spectroscopic Ellipsometer Using Reflective Objectives**

14:10 – 16:10 •Sungmo Park[1], Chanyang Lee[1], Ilsin An[1,2]

[1]*Department of Applied Physics, Hanyang University, Ansan, Gyeonggi-do, 15588, Republic of Korea*

[2]*Department of Photonics and Nanoelectronics, Hanyang University, Ansan, Gyeonggi-do, 15588, Republic of Korea* 116

Poster A-9 **Spatially and time-resolved single-wavelength pump-probe ellipsometry on a c-ZnO thin film**

14:10 – 16:10 •Oliver Herrfurth[1], Theo Pflug[2], Markus Olbrich[2], Marius Grundmann[1], Rüdiger Schmidt-Grund[1], Alexander Horn[2]

[1]*Felix Bloch Institute for Solid State Physics, Universität Leipzig, Leipzig, Germany*

[2]*Laserinstitut Hochschule Mittweida, Schillerstrasse 10, 09648 Mittweida, Germany* 117

Poster A-10 **Towards Quantum Cascade Laser based Phase-Modulated Spectroscopic Ellipsometry**

14:10 – 16:10 Alexander Ebner[1], •Jakob Kilgus[1], Robert Zimmerleiter[1], Christoph Cobet[2], Kurt Hingerl[3], Markus Brandstetter[1]

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[3]*Center for Surface- and Nanoanalytics, Johannes Kepler Universität, Altenbergerstr. 69, 4040, Linz, Austria* 118

Poster A-11 **Dual Rotating-Compensator Full-Stokes Polarimeter for Broadband Spectroscopic Applications**

14:10 – 16:10 •A.S. Gurevich[1,2], D.V. Avdoshina[1], B.A. Zyakin[1,2]

[1]*Polarlight LLC, Skolkovo Innovation Centre, Moscow, 143026, Russia*

[2]*Ioffe Institute, St. Petersburg, 194021, Russia* 119

Poster A-12 14:10 – 16:10 **Mueller matrix measurements of self-assembled gold nanoparticles in chiral structure**

•Y. Battie[1], J. Gao[2], E. Pouget[2], R. Oda[2], L. Broch[1], M. Pauly[3], A. En Naciri[1]

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[3]*ICS (UPR22-CNRS), 23 rue du Loess, BP 84047, 67034 Strasbourg Cedex 2, France* 120

Poster A-13 14:10 – 16:10 **Optical Properties of Nano-Grated Si-Based Multilayer Structure**

•Elvin H. Alizade[1], Samir N. Mammadov[2], Avtandil Tavkhelidze[3], Nazim T. Mamedov[1], Ayaz H. Bayramov[1], Yegana N. Aliyeva[1], Khuraman N. Ahmadova[1], Larissa Jangidze[4], Givi Skhiladze[4]

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[2]*Technische Universität Chemnitz, Reichenhainer Str. 70, 09126 Chemnitz, Germany*

[3]*Ilia State University, Cholokashvili ave. 3-5, 0162 Tbilisi, Georgia*

[4]*Institute of Micro and Nanoelectronics, Chavchavadze ave. 13, 0162 Tbilisi, Georgia* 121

Poster A-14 14:10 – 16:10 **Localized Surface Plasmon Resonance of Silver Nanoparticles in a variable-temperature thermodynamic bath**

•Marzia Ferrera[1], Michele Magnozzi[1], Francesco Bisio[2], Maurizio Canepa[1]

[1]*OptMatLab, Dipartimento di Fisica, Università di Genova, via Dodecaneso 33, 16146 Genova, Italy*

[2]*CNR-SPIN, Corso Perrone 24, 16152 Genova, Italy* 122

Poster A-15 14:10 – 16:10 **Microellipsometric Registration of Strong Coupling in MIM Structures with Ordered Lattice of Plasmonic Nanoparticles**

•Eugene Bortchagovsky[1], Fang Dai[2,3], Monika Fleischer[2], Pierre-Mishel Adam[3], Ralfy Kenaz[4], Ronen Rapaport[4]

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[3]*LNIO, Institut Charles Delaunay, Université de Technologie de Troyes, rue Marie Curie 12, CS 42060 - 10004 Troyes CEDEX, France*

[4]*The Racah Institute of Physics, The Hebrew University Jerusalem, Edmond J. Safra Campus, Jerusalem 91904, Israel* 123

Poster A-16 14:10 – 16:10 **Mid-IR and UV-VIS-NIR Mueller Matrix Ellipsometry Characterization of the Hyperbolic Dielectric Function Tensor of Crystallized Films of Carbon Nanotubes**

•S. Schoeche[1], J. A. Fan[2], J. Roberts[2], P.-S. Ho[3], A. L. Falk[3]

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[2]*Electrical Engineering Department, Stanford University, 348 Via Pueblo, Spilker Building, Room 307, Stanford, CA 94305-4088, USA*

[3]*IBM T.J. Watson Research Center, 1101 Kitchawan Road, Yorktown Heights, NY 10598, USA* 124

Poster A-17 14:10 – 16:10 **Structure Dependent Optical Properties of Nanoscale Bi_2Se_3 Films Deposited by Electron Beam Evaporation**

Shangdong Yang, •Yuxiang Zheng, Liao Yang, Huatian Tu, Mengyu Gao, Pian Liu, Yao Shan, Yao Chen, Rongjun Zhang, Songyou Wang, Liangyao Chen

Key Laboratory of Micro and Nano Photonic Structures, Ministry of Education, and Department of Optical Science and Engineering, Fudan University, Shanghai 200433, China 125

Poster A-18
14:10 – 16:10
Study of hybrid Tamm-plasmon polaritons mode by total internal reflection ellipsometry

•E. Bužavaitė-Vertelienė[1], S. Tumėnas[1], T. Tolenis[1], A. Valavičius[1], R. Lukošė[1], Z. Balevičius[1,2]

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[2]*Faculty of Electronics, Vilnius Gediminas Technical University, Sauletekio 11, LT-10223 Vilnius, Lithuania* 126

Poster A-19
14:10 – 16:10
Tunable index metamaterials made by bottom-up approaches

•M. Gómez-Castaño[1,2], H. Zheng[1], J. L. García-Pomar[2], R. Vallee[1], A. Mihi[2], S. Ravaine[1]

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[2]*Institut de Ciència de Materials de Barcelona, ICMAB-CSIC, Campus de la UAB, 08193 Bellaterra, Spain* 127

Poster A-20
14:10 – 16:10
Spectroscopic Stokes Ellipsometry of 3D Photonic Crystals in the Spectral Range of Resonant Bragg Diffraction

T.A. Ukleev[1,2], •A.S. Gurevich[1], N.N. Shevchenko[3], A.V. Sel'kin[1,2]

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[2]*St.Petersburg State University, St.Petersburg, 199034, Russia*

[3]*Institute of Macromolecular Compounds, St.Petersburg, 199004, Russia* 128

Poster A-21
14:10 – 16:10
Liquid switchable radial polarization converters made of sculptured thin films

M. Oliva-Ramírez[1], V.J. Rico[1], J. Gil-Rostra[1], O. Arteaga[2], E. Bertran[2], R. Serna[3], A.R. González-Elipe[1], •F. Yubero[1]

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[2]*ENPHOCAMAT (FEMAN) Group and Institute of Nanoscience and Nanotechnology (IN2UB), Universitat de Barcelona, Spain*

[3]*Institute of Optics "Daza de Valdés",CSIC, Madrid, Spain.* 129

Poster A-22
14:10 – 16:10
Mueller matrix ellipsometry of waveplates for control of their properties and alignment

•Pierre Koleják[1], Daniel Vala[1], Kamil Postava[1], Pavlína Provazníková[2], Jaromír Pištora[1]

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[2]*Meopta-Optika s.r.o., Kabelíkova 1, 750 02 Přerov, Czech Republic* 130

Poster A-23
14:10 – 16:10
Analytic Solution for Calculating the Surface Inclination of Bare Substrates Using Reflection-Based Generalized Ellipsometry

•Christian Negara[1], Thomas Längle[1], Jürgen Beyerer[1,2]

[1]*Fraunhofer IOSB, Fraunhoferstrasse 1, 76131 Karlsruhe, Germany*

[2]*Karlsruhe Institute of Technology, Kaiserstraße 12, 76131 Karlsruhe, Germany* 131

Poster A-24
14:10 – 16:10
Reference Structure Design for Nanometrology by enhanced Mueller Matrix Ellipsometry

•Tim Käseberg[1], Thomas Siefke[1,2], Stefanie Kroker[3], Bernd Bodermann[1]

[1]*Physikalisch-Technische Bundesanstalt, Bundesallee 100, 38116 Braunschweig, Germany*

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[3]*Laboratory for Emerging Nanometrology, Technische Universität Braunschweig, 38092 Braunschweig, Germany* 132

Poster A-25 14:10 – 16:10 **Incoherent effects in periodic structures: modelling and experimental demonstration**

Přemysl Ciompa[1,2], Kamil Postava[1], Tomáš Kohut[1], Henri Jaffrès[2], •Jaromír Pištora[1]

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•Andreas Furchner[1], Cordula Walder[1], Jörg Rappich[2], Karsten Hinrichs[1]

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•Ufuk Kilic[1], Alyssa Mock[2], Rene Feder[3], Derek Sekora[1], Matthew Hilfiker[1], Rafal Korlacki[1], Eva Schubert[1], Christos Argyropoulos[1], Mathias Schubert[1,3,4]

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[4]*Leibniz Institute for Polymer Research, 01069 Dresden, Germany* 135

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•Markus Olbrich, Theo Pflug, Philipp Lungwitz, Alexander Horn

Laserinstitut Hochschule Mittweida, Schillerstrasse 10, 09648 Mittweida, Germany 136

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•Daniel Franta[1], Martin Bránecký[2], Pavel Franta[1], Jiří Vohánka[1], Martin Čermák[1], Ivan Ohlídal[1], Vladimír Čech[2]

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[2]*Institute of Materials Chemistry, Faculty of Chemistry, Brno University of Technology, Purkyňova 118, 612 00 Brno, Czech Republic* 137

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•Tivadar Lohner[1], Edit Szilágyi[2], Zsolt Zolnai[1], Attila Németh[2], Péter Petrik[1]

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•Stefan Zollner, Pablo P. Paradis, Farzin Abadizaman, Nuwanjula S. Samarasingha

Department of Physics, New Mexico State University, Las Cruces, NM 88003, USA 139

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•Xudan Zhu, Yu Wu, Rongjun Zhang, Yuxiang Zheng, Songyou Wang, Haibin Zhao, Liangyao Chen

Department of Optical Science and Engineering, Fudan University, Shanghai 200433, China 140

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•O. Fursenko[1], M. Lukosius[1], J. Bauer[2], C. Villringer[2], M. Fraschke[1], M. Lisker[1], A. Mai[1]

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[2]*Technical University of Applied Sciences Wildau, Hochschulring 1, 15745 Wildau, Germany* 141

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•Ángel Luis Valverde Guijarro[1], Rafael Rodríguez de los Santos Díaz[2], Félix Salazar Bloise[2], Alberto Álvarez-Herrero[1], Tomás Belenguer Dávila[1]

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•R. Korlacki[1], A. Mock[1,3], S. Knight[1], M. Schubert[1,2,3], V. Darakchieva[3]

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•Tae Jung Kim[1], Van Long Le[1], Xuan Au Nguyen[1], Hoang Tung Nguyen[1], Han Gyeol Park[1], Thi Minh Hai Nguyen[2], Sunglae Cho[2], Duc Cuong Do[2], Soon Cheol Hong[2], •Young Dong Kim[1]

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•Chris Sturm, Andreas Müller, Anna Hassa, Max Kneiß, Vitaly Zviagin, Holger von Wenckstern, Marius Grundmann

Felix Bloch Institute for Solid State Physics, Universität Leipzig, Linnéstr. 5, 04103 Leipzig, Germany 145

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•Nina Hong[1], •Stefan Schoeche[1], Tom E. Tiwald[1], Cheng Zhang[2,3], Dongyang Wan[4], Thirumalai Venkatesan[4], Wenqi Zhu[2,3], Amit Agrawal[2,3], Henri J. Lezec[2,3]

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[4]*NUSNNI, National University of Singapore, 117411, Singapore* 146

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•Minglin Zhao[1], Tongchuan Ma[2], Jiandong Ye[2]

[1]*Department of Physics, Jiangsu University of Science and Technology, Zhenjiang, 212003, P. R. China*

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Agnieszka Chrzanowska

Institute of Physics, Kraków University of Technology 148

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•Simon Hurand[1], Alan Corvisier[1], Fabien Paumier[1], Thierry Girardeau[1], Cyril Dupeyrat[2], Antonio Jesús Santos Izquierdo-Bueno[3,4], Bertrand Lacroix[3,4]

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[4]*IMEYMAT: Institute of Research on Electron Microscopy and Materials of the University of Cádiz, Spain* 149

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A. Mock[1], R. Korlacki[2], S. Knight[2], •M. Stokey[2], V. Darakchieva[3], S. Schoeche [4], M. Schubert[2]

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[4]*J.A. Woollam Co., Inc., 645 M St. Lincoln Nebraska 68588, USA* 150

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•Nazim T. Mamedov[1], Ziya S. Aliev[1,2], Elvin H. Alizade[1], Samir N. Mammadov[3], Mahammad B. Babanly[4], Imamaddin R. Amiraslanov[1], Alexander M. Shikin[5], Evgueni V. Chulkov[5,6,7,8]

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[8]*Donostia International Physics Center (DIPC), 20018 Donostia-San Sebastián, Basque country, Spain* ..151

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•M. Kulik[1,2], D. E. Kołodyńska[3], H. M. Przewłocki[4], Z. Hubicki[3], A. Bayramov[5], K. Pyszniak[2]

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14:10 – 16:10 **Oxygen and Nitrogen Plasma**
•Natalia Kovaleva[1], Dagmar Chvostova[2], Alexandr Dejneka[2]

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[2]*Institute of Physics, Academy of Sciences of the Czech Republic, 18221 Prague, Czech Republic* 154

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P. Killea[1], J. Lyons[1], •F. C. Peiris[1], Anthony Richardella[2], Timothy Pillsbury[2], Nitin Samarth[2]

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14:10 – 16:10 Svetlana Svitasheva

Institute of Semiconductor Physics, Novosibirsk, Russian Federation 156

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Dept. of Physics, Norwegian University of Science and Technology (NTNU), 7491 Trondheim, Norway .. 157

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Department of Optical Science and Engineering, Fudan University, Shanghai 200433, China 158

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•Wei Liu[1], Yu Niu[1], Ziren Luo[1], Gang Jin[1,2]

[1]*NML, Beijing Key Laboratory of Engineered Construction and Mechanobiology, Institute of Mechanics, Chinese Academy of Sciences, Beijing 100190, China*

[2]*School of Engineering Science, University of Chinese Academy of Science, Beijing 100049, China* 159

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Yike Li[1,2], Luis Almeida[3], Ana Viana[3], •Yu Niu[1], Gang Jin[1,4]

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[4]*School of Engineering Science, University of Chinese Academy of Science, Beijing 100049, China* 160

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•A. Fernández[1], J.L. Fernández-Luna[2], F. Moreno[1], J.M. Saiz[1]

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•Saghar Nazari[1,2], Eva Bittrich[1], Lars Bittrich[1], Alexander Ruder[3], Ufuk Kilic[3], Negin Kananizadeh[3,4], Matthew Hilfiker[3], Rafal Korlacki[3], Petra Uhlmann[1,5], Klaus-Jochen Eichhorn[1], Andreas Fery[1,6], Eva Franke-Schubert[3,7], Mathias Schubert[1,3,7,8]

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Meng-Ting Chen, Chih-Ting Wu, •Chien-Yuan Han

Department of Electro-Optical Engineering, National United University, Miaoli, Taiwan, R.O.C 163

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•Alekszej Romanenko[1,2], B. Kalas[1,3], A. Nemeth[1], J. Nador[1], F. Vonderviszt[4], M. Fried[1,5], P. Petrik[1]

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Joint Detection of Four Neonatal Congenital Infection Markers with the Biosensor based on Imaging Ellipsometry

Haoyu Liu[1,2], •Yu Niu[1], Gang Jin[1,2]

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Optofluidics for Enhanced IR Microscopic Sensing

Christoph Kratz[1], Thomas W. Oates[1], Dirk Janasek[2], •Karsten Hinrichs[1]

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•Ivana Víšová, Markéta Vrabcová, Dagmar Chvostová, Hana Lísalová, Alexandr Dejneka

Institute of Physics CAS, Na Slovance 1999/2, 182 21 Prague 8, Czech Republic 167

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Biwas Subedi, Chongwen Li, Maxwell M. Junda, Kiran Ghimire, Zhaoning Song, Dewei Zhao, Yanfa Yan, •Nikolas J. Podraza

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Optical properties of a radiative cooling structure with high emissivity in atmospheric window based on periodically-structured UV-curing adhesive

Mengyu Gao[1], Xuefei Han[2], •Yuxiang Zheng[1], •Qinghong Zhang[2], Pian Liu[1], Yao Shan[1], Yao Chen[1], Rongjun Zhang[1], Songyou Wang[1], Liangyao Chen[1]

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Ryo Ishikawa[1], Koki Kawamura[1], A.T.M. Saiful Islam[1], Yoko Wasai[2], •Hajime Shirai[1]

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Poster A-63 **Ellipsometry Serving Hydrogen Storage: Analysis of the Mg/MgO/MgH_2 System**
14:10 – 16:10 •Yael Gutiérrez[1], Mari M. Giangregorio[2], Fabio Palumbo[2], April S. Brown[3], Fernando Moreno[1], Maria Losurdo[2]

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[3]*Dept. of Electrical and Computer Engineering, Duke University, Durham, North Carolina 27708, USA* . . 171

Poster A-64 **Electromagnon Excitation in Cupric Oxide Measured by Fabry-Pérot Enhanced**
14:10 – 16:10 **Terahertz Mueller Matrix Ellipsometry**
•Sean Knight[1], Dharmalingam Prabhakaran[2], Christian Binek[3], Mathias Schubert[1,4,5]

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Poster A-65 **Spectroscopic ellipsometry as the accredited measuring method and some**
14:10 – 16:10 **standardization aspects**
•Elena Ermilova, Andreas Hertwig, Uwe Beck

Bundesanstalt für Materialforschung und -prüfung (BAM), Division 6.7 Surface Modification and Measurement Technique, Unter den Eichen 87, D-12205 Berlin, Germany 173

Poster A-66 **Some aspects of interpretation of results of ellipsometric measurements**
14:10 – 16:10 Svetlana Svitasheva

Institute of Semiconductor Physics, 630090 Novosibirsk, Russian Federation 174

Poster A-67 **Optical characterization of vanadium oxide thin films**
14:10 – 16:10 •Adolf Canillas[1], Oriol Arteaga[1], Frank Güell[2], Paulina R. Martínez-Alanis[3], Michel Vergnat[4], Hervé Rinnert[4], Blas Garrido[2]

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Poster A-68 **Temperature Dependence of Critical Point Energies and Dielectric Functions of WS_2 by**
14:10 – 16:10 **Spectroscopic Ellipsometry**
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[2]*KU-KIST Graduate School of Converging Science & Technology, Korea University, Seoul 02841, Republic of Korea* 176

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•Aymeric Le Gratiet[1], M. D'Amora[2], Marti Duocastella[3], Riccardo Marongiu[1,4], Artemi Bendandi[1,4], Silvia Giordani[2,5], Paolo Bianchini[1], Alberto Diaspro[1,4]

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Poster A-70 14:10 – 16:10 **Case study on the dynamics of ultrafast laser excitation of thin gold films by spatially, spectroscopically and angularly resolved pump-probe ellipsometry**

•Theo Pflug, Markus Olbrich, Philipp Lungwitz, Alexander Horn

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Poster A-71 14:10 – 16:10 **Spectroscopic Ellipsometry Mapping of Femtosecond Laser Irradiated Diamond-like Carbon:Metal Nanocomposite Thin Films**

•Aušrinė Jurkevičiūtė[1], Justas Deveikis[2], Tomas Tamulevičius[1,2], Sigitas Tamulevičius[1,2]

[1]*Institute of Materials Science of Kaunas University of Technology, K. Baršausko st. 59, LT-51423 Kaunas, Lithuania*

[2]*Department of Physics, Faculty of Mathematics and Natural Sciences, Kaunas University of Technology, Studentų st. 50, LT-51368 Kaunas, Lithuania* 179

Poster A-72 14:10 – 16:10 **Light depolarization and characteristic length scales in colloidal suspensions**

Maximilian Gill, •Bruno Gompf, Martin Dressel, Gabriel Schnoering

1.Physikalisches Institute, Universität Stuttgart, Pfaffenwaldring 59, 70569 Stuttgart, Germany 180

Poster A-73 14:10 – 16:10 **Monitoring Sub-Wavelength Grating Structures for VCSEL Applications by Spectroscopic Ellipsometry**

•Peter Basa[1], Björn Lewald[2], Matthias Lessel[2], Attila Suto[1], Emeric Balogh[1], Benjamin Powell[1], Anna Bölcskei-Molnár[1], Szilvia Biró[1]

[1]*Semilab Semiconductor Physics Laboratory Co. Ltd., Budapest, Hungary*

[2]*Philips Photonics GmbH., Ulm, Germany* 181

Poster A-74 14:10 – 16:10 **Spectroscopic Ellipsometry Guidance for Fabrication and Operation of Thermochromic Polycrystalline Vanadium Dioxide Films**

Maxwell M. Junda, •Nikolas J. Podraza

Department of Physics & Astronomy and The Wright Center for Photovoltaics Innovation & Commercialization, University of Toledo, Toledo, OH 43606 USA 182

Poster A-75 14:10 – 16:10 **Temperature-dependent Optical Properties of Silicon Carbide Substrate using Ellipsometry**

•Li Huihui, Cui Changcai, Lu Jing, Xu Xipeng

Institute of Manufacturing Engineering, Huaqiao University, 361021 Xiamen, China 183

Poster A-76 14:10 – 16:10 **Optical Properties of MoO_3/Ag/MoO_3 Multilayer Structures Using Spectroscopic Ellipsometry**

Dae Ho Jung[1], Hyeon Seob So[1], Jin-Yeong Park[2], Hanki Kim[2], •Hosun Lee[1]

[1]*Department of Applied Physics, Kyung Hee University, Yong-In 17104, Republic of Korea*

[2]*School of Advanced Materials & Engineering, Sungkyunkwan University, Suwon, Republic of Korea* 184

Poster A-77 **Dielectric Function Spectra and Optical Transitions in TlBr Crystals for Radiation**
14:10 – 16:10 **Detectors**

•Ryota Kitano[1], Yong-Gu Shim[1], Toshiyuki Onodera[2], Tadayoshi Shoji[2], Katsumi Mochizuki[2], Nazim Mamedov[3], Masato Ishikawa[4], Kazuki Wakita[5]

[1]*Graduate School of Engineering, Osaka Prefecture University, 1-1 Gakuen-cho, Naka-ku, Sakai, Japan*

[2]*Tohoku Institute of Technology, 35-1, YagiyamaKasumi-cho, Taihaku-ku, Sendai, Miyagi 982-8577, Japan*

[3]*Institute of Physics, Azerbaijan National Academy of Sciences. H. Javid Ave. 131, AZ1143 Baku, Azerbaijan*

[4]*Graduate School of Science, Chiba University, 1-33 Yayoi, Inage, Chiba 263-8522, Japan*

[5]*Chiba Institute of Technology, 2-17-1 Tsudanuma, Narashino, Chiba 275-0016, Japan* 185

Poster A-78 **Ellipsometric characterization of Bi and Al_2O_3 coatings for plasmon excitation in an**
14:10 – 16:10 **optical fiber sensor**

•Eva Rodríguez-Schwendtner[1], Alberto Álvarez-Herrero[2], Antonio Mariscal[3], Rosalía Serna[3], Agustín González-Cano[1], María-Cruz Navarrete[4], Natalia Díaz-Herrera[1]

[1]*Optics Dept., Facultad de Óptica y Optometría, UCM, c/ Arcos de Jalón 118, 28037 Madrid, Spain*

[2]*Space Optics Area, Instituto Nacional de Técnica Aeroespacial, INTA, Ctra de Ajalvir km4, Madrid, Spain*

[3]*Laser Processing Group, Instituto de Óptica, CSIC, Serrano 121, 28006 Madrid, Spain*

[4]*Optics Dept., Facultad de Física, UCM, Pza Ciencias 1, 28040 Madrid, Spain* 186

Poster A-79 **Spectroscopic Ellipsometrical Study on Size Dependent Optical Properties of Bismuth**
14:10 – 16:10 **Nanofilms**

Liao Yang, Shangdong Yang, •Yuxiang Zheng, Huatian Tu, Mengyu Gao, Pian Liu, Yao Shan, Yao Chen, Songyou Wang, Rongjun Zhang, Liangyao Chen

Key Laboratory of Micro and Nano Photonic Structures, Ministry of Education, and Department of Optical Science and Engineering, Fudan University, Shanghai 200433, China 187

Poster A-80 **Ellipsometric characterization of epitaxial metallic oxide $SrRuO_3$ in a wide spectral**
14:10 – 16:10 **range**

•D. Chvostova[1], T. Kocourek[1], M. Jelinek[1], S. Zollner[1,2], A. Dejneka[1], M. Tyunina[1,3]

[1]*Institute of Physics ASCR, Na Slovance 2, 18221, Prague, Czech Republic*

[2]*Department of Physics, New Mexico State University, MSC 3D, P.O. Box 30001, Las Cruces, NM 88003, USA*

[3]*Microelectronics and Materials Physics Laboratories, University of Oulu, Finland* 188

Poster A-81 **Evaluation of Uncertainty of Measurement Result of Indication Error of Automatic**
14:10 – 16:10 **Polarimeter**

•Yun Wang, Wei Kong, Sen Zhang, Dan Yu Wang

Shandong Institute of Metrology, 28 Qianfo East Road, Jinan, Shandong 250014, China 189

Exhibitor Session Tuesday 16:10-17:10
Chair: Oriol Arteaga Auditorium

16:10 – 16:20 Sentech Instruments GmbH

16:20 – 16:30 ULVAC Inc.

16:30 – 16:40 J. A. Woollam Co., Inc. / LOT-Quantum Design GmbH

16:40 – 16:50 Semilab Semiconductor Physics Laboratory Co. Ltd.

16:50 – 17:00 Accurion GmbH

17:00 – 17:05 Fraunhofer IOSB

17:05 – 17:10 Horiba Scientific

Keynote 3 **Spectroscopic Ellipsometry and Nanopolarimetry of Organic Thin Films Using Brilliant Light Sources in the Mid Infrared Spectral Range** Tuesday 17:25-18:05 Auditorium Chair: Judit Budai

•Karsten Hinrichs, Christoph Kratz, Andreas Furchner, Timur Shaykhutdinov

Leibniz-Institut für Analytische Wissenschaften - ISAS - e.V., Schwarzschildstraße 8, 12489 Berlin, Germany 190

Session 11 **Two-Dimensional Systems II** Tuesday 18:05-19:25 Auditorium

Chair: Judit Budai

Oral 11-1 18:05 – 18:25 **Polarization-Resolved Microscopy for Low-symmetry Two-dimensional Materials**

•Chunguang Hu[1,2], Wanfu Shen[1,2], Shuchun Huo[1,2], Zhaoyang Sun[1,2], Lidong Sun[3], Xiaotang Hu[1,2]

[1]*State Key Laboratory of Precision Measuring Technology and Instruments, Tianjin University, Weijin Road, 300072 Tianjin, China*

[2]*Nanchang Institute for Microtechnology of Tianjin University, #92 Weijin Road, 300072 Tianjin, China*

[3]*Institute of Experimental Physics, Johannes Kepler University Linz, 4040 Linz, Austria* 191

Oral 11-2 18:25 – 18:45 **Spectral ellipsometry of monolayer transition-metal dichalcogenids - analysis of excitonic peaks in dispersion**

•Georgii Ermolaev[1,2], Dmitry Yakubovsky[1], Yuri Stebunov[1], Aleksey Arsenin[1], Valentyn Volkov[1,3]

[1]*Moscow Institute of Physics and Technology, 9 Institutsky Lane, Dolgoprudny, 141700, Russia*

[2]*Skolkovo Institute of Science and Technology, Nobel str. 3, 143026, Moscow, Russia*

[3]*University of Southern Denmark, Campusvej 55, DK-5230, Odense, Denmark* 192

Oral 11-3 18:45 – 19:05 **Infrared Spectroscopic Ellipsometry and Optical Spectroscopy of Plasmons in Bi_2Se_3, Bi_2Te_3, and Sb_2Te_3**

•Nazim T. Mamedov[1], Elvin H. Alizade[1], Ziya S. Aliev[1,2], Samir N. Mammadov[3], Nadir A. Abdulayev[1], Imamaddin R. Amiraslanov[1], Ayaz I. Bayramov[1], Mahammad B. Babanly[4], Javid N. Jalilli[1], Alexander M. Shikin[5], Evgueni V. Chulkov[5,6,7,8]

[1]*Institute of Physics, Azerbaijan National Academy of Sciences. H. Javid Ave. 131, AZ1143 Baku, Azerbaijan*

[2]*Azerbaijan State Oil and Industry University, AZ1010 Baku, Azerbaijan*

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[4]*Institute of Catalysis and Inorganic Chemistry, Azerbaijan National Academy of Sciences, Baku, Azerbaijan*

[5]*Saint Petersburg State University, 198504 Saint Petersburg, Russia*

[6]*Centro de Física de Materiales (CFM-MPC), Centro Mixto CSIC-UPV/EHU, 20018 Donostia, Spain*

[7]*Departamento de Física de Materiales UPV/EHU, 20080 Donostia-San Sebastián, Basque country, Spain*

[8]*Donostia International Physics Center (DIPC), 20018 Donostia-San Sebastián, Basque country, Spain* .. 193

Oral 11-4
19:05 – 19:25
Dielectric Function, Critical Points, and Band Structure of Layered $TlGaSe_2$, $TlGaS_2$, and $TlInS_2$
•Yong-Gu Shim[1], Zakir A. Jahangirli[2,3], Nazim T. Mamedov[1], Kazuki Wakita[4], Huseyn Orudzhev[2,3], Kojiro Mimura[1], Bakhshi Mekhdiyev[1,5]
[1]*Osaka Prefecture University, Gakuen-cho 1-1, Sakai, Osaka 599-8531, Japan*
[2]*Institute of Physics, Azerbaijan National Academy of Sciences. H. Javid Ave. 131, AZ1143 Baku, Azerbaijan*
[3]*Azerbaijan Technical University, 25 H. Javid Ave., Baku 370073, Azerbaijan*
[4]*Chiba Institute of Technology, 2-17-1 Tsudanuma, Narashino, Chiba 275-0016, Japan*
[5]*Baku State University, 23 Zahid Khalilov ave., Baku AZ 1148, Azerbaijan* 194

Session 12 **New Instrumental Developments II** Tuesday 18:05-19:25
Chair: Enric García-Caurel A Rooms

Oral 12-1
18:05 – 18:25
Spectroscopic Ellipsometry as an Essential Tool for the Characterization of Perovskite Photovoltaics
•Alexandros Zachariadis[1], Christos Kapnopoulos[1], Christina Kamaraki[1], Anastasios Galatsopoulos[2], Evangelos Mekeridis[2], Argiris Laskarakis[1], Stergios Logothetidis[1]
[1]*Lab for Thin Films - Nanobiomaterials - Nanosystems & Nanometrology (LTFN), Department of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece*
[2]*Organic Electronic Technologies (P.C.), Antoni Tritsi 21b, Thessaloniki, Greece* 195

Oral 12-2
18:25 – 18:45
Imaging Ellipsometry for Curved Surfaces
•Christian Negara[1], Thomas Längle[1], Jürgen Beyerer[1,2]
[1]*Fraunhofer IOSB, Fraunhoferstrasse 1, 76131 Karlsruhe, Germany*
[2]*Karlsruhe Institute of Technology, Kaiserstraße 12, 76131 Karlsruhe, Germany* 196

Oral 12-3
18:45 – 19:05
Analysis of Non-Idealities in Rhomb Compensators
•Ambalanath Shan, Balaji Ramanujam, Nikolas J. Podraza, Robert W. Collins
Wright Center for Photovoltaics Innovation & Commercialization and Department of Physics and Astronomy, The University of Toledo, Toledo OH 43606, USA 197

Oral 12-4
19:05 – 19:25
Curved-Surface Metrology by Imaging Mueller-Matrix Ellipsometry
•Matthias Duwe, Jan-Henrik Quast, Stefan Schneider
Accurion GmbH, Stresemannstrasse 30, 37079 Goettingen, Germany 198

Keynote 4
Biosensor based on Imaging Ellipsometry and its Applications in Biomedical and Environmental fields Wednesday 08:30-09:10
Auditorium
Chair:
Kenneth Järrendahl
•Yu Niu[1], Wei Liu[1], •Gang Jin[1,2]
[1]*NML, Beijing Key Laboratory of Engineered Construction and Mechanobiology, Institute of Mechanics, Chinese Academy of Sciences, Beijing 100190, China*
[2]*School of Engineering Science, University of Chinese Academy of Science, Beijing 100049, China* 199

Session 13 **Mueller-Matrix Ellipsometry II** Wednesday 09:10-10:10
Chair: Kenneth Järrendahl Auditorium

Invited 13-1
09:10 – 09:40
Advanced Modelling of Mueller Matrices for Circular Bragg Reflectors
Arturo Mendoza-Galván[1,2]
[1]*Cinvestav-Querétaro, Libramiento Norponiente 2000, 76230 Querétaro, Mexico*
[2]*Materials Optics, Department of Physics, Chemistry and Biology, Linköping University, SE-58183, Linköping, Sweden* 200

Invited 13-2 09:40 – 10:10 **Ultra-Sensitive Infrared Mueller-Matrix Ellipsometry For Structure And Thin-Film Analysis**

•Andreas Furchner, Karsten Hinrichs

Leibniz-Institut für Analytische Wissenschaften-ISAS-e.V., Schwarzschildstraße 8, 12489 Berlin, Germany 201

Session 14 **Electronic Materials and Band Structure I** Wednesday 09:10-10:10

Chair: Miklos Fried A Rooms

Invited 14-1 09:10 – 09:40 **Recent Progress on Ellipsometric Techniques for Probing Phase Transitions in Ferroelectric and Related Functional Materials**

Zhigao Hu

Technical Center for Multifunctional Magneto-Optical Spectroscopy (Shanghai) & Department of Electronic Engineering, School of Information Science and Technology, East China Normal University, 500 Dong Chuan Road, Shanghai 200241, China 202

Invited 14-2 09:40 – 10:10 **In-line Spectroscopic Ellipsometry for quality control of digital nanomanufacturing processes for Organic Electronic Devices**

•Stergios Logothetidis[1,2], Argiris Laskarakis[1], Alexandros Zachariadis[1]

[1]*Nanotechnology Lab LTFN, Aristotle University of Thessaloniki, Physics Dept. 54124 Thessaloniki, Greece*

[2]*Hellenic Organic & Printed Electronics Association (HOPE-A), Greece* 203

10:10 – 10:40 **Coffee Break**

Session 15 **Bio-Related Systems and Life Science Applications** Wednesday 10:40-12:30

Chair: Gang Jin Auditorium

Invited 15-1 10:40 – 11:10 **Histology of Tissue with Polarized Light: Differential Mueller Matrix Formalism**

•Tatiana Novikova[1], Hee Ryung Lee[1], Pengcheng Li[1,2], Hui Ma[2], Enric García-Caurel[1], Razvigor Ossikovski[1], Christian Lotz[3], Florian Kai Groeber-Becker[3,4], Sofia Dembski[3,4]

[1]*LPICM, CNRS, École Polytechnique, Université Paris-Saclay, 91128 Palaiseau, France*

[2]*Department of Physics, Tsinghua University, Beijing 100084, P. R. China*

[3]*Department of Tissue Engineering & Regenerative Medicine TERM, University Hospital Würzburg, Würzburg 97070, Germany*

[4]*Translation Center Regenerative Therapies, branch of Fraunhofer Institute for Silicate Research ISC, 97082 Würzburg, Germany* 204

Oral 15-2 11:10 – 11:30 **Biofunctional Nanoparticles-enabled Surface-enhanced Imaging Ellipsometry for Immunosensor**

•Wei Liu[1], Yiping Chen[2], Yu Niu[1], Gang Jin[1,3]

[1]*NML, Beijing Key Laboratory of Engineered Construction and Mechanobiology, Institute of Mechanics, Chinese Academy of Sciences, Beijing 100190, China*

[2]*College of Food Science and Technology, Huazhong Agricultural University, Wuhan 430070, Hubei Province, China*

[3]*School of Engineering Science, University of Chinese Academy of Science, Beijing 100049, China* 205

Oral 15-3 11:30 – 11:50 **Study of the Solvent and Backfiller Effects on the Structural Arrangement of the Tether**

•Saulius Tumėnas[1,2], Tadas Ragaliauskas[1], Tadas Penkauskas[1], Indrė Aleknavičienė[1], Martynas Talaikis[1], Gintaras Valinčius[1]

[1]*Dep. Bioelectrochemistry and Biospectroscopy, Life Sciences Center, Vilnius University 10257 Vilnius, Lithuania*

[2]*Dep. Optoelectronics, Center for Physical Sciences and Technology 10257 Vilnius, Lithuania* 206

Oral 16-5 **Thickness Dependent Optical and Electronic Properties of Semiconductor Thin-films**
12:10 – 12:30 **for Energy Research**

Aakash Mathur[1], Dipayan Pal[1], Ajaib Singh[1], Rinki Singh[2], Stefan Zollner[3], •Sudeshna Chattopadhyay[1,2,4]

[1]*Discipline of Metallurgy Engineering and Materials Science, Indian Institute of Technology Indore, Indore 453552, India*

[2]*Discipline of Biosciences and Biomedical Engineering, Indian Institute of Technology Indore, Indore 453552, India*

[3]*Department of Physics, New Mexico State University, Las Cruces, NM 88003, USA*

[4]*Discipline of Physics, Indian Institute of Technology Indore, Indore 453552, India* 213

12:30 – 20:00 **Free**

20:00 – 22:40 **Conference Dinner**

Keynote 5 **Ellipsometry at THz Frequencies: New Approaches for Metrology and Metamaterial-based Sensing** Thursday 08:30-09:10 Auditorium Chair: Herbert Wormeester

Tino Hofmann[1,2]

[1]*Department of Physics and Optical Science, University of North Carolina at Charlotte, 9201 Uni. City Blvd., Charlotte, NC 28223, USA*

[2]*THz Materials Analysis Center, Department of Physics, Chemistry, and Biology (IFM), Linköping University, SE 581 83 Linköping, Sweden* 214

Session 17 **THz Applications** Thursday 09:10-11:40 Auditorium
Chair: Herbert Wormeester

Invited 17-1 **Stealth Technology-Based Terahertz Frequency-Domain Ellipsometry for In-situ and Ex-**
09:10 – 09:40 **situ Applications**

Nerijus Armakavicius[1], Philipp Kühne[1], Vallery Stanishev[1], Sean Knight[2], Tino Hofmann[1,3], Craig M. Herzinger[4], Mathias Schubert[1,2,5], •Vanya Darakchieva[1]

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[2]*Department of Electrical and Computer Engineering, University of Nebraska-Lincoln, Lincoln, Nebraska 68588, USA*

[3]*Department of Physics and Optical Science, University of North Carolina at Charlotte, 9201 University City Blvd., Charlotte, North Carolina 28223, USA*

[4]*J.A. Woollam Co., Inc., 645 M Street, Suite 102, Lincoln, NE 68508, USA*

[5]*Leibniz-Institut für Polymerforschung Dresden e.V., 01069 Dresden, Germany* 215

Oral 17-2 **Optical Hall Effect Determination of Transport Properties and Profiles in Photovoltaic**
09:40 – 10:00 **Devices**

•Prakash Uprety, Indra Subedi, Maxwell M. Junda, Changlei Wang, Dhurba R. Sapkota, Prakash Koirala, Yanfa Yan, Robert W. Collins, Nikolas J. Podraza

Department of Physics and Astronomy & Wright Center for Photovoltaics Innovation and Commercialization, University of Toledo, Toledo, OH 43606, USA 216

Oral 17-3 **Field- and temperature-dependent optical Hall effect in group-III nitrides**

10:00 – 10:20 •Philipp Kühne[1,2,3], Nerijus Armakavicius[1,2,3], Vallery Stanishev[1,2,3], Jr-Tai Chen[1,3], Olle Kordina[1,3], Mathias Schubert[1,3,4], Vanya Darakchieva[1,2,3]

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[2]*Center for III-Nitride Technology, C3NiT-Janzén, Linköping University, SE-58183 Linköping, Sweden*

[3]*Semiconductor Materials Department of Physics, Chemistry and Biology (IFM), Linköping University, SE-58183 Linköping, Sweden*

[4]*Department of Electrical and Computer Engineering, University of Nebraska-Lincoln, Lincoln, Nebraska 68588, USA* 217

Oral 17-4 **Measurement of Conductivity Anisotropy and Real-Time Doping in Carbon Nanotube Films by THz Spectroscopic Ellipsometry**

10:20 – 10:40 •Maxwell M. Junda, Adam B. Phillips, Rajendra R. Khanal, Michael J. Heben, Nikolas J. Podraza

Department of Physics & Astronomy and The Wright Center for Photovoltaics Innovation & Commercialization, University of Toledo, Toledo, OH 43606 USA 218

10:40 – 11:10 **Coffee Break**

Invited 17-5 **Fabry-Pérot Enhanced Terahertz Mueller Matrix Ellipsometry for Materials Characterization**

11:10 – 11:40 •Sean Knight[1], Dharmalingam Prabhakaran[2], Christian Binek[3], Nerijus Armakavicius[4], Vallery Stanishev[4], Philipp Kühne[4], Tino Hofmann[5,4], Vanya Darakchieva[4], Mathias Schubert[1,4,6]

[1]*Department of Electrical and Computer Engineering, University of Nebraska-Lincoln, Lincoln, Nebraska 68588, USA*

[2]*Department of Physics, Clarendon Laboratory, University of Oxford, Parks Road, Oxford OX1 3PU, United Kingdom*

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[4]*Terahertz Materials Analysis Center, Department of Physics, Chemistry and Biology, Linköping University, SE-58183 Linköping, Sweden*

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[6]*Leibniz-Institut für Polymerforschung Dresden e.V., 01069 Dresden, Germany* 219

Session 18 **Data Analysis and Modeling Accuracy on Advanced Materials** Thursday 09:10-11:50 A Rooms

Chair: Andreas Hertwig

Invited 18-1 **Dielectric function decomposition by dipole orientation distribution of monoclinic and triclinic materials**

09:10 – 09:40 •Chris Sturm[1], Sonja Höfer[2], Kurt Hingerl[3], T. G. Mayerhöfer[2], Marius Grundmann[1]

[1]*Felix Bloch Institute for Solid State Physics, Universität Leipzig, Linnéstr. 5, 04103 Leipzig, Germany*

[2]*Leibniz-Institut für Photonische Technologien e.V., Albert-Einstein-Strae 9, D-07745 Jena, Germany*

[3]*Center for Surface- and Nanoanalytics, Johannes Kepler University Linz, Altenbergerstr. 69, Linz, Austria* 220

Oral 18-2 **Linear and nonlinear processing of spectra**

09:40 – 10:00 •D. E. Aspnes[1,2], V. L. Le[2], Y. D. Kim[2]

[1]*Department of Physics, North Carolina State University, Raleigh, NC 27695-8202 USA*

[2]*Department of Physics, Kyung Hee University, Seoul 02447, Republic of Korea* 221

Oral 18-3 **New solutions for ellipsometry data inversion**

10:00 – 10:20 •Mickaël Gilliot[1], Aomar Hadjadj[1], Michel Stchakovsky[2]

[1]*LISM, Université de Reims Champagne-Ardenne, 51687 Reims, France*

[2]*HORIBA Jobin Yvon SAS 91120 Palaiseau, France* 222

Oral 18-4 **Combinatorial Investigation of WO_3–MoO_3 Mixed Layers by Spectroscopic Ellipsometry using Different Optical Models**

10:20 – 10:40 •M. Fried[1,2], R. Bogar[1], Z. Lábadi[2], Z. Zolnai[2]

[1]*Institute of Microelectronics and Technology, Óbuda University, Tavaszmező u. 17, 1084 Budapest, Hungary*

[2]*Institute of Technical Physics and Materials Science, Centre for Energy Research, Hungarian Academy of Sciences, P.O. Box 49, H-1525 Budapest, Hungary* 223

10:40 – 11:10 **Coffee Break**

Oral 18-5 **Combined Interpolation/Filtering/Scale Change in Digital Data Processing**

11:10 – 11:30 •Van Long Le[1], Tae Jung Kim[1], •Young Dong Kim[1], •David E. Aspnes[1,2]

[1]*Department of Physics, Kyung Hee University, Seoul 02447, Republic of Korea*

[2]*Department of Physics, North Carolina State University, Raleigh, NC 27695-8202 USA* 224

Oral 18-6 **Synthesis and Study of γ-Fe_2O_3 and $CoFe_2O_4$ Based Ferrofluids by Means of Spectroscopic Mueller Matrix Ellipsometry**

11:30 – 11:50 •Michel Stchakovsky[1], Yann Battie[2], Damien Jamon[3], Sophie Neveu[4]

[1]*HORIBA Scientific, Avenue de la Vauve, 91120 Palaiseau, France*

[2]*LCP-A2MC, Institut Jean Barriol, Université de Lorraine, 1 Bd Arago, 57070 Metz, France*

[3]*Université de Lyon, CNRS, UMR 5516, Laboratoire Hubert Curien, Université Jean-Monnet, F-42000 Saint-Etienne, France*

[4]*Sorbonne Universités, UPMC Université Paris 06, CNRS, Laboratoire PHENIX, Case 51, 4 place Jussieu, F-75005 Paris, France* 225

Session 19 **Electronic Materials and Band Structure II** Thursday 11:40-12:30

Chair: Rosalía Serna Auditorium

Invited 19-1 **Femtosecond Transient Spectroscopic Ellipsometry on Semiconductors**

11:40 – 12:10 •Steffen Richter[1], Shirly Espinoza[1], Oliver Herrfurth[2], Mateusz Rębarz[1], Stefan Zollner[3], Rüdiger Schmidt-Grund[2], Jakob Andreasson[1,4]

[1]*ELI Beamlines/Fyzikální Ústav AV ČR, v.v.i., Za Radnicí 835, 25241 Dolní Břežany, Czech Republic*

[2]*Universität Leipzig, Felix-Bloch-Institut für Festkörperphysik, Linnéstr. 5, 04103 Leipzig, Germany*

[3]*New Mexico State University, Department of Physics, PO Box 30001, Las Cruces, NM 88003-8001, USA*

[4]*Chalmers tekniska högskola, Institutionen för fysik, Kemigården 1, 41296 Göteborg, Sweden* 226

Oral 19-2 **Unrevealing the particular behaviours in the bandgap of flash infrared annealed Perovskites**

12:10 – 12:30 •Efrain Ochoa-Martinez[1], Sandy Sanchez[1,2], Michael Saliba[1,3]

[1]*Adolphe Merkle Institute, University of Fribourg, Fribourg, 1700, Switzerland.*

[2]*Laboratory of Photomolecular Science (LSPM) École Polytechnique Fédérale de Lausanne (EPFL), 1015 Switzerland.*

[3]*Materials Department,Technische Universität Darmstadt, 64287 Darmstadt, Germany* 227

Session 20 **Solid-Liquid Interfaces** Thursday 11:50-12:30
Chair: Christoph Cobet A Rooms

Oral 20-1
11:50 – 12:10
Charge Accumulation and Reactions Kinetic on Copper Electrodes Surfaces Study by Electrochemical and Optical Polarization Techniques
•S. Vázquez-Miranda[1,2], K. Hingerl[1], C. Cobet[1]
[1]*Johannes Kepler Universität, Zentrum für Oberflächen und Nanoanalytik, Linz School of Education, Altenbergestr. 69, 4040 Linz, Austria*
[2]*Universidad Autónoma de San Luis Potosí (UASLP), Instituto de Investigación en Comunicación Optica Av, Karakorum 1470, 78216 San Luis Potosí, México* 228

Oral 20-2
12:10 – 12:30
Monitoring of the Anodizing of Magnesium Alloy AZ91
•Alexandre Zimmer[1,2], Delphine Veys-Renaux[3], Laurent Broch[4], Nicolas Stein[2], Emmanuel Rocca[3]
[1]*ICB, UMR 6303 CNRS-Université de Bourgogne Franche-Comté, 21078 Dijon, France*
[2]*IJL, UMR 7198 CNRS-Université de Lorraine, 57078 Metz, France*
[3]*IJL, UMR 7198 CNRS-Université de Lorraine, 54011 Nancy, France*
[4]*LCP-A2MC, IJB, Université de Lorraine, 57078 Metz, France* 229

12:30 – 14:00 **Lunch Break**

Poster Session B Thursday 14:00-16:00
A Rooms

Poster B-1
14:00 – 16:00
Mechano-optical behaviour of uniaxial stretched polyethylene terephthalate film investigated by Mueller matrix ellipsometry
•Zhikang Zhou, Hao Jiang, Shiyuan Liu
State Key Laboratory of Digital Manufacturing Equipment and Technology, Huazhong University of Science and Technology, Wuhan 430074, China 230

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Optical dielectric function of Si(bzimpy)$_2$ – a hexacoordinate silicon pincer complex determined by spectroscopic ellipsometry
•Yanzeng Li[1], Margaret Kocherga[2], Serang Park[1], Marc Lata[1], Micheal J. McLamb[1], Glenn D. Boreman[1], Thomas A. Schmedake[2], Tino Hofmann[1,3]
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[3]*THz Materials Analysis Center, Department of Physics, Chemistry and Biology (IFM), Linköping University, SE 581 83 Linköping, Sweden* 231

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Ellipsometric studies of thin polymer layers forming part of organic photovoltaic cells
•Natalia Nosidlak[1], Andrzej Danel[2], Janusz Jaglarz[2]
[1]*Institute of Physics, Cracow University of Technology, Podchorążych 1, 30-084, Kraków, Poland*
[2]*Department of Food Technology, Institute of Chemistry, University of Agriculture, ul. Balicka 122, 30-149, Kraków, Poland*
[3]*Institute of Materials Engineering, Mechanical Department, Cracow University of Technology, Al. Jana Pawła II 37; 31-864, Kraków, Poland* 232

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Gold nanoparticles growing in a polymer matrix : what can we learn from imaging ellipsometry?
•Corentin Guyot[1], Olivier Deparis[2], Michel Voué[1]
[1]*Physics of Materials and Optics, Research Institute for Materials Science and Engineering, University of Mons, Mons, Belgium*
[2]*University of Namur, Physics Department, Namur, Belgium* 233

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•Serang Park[1], Yanzeng Li[1], Daniel B. Fullager[2], Erin Sharma[3], Susanne Lee[3], Stefan Schoeche[4], Craig M. Herzinger[4], Glenn D. Boreman[1], Tino Hofmann[1,5]
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[5]*Department of Physics, Chemistry, and Biology, Linköping University, SE 581 83 Linköping, Sweden* 234

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A Detailed Study of the Optical and Thermoelectric Properties of Hybrid PEDOT:PSS/ZnO thin film composites
•Minghua Kong, Luis Alberto Pérez, Osnat Zapata, Mariano Campoy-Quiles, Agustín Mihi, Juan Sebastián Reparaz, Maria Isabel Alonso
Institut de Ciència de Materials de Barcelona, ICMAB-CSIC, Campus de la UAB, 08193 Bellaterra, Catalonia, Spain 235

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•Yong-Jai Cho, Won Chegal, Dong-Hyung Kim, Hyun Mo Cho
Semiconductor Integrated Metrology Team, Advanced Instrumentation Institute, Korea Research Institute of Standards and Science, Daejeon 34113, South Korea 236

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•Mateusz Rebarz[1], Shirly Espinoza[1], Steffen Richter[1], Oliver Herrfurth[2], Rüdiger Schmidt-Grund[2], Jakob Andreasson[1,3]
[1]*ELI Beamlines, Institute of Physics, Czech Academy of Sciences, Prague, Czech Republic*
[2]*Felix Bloch Institute for Solid State Physics, Universität Leipzig, Leipzig, Germany*
[3]*Condensed Matter Physics, Dept. of Physics, Chalmers University of Technology, Gothenburg, Sweden* . 237

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•Attila Sütő, Szilvia Bíró, Anna Bölcskei-Molnár
Semilab Semiconductor Physics Laboratory Co. Ltd., Budapest, Hungary 238

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•Sungmo Park[1], Jungtae Lee[1], Hyunjin Kim[2], Jaekyun Kim[2], Suenne Kim[2], Ilsin An[1,2]
[1]*Department of Applied Physics, Hanyang University, Ansan, Gyeonggi-do, 15588, Republic of Korea*
[2]*Dept. of Photonics and Nanoelectronics, Hanyang University, Ansan, Gyeonggi-do, 15588, Rep. of Korea* 239

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Broadband Infrared Single-Shot Laser Mapping Ellipsometry
•Andreas Furchner, Christoph Kratz, Karsten Hinrichs
Leibniz-Institut für Analytische Wissenschaften-ISAS-e.V., Schwarzschildstraße 8, 12489 Berlin, Germany 240

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Giorgio Baraldi, Marina García Pardo, José Gonzalo, Rosalia Serna, •Johann Toudert

Laser Processing Group, Instituto de Óptica, CSIC, Serrano 121, 28006 Madrid, Spain 241

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Shuchun Huo[1,2], •Chunguang Hu[1,2], Wanfu Shen[1], Xiaotang Hu[1,2]

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[2]*Nanchang Institute for Microtechnology of Tianjin University, #92 Weijin Road, 300072 Tianjin, China* . 242

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•Maria Sygletou[1], Francesco Bisio[2], Stefania Benedetti[3], Piero Torelli[4], Alessandro di Bona[3], Maurizio Canepa[1]

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•Laurentiu Baschir[1], Ana Maria Iordache[1], Dan Savastru[1], Aurelian Popescu[1], Ileana Cristina Vasiliu[1], Mihai Elisa[1], Cosmin Obreja[2], Michel Stchakovsky[3]

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[3]*HORIBA Scientific, Avenue de la Vauve, 91120 Palaiseau, France* 244

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Zhaokun Wang, Yuxi Wang, Xing Feng, Jinsong Xia, •Zhenyu Yang

Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology (HUST), 430074 Wuhan, Hubei, China 245

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•Ayaz Bayramov[1], Nazim T. Mamedov[1], Tayyar Dzhafarov[1], Yegana N. Aliyeva[1], Khuraman Ahmadova[1], Elvin H. Alizade[1], Saida Asadullayeva[1], Samir N. Mammadov[2], Mamed Sadigov[1], Shirin Ragimov[1]

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[2]*Technische Universität Chemnitz, Reichenhainer Str. 70, 09126 Chemnitz, Germany* 246

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•Zsuzsanna Pápa[1,2], János Csontos[2], Judit Budai[2,3]

[1]*MTA "Lendület" Ultrafast Nanooptics Group, Wigner Research Centre for Physics, 1121 Budapest, Hungary*

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Eugene Bortchagovsky

Institute of Semiconductor Physics of NAS of Ukraine, pr.Nauki 41, Kyiv 03028, Ukraine 248

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•Vladimir Tolmachev, Yuliya Zharova, Sergey Pavlov, Yury Koshtyal

Ioffe Institute, Polytechnicheskaya 26, St.-Petersburg 194021, Russia 249

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•Hans Arwin[1], Roger Magnusson[1], Kenneth Järrendahl[1], Stefan Schoeche[2]

[1]*Materials Optics, Department of Physics, Chemistry and Biology, Linköping University, SE-58183, Linköping, Sweden*

[2]*J.A. Woollam Co., Inc., 645 M Street, Suite 102, Lincoln, NE 68508 USA* 250

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•Tobias Grunewald[1], Matthias Wurm[1], Sven Teichert[1], Bernd Bodermann[1], Johanna Reck[2], Uwe Richter[2]

[1]*Physikalisch-Technische Bundesanstalt (PTB), Bundesallee 100, 38116 Braunschweig, Germany*

[2]*SENTECH Instruments GmbH, Schwarzschildstraße 2, 12489 Berlin, Germany* 251

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•Nina Hong, James N. Hilfiker

J.A. Woollam Co., Inc., 645 M Street, Suite 102, Lincoln, NE 68508, USA 252

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Ievgen Voloshenko[1], Markus Rommel[2], Juergen Weis[2], Audrey Berrier[1], •Bruno Gompf[1], Gabriel Schnoering[1], Martin Dressel[1]

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[2]*Max Plank Institut für Festkörperforschung,Heisenbergstraße 1, 70569 Stuttgart, Germany* 253

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•Farzin Abadizaman[1], Carola Emminger[1], Sean Knight[2], Mathias Schubert[2], Stefan Zollner[1]

[1]*Department of Physics, New Mexico State University, Las Cruces, NM, USA*

[2]*Department of Electrical Engineering and Center for Materials Research and Analysis, University of Nebraska-Lincoln, Lincoln, NE, USA* 254

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J. Tian[1], •M. Lancry[1], B. Poumellec[1], E. Garcia-Caurel[2], R. Ossikovski[2], C. Eypert[3], M. Stchakovsky[3]

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[2]*Laboratoire de physique des interfaces et des couches minces, CNRS, Ecole Polytechnique, Palaiseau, France*

[3]*HORIBA Europe Research Center, Palaiseau, France* 255

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•Chris Sturm, Vitaly Zviagin, Marius Grundmann

Felix Bloch Institute for Solid State Physics, Universität Leipzig, Linnéstr. 5, 04103 Leipzig, Germany 256

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•Farzin Abadizaman, Stefan Zollner

Department of Physics, New Mexico State University, Las Cruces, NM 88003, USA 257

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•Ufuk Kilic[1], Matthew Hilfiker[1], Rene Feder[2], Derek Sekora[1], Rafal Korlacki[1], Eva Schubert[1], Christos Argyropoulos[1], Mathias Schubert[1,3]

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[3]*Leibniz Institute for Polymer Research, 01069 Dresden, Germany* 258

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•Zibo Ke, Yu Fu, Siyuan Liu, Yanfei Li, Lei Yan

Spatial Information Integration and 3S Engineering Application Beijing Key Laboratory, Peking University, 100871 Beijing, China 259

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•J. Bauer[1], O. Fursenko[2], S. Marschmeyer[2], F. Heinrich[1], F. Villasmunta[1,3], C. Villringer[1], C. Zesch[1], S. Schrader[1]

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[3]*University of Rome, Tor Vergata, Department of Industrial Engineering, 00133 Rome, Italy* 260

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•Per Magnus Walmsness, Brage B. Svendsen, Paul C. V. Thrane, Thomas Brakstad, Morten Kildemo

Department of Physics, NTNU Norwegian University of Science and Technology, NO-7491 Trondheim, Norway 261

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•Christina Åkerlind [1,2], Tomas Hallberg[1], Sara K. Jönsson[2], Kenneth Järrendahl[2]

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[2]*Department of Physics, Chemistry and Biology, Linköping University, SE 581 83 Linköping. Sweden* 262

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•Jiří Vohánka[1], David Nečas[2], Daniel Franta[1]

[1]*Department of Physical Electronics, Faculty of Science, Masaryk University, Kotlářská 267/2, 611 37 Brno, Czech Republic*

[2]*CEITEC MU, Purkyňova 656/123, 612 00 Brno, Czech Republic* 263

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•Yong-Gu Shim[1], Ryo Tashiro[1], Kazuki Wakita[2], Nazim Mamedov[3]

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Poster B-36
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Birefringent Photonic Crystals for Polarization-discriminating Infrared Focal Plane Arrays

•Marc Lata[1], Yanzeng Li[1], Serang Park[1], Micheal J. McLamb[1], Tino Hofmann[1,2]

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InAs/GaAs Heteroepitaxy: Real-Time Reflectance Anisotropy Spectroscopy

•Abril Armenta Franco, Alfonso Lastras M., Luis Felipe Lastras M., David Ariza, Jorge Ortega

Instituto de Investigación en Comunicación Óptica UASLP, Av. Karakorum 1470. Lomas 4ła. Secc. 78210. San Luis Potosi, SLP, México 266

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Mueller Matrix Spectroscopic Ellipsometry Investigation of Aspect Ratio in Glancing Angle Deposition Thin Films

•Matthew Hilfiker[1], Ufuk Kilic[1], Khalil Bryant[2], Rene Feder[3], Eva Schubert[1], Mathias Schubert[1]

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•Evgeny Krüger[1], Chris Sturm[1], Steffen Richter[1,2], Sebastian Henn[1], Heinrich-Gregor Zirnstein[3], Jesús Zúñiga-Pérez[4], Christiane Deparis[4], Lukas Trefflich[1], Bernd Rosenow[3], Marius Grundmann[1], Rüdiger Schmidt-Grund[1]

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Composition Dependence of the Critical Points of SnS_xSe_{1-x} by Spectroscopic Ellipsometry

•Xuan Au Nguyen[1], Van Long Le[1], Hoang Tung Nguyen[1], Han Gyeol Park[1], Wonjun Lee[1], Thi Minh Hai Nguyen[2], Sunglae Cho[2], Tae Jung Kim[1], Young Dong Kim[1]

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Analyses by generalized ellipsometry of the anisotropy of an indium tin oxide metamaterial elaborated by ion beam sputtering in oblique angle deposition and suggestion of a two-layers optical model

•Alan Corvisier[1], Simon Hurand[1], Fabien Paumier[1], Thierry Girardeau[1], Cyril Dupeyrat[2], Antonio Jesús Santos Izquierdo-Bueno[3,4], Bertrand Lacroix[3,4]

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[4]*IMEYMAT: Institute of Research on Electron Microscopy and Materials of the University of Cádiz, Spain* 270

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Unravelling the Mysteries of a Modified $LiTaO_3$ Sample

A. Sharma[1], S. Okano[1], M. Haase[2], R. Ecke[2], S.E. Schulz[2], •T.I. Madeira[1], G. Salvan[1], D.R.T. Zahn[1]

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Lattice dynamics of orthorhombic $NdGaO_3$

A. Mock[1], R. Korlacki[2], S. Knight[2], •M. Stokey[2], A. Fritz[2], V. Darakchieva[3], M. Schubert[2]

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2D M0 Critical Point Observation on 3D Topological Insulator Bi_2Se_3

Elvin H. Alizade[1], •Nazim T. Mamedov[1], Ziya S. Aliev[1,2], Samir N. Mammadov[3], Imamaddin R. Amiraslanov[1], Mahammad B. Babanly[4], Alexander M. Shikin[5], Evgueni V. Chulkov[5,6,7,8]

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Poster B-45 14:00 – 16:00 **Spectroscopic Ellipsometry Study of $FA_xMA_{1-x}PbI_3$ Solid Solution Hybrid Perovskite Single Crystals**

•Maria Isabel Alonso[1], Bethan Charles[2], Adrián Francisco-López[1], Oliver J. Weber[2], Miquel Garriga[1], Mariano Campoy-Quiles[1], Mark T. Weller[2], Alejandro R. Goñi[1,3]

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Poster B-46 14:00 – 16:00 **Influence of Post-annealing on SnN_x Thin Films Prepared by Atomic Layer Deposition Studied by Spectroscopic Ellipsometry**

Mohd Zahid Ansari[1], •Petr Janicek[2,3], Karel Palka[4,3], Stanislav Slang[3], •Soo-Hyun Kim[1]

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[4]*Department of General and Inorganic Chemistry, Faculty of Chemical Technology, University of Pardubice, Studentska 95, Pardubice, 532 10 Czech Republic* 275

Poster B-47 14:00 – 16:00 **Dielectric Function of Sputtered Sb_2Te_3 Thin Films**

•Eldar Mammadov[1], Shun Okano[2], Samir N. Mammadov[2], Khuraman N. Ahmadova[1], Elnur Bagiyev[1], Yegana N. Aliyeva[1], Ayaz H. Bayramov[1], Dietrich Zahn[2], Nazim T. Mamedov[1]

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Poster B-48 14:00 – 16:00 **Optical Characterization of Wurtzite $In_xAl_{1-x}N$**

Sjoerd Broekhuijsen, Ching-Lien Hsiao, Jens Birch, Kenneth Järrendahl, •Roger Magnusson

Thin Film Physics, Department of Physics, Chemistry and Biology, Linköping University, SE-58183, Linköping, Sweden 277

Poster B-49 14:00 – 16:00 **Ellipsometry Insight into Double Oxides $ZnGa_2O_4$ Thin Films with Spinel Structure**

•M.M. Giangregorio[1], G. Bottaro[2], L. Armelao[2], M. Losurdo[1]

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[2]*ICMATE-CNR, Dept Chemistry, University of Padua, Padova, Italy* 278

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Yujun Shi[1], •Jie Lian[1], Zhongpei Feng[2], Kui Jin[2], Haonan Song[1], Kai Dai[1], Qingfen Jiang[1], Jiaxiong Fang[3]

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Poster B-51 14:00 – 16:00 **Spectroscopic UV ellipsometry on gallium-nitride/aluminium-nitride short period superlattice structures up to 10 eV**

•Michael Winkler[1], Martin Feneberg[1], Norbert Esser[2], Caroline B. Lim[3], Eva Monroy[3], Rüdiger Goldhahn[1]

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Poster B-52
14:00 – 16:00
Direct Detection of Glycated Hemoglobin with the Imaging Ellipsometry Immunosensor

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[3]*School of Engineering Science, University of Chinese Academy of Science, Beijing 100049, China* 281

Poster B-53
14:00 – 16:00
Using Electrochemistry-Total Internal Reflection Imaging Ellipsometry Biosensor to Analyse the Oxidation of Polyaniline-based Electrode in Water

Ke Ma[1,2], Ting Wang[1,2], Meng Li[3], •Wei Liu[1,2], •Yu Niu[1,2], Gang Jin[1,2]

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[3]*School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210023, China* 282

Poster B-54
14:00 – 16:00
Performance comparison of planar nanostructures for biosensing applications by Total Internal Reflection Ellipsometry

•B. Kalas, A. Romanenko, M. Fried, P. Petrik

Institute for Technical Physics and Materials Science, Centre for Energy Research, Hungarian Academy of Sciences, Konkoly Thege Miklós út 29-33, H-1121 Budapest, Hungary 283

Poster B-55
14:00 – 16:00
Ultrasensitive, Label-free Ellipsometric Biosensing Technique for Early Diagnostics of Alzheimer's Disease

•Dong-Hyung Kim[1], Won Chegal[1], Yong-Jai Cho[1], Sang-Won O[1,2], Se-Hwan Paek[2,3], •Hyun-Mo Cho[1]

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[2]*Department of Bio-Microsystem Technology, Korea University, Seoul, Rep. of Korea*

[3]*Department of Biotechnology, Korea University, Sejong, Rep. of Korea* 284

Poster B-56
14:00 – 16:00
Functionalizing gold with single strand DNA: novel insight into optical properties via combined AFM nanolithography and Spectroscopic Ellipsometry measurements

•Giulia Pinto[1], Pietro Parisse[2], Ilaria Solano[1], Paolo Canepa[1], Maurizio Canepa[1], Loredana Casalis[2], Ornella Cavalleri[1]

[1]*OPTMATLAB, Department of Physics, University of Genova, via Dodecaneso 33, 16146 Genova, Italy*

[2]*Elettra Sincrotrone Trieste S.C.p.A., s.s. 14 km 163, 5 in Area Science Park, Basovizza, Trieste, Italy* 285

Poster B-57
14:00 – 16:00
Total internal reflection ellipsometry of hybrid Tamm – plasmon polaritons mode for biosensing application

I. Plikusienė[1,2], E. Bužavaitė-Vertelienė[1], J. Talbot[3], T. Tolenis[1], A. Valavičius[1], A. Ramanavičius[1,2], A. Mickienė[4], •Z. Balevičius[1,5]

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[5]*Faculty of Electronics, Vilnius Gediminas Technical University, Sauletekio 11, LT-10223 Vilnius, Lithuania* 286

Poster B-58 14:00 – 16:00 **Membrane affinity of polylactide-co-glycolide (PLGA) nanoparticulate systems studied by in situ spectroscopic ellipsometry**

•Alekszej Romanenko[1,2], Emil Agócs[1], Éva Kiss[3], Peter Petrik[1], Gergő Gyulai[3]

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[3]*Laboratory of Interfaces and Nanostructures, Eötvös Loránd University, Pázmány Péter sétány 1/A, H-1117 Budapest, Hungary* 287

Poster B-59 14:00 – 16:00 **Reading out a Graphene Field Effect Transistor with Spectroscopic Imaging Ellipsometry**

•Ana I. Gómez Varela[1,2], Jérôme Borme[1], Chun-Da Liao[1], Adelaide Miranda[1], Maria Fátima Cerqueira[1,3], Pedro Alpuim[1,3], Pieter A. A. De Beule[1]

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[3]*CFUM – Center of Physics, University of Minho, 4710-057, Braga, Portugal* 288

Poster B-60 14:00 – 16:00 **Parametric Models for Polycrystalline Semiconductors**

•Nikolas J. Podraza, Maxwell M. Junda, Dipendra Adhikari, Biwas Subedi, Yanfa Yan, Robert W. Collins

Department of Physics and Astronomy & Wright Center for Photovoltaics Innovation and Commercialization, University of Toledo, Toledo, OH 43606, USA 289

Poster B-61 14:00 – 16:00 **Spectroscopic Ellipsometry Study of Solution-processed Perovskite $FACsPbI_xBr_{3-x}$ Film Films**

•Hajime Shirai[1], Kawamura[1], Ryo Ishikawa[1], Yoko Wasai[2]

[1]*Graduate School of Science and Engineering, Saitama University, Saitama, 338-8570 Japan*

[2]*Horiba, Ltd, Kanda, Chiyoda, Tokyo 101-0063, Japan* 290

Poster B-62 14:00 – 16:00 **2D Materials and Kramers-Kronig Relations: an Open Debate**

•Yael Gutiérrez[1], Fernando Moreno[1], Kurt Hingerl[2], Maria Losurdo[3]

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[3]*Institute of Nanotechnology, CNR-NANOTEC, via Orabona 4, 70126 Bari, Italy* 291

Poster B-63 14:00 – 16:00 **The Choice of Optimal Condition for Precise Measurements by Different Ellipsometers**

Eugene Bortchagovsky

Institute of Semiconductor Physics of NAS of Ukraine, pr.Nauki 41, Kyiv 03028, Ukraine 292

Poster B-64 14:00 – 16:00 **N^{+2} ion bombardment effect on the optical responses of anatase TiO_2 ultrathin films by Raman and spectroscopic ellipsometry**

M.-B. Bouzourâa, Y. Battie, F. Araiedh, F. Ducos, N. Chaoui, •A. En Naciri

LCP-A2MC, Institut Jean Barriol, Metz, Université de Lorraine, France 293

Poster B-65 14:00 – 16:00 **Application of the B-spline to IR spectroscopic ellipsometry data**

•Joel Mohrmann, Tom Tiwald, Jeff Hale, James Hilfiker, Andrew Martin

J.A. Woollam Co., 645 M Street, Lincoln, NE 68508, USA 294

Poster B-66 14:00 – 16:00 **In-situ optical response of redox reactions on copper (111) in organic electrolytes**

Mario Meixner[1], •Luis Rosillo-Orozco[1,2], Saúl Vázquez-Miranda[1,2], Kurt Hingerl[1], Christoph Cobet[1,3]

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Poster B-67 14:00 – 16:00 **Monitoring the Cycling Stability of Electrochromic *a*Na_xWO_3 Thin Films in Aqueous Medium**

•Alexandre Zimmer[1,2], Mickaël Gilliot[3], Manuel Tresse[4], Laurent Broch[5], Clotilde Boulanger[2], Nicolas Stein[2], David Horwat[4]

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[5]*LCP-A2MC, IJB, Université de Lorraine, 57078 Metz, France* 296

Poster B-68 14:00 – 16:00 **Ellipsometric Analysis of Concentration Gradients induced in Semiconductor Crystals by Pulsed Laser Induced Epitaxy**

•J. Schlipf[1,2,3], E. Martín[4], M. Stchakovsky[5], A. Benedetti[6,7], I. A. Fischer[2,3], J. Schulze[2], S. Chiussi[1]

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[2]*Institut für Halbleitertechnik (IHT), Universität Stuttgart, Pfaffenwaldring 47, 70569 Stuttgart, Germany*

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[4]*Dpto. Mecánica, Máquinas, Motores Térmicos y Fluidos, Universidad de Vigo, Campus Lagoas, Vigo, Spain*

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[6]*CACTI, Universidad de Vigo, Campus Lagoas, 36310 Vigo, Spain*

[7]*European Commission, Joint Research Centre, Directorate for Nuclear Safety and Security, P.O. Box 2340, 76125 Karlsruhe, Germany* 297

Poster B-69 14:00 – 16:00 **Real Time in-situ Analysis of ALD**

•Adrian Blümich, Franziska Naumman, Dr. Hassan Gargouri, Dr. Bernd Gruska

SENTECH Instruments GmbH, Schwarzschildstraße 2, 12489 Berlin, Germany 298

Poster B-70 14:00 – 16:00 **Characterization of isolated lines by tomographic Mueller-matrix scatterometry**

•Chao Chen, Xiuguo Chen, Shiyuan Liu

State Key Laboratory of Digital Manufacturing Equipment and Technology, Huazhong University of Science and Technology, Wuhan 430074, China 299

Poster B-71 14:00 – 16:00 **Evaluation of Measuring Methods of the Response Time of Liquid Crystals for Use in Space Instrumentation**

•A. Campos-Jara[1], P. García Parejo[2], A. Álvarez-Herrero[1]

[1]*Space Optical Instrumentation Area, INTA, Crta. De Ajalvir, KM4, 28850 Torrejon de Ardoz, Madrid, Spain*

[2]*ISDEFE, Beatriz de Bobadilla 3, 28040 Madrid, Spain* 300

Poster B-72 14:00 – 16:00 **New polarization parameters for quantitative characterization of microstructure features**

Weipeng Li, Wei Sheng, Yang Dong, •Honghui He, •Hui Ma

Graduate School at Shenzhen, Tsinghua University, Shenzhen 518055, China 301

Poster B-73 14:00 – 16:00 **Coloration Mechanism of Electrochromic *a*Na_xWO_3 thin films**

•Alexandre Zimmer[1,2], Mickaël Gilliot[3], Manuel Tresse[4], Laurent Broch[5], Kessein Eric Tillous[4,6], Clotilde Boulanger[2], Nicolas Stein[2], David Horwat[4]

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[3]*LISM, Université de Reims Champagne-Ardenne, 51687 Reims, France*

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Poster B-74 14:00 – 16:00 **High-Quality Oxide Coating Materials Used in Gravitational-Wave Advanced Detectors**

•Alex Amato[1], Maurizio Canepa[2], Massimo Granata[1], Gianpietro Cagnoli[1,3], Christophe Michel[1], Laurent Pinard[1], Julien Teillon[1], Silvana Terreni[2]

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[3]*Institut Lumière et Matière, CNRS (UMR 5306), Université de Lyon, F-69622 Villeurbanne, France* 303

Poster B-75 14:00 – 16:00 **Surface Modification & Spectroscopic Ellipsometry: the case of Indium Phosphide surfaces submitted to RF plasma Ar interaction**

Solene Béchu[1], Anais Loubat[2,1], Muriel Bouttemy[2,1], Jackie Vigneron[2,1], Sofia Gaiaschi[3], Patrick Chapon[3], •Celine Eypert[3], •Arnaud Etcheberry[2,1]

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[3]*HORIBA Jobin Yvon SAS, avenue de la Vauve, Passage Jobin Yvon, CS 45002, 91120 Palaiseau, France* . . 304

Poster B-76 14:00 – 16:00 **Dielectric function changes of Copper films due to annealing process observed by spectroscopic ellipsometry**

•Jiamin Liu, Hao Jiang, Shiyuan Liu

State Key Laboratory of Digital Manufacturing Equipment and Technology, Huazhong University of Science and Technology, Wuhan 430074, China 305

Poster B-77 14:00 – 16:00 **Influence of the Chemical Composition on Optical Properties of Tellurite Glasses**

•Bozena Burtan-Gwizdala[1], Manuela Reben[2], Jan Cisowski[1], El Sayed Yousef[3]

[1]*Institute of Physics, Cracow University of Technology, ul. Podchorazych 1, 30-084 Cracow, Poland*

[2]*Faculty of Materials Science and Ceramics, AGH – University of Science and Technology, al. Mickiewicza 30, 30-059 Cracow, Poland*

[3]*Department of Physics, Faculty of Sciences, King Khalid University, P.O. Box 9004, Abha, Saudi Arabia* . . 306

Poster B-78 14:00 – 16:00 **Degradation of Perovskite Layers for Solar Cell Applications Investigated by In-situ Spectroscopic Ellipsometry**

•Sven Peters[1], Alvaro Tejada[2], Florian Ruske[2], Carolin Rehermann[2]

[1]*SENTECH Instruments GmbH, Schwarzschildstraße 2, 12489 Berlin, Germany*

[2]*Helmholtz-Zentrum Berlin für Materialien und Energie, Institut Silizium Photovoltaik, Kekuléstr. 5, 12489 Berlin, Germany* 307

Poster B-79 14:00 – 16:00 **The influence of the deposition rate on microstructural and optical properties of the thin layers of the Au-Sn diffusive alloys**

•T. Rerek[1], L. Skowronski[2], R. Szczesny[3], M.K. Naparty[2], B. Derkowska-Zielinska[1]

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[3]*Faculty of Chemistry, Gagarina 7, 87-100 Torun, Nicolaus Copernicus University in Torun, Poland* 308

Poster B-80 14:00 – 16:00 **Optical Properties and Chemical Composition of Transition Layers Formed by Noble Gas Ions Irradiation of TiO_2/SiO_2 Structures**

M. Kulik[1,2], •J. Żuk[2], D. E. Kołodyńska[3], A. Olejniczak[1,4], Z. Hubicki[3], A. Bayramov[5], M. Turek[2]

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[3]*Faculty of Chemistry, Maria Curie-Skłodowska University, 20-031 Lublin, Poland*

[4]*Faculty of Chemistry, Nicolaus Copernicus University, 87-100 Toruń, Poland*

[5]*Institute of Physics, Azerbaijan National Academy of Sciences, AZ1143 Baku, Azerbaijan* 309

Poster B-81 14:00 – 16:00 **Optimization of Calibration Methods for Gem Polarimeters**

•Wei Kong, Yun Wang, Qian-Hui Ye

Shandong Institute of Metrology, 28 Qianfo East Road, Jinan, Shandong 250014, China 310

Keynote 6 **Ellipsometry and DFT Analyses of Solar Cell Materials** Thursday 16:00-16:40

Hiroyuki Fujiwara

Department of Electrical, Electronic and Computer Engineering, Gifu University, 1-1 Yanagido, Gifu 501-1193, Japan 311

Auditorium

Chair: Norbert Esser

Session 21 **Electronic Materials and Band Structure III** Thursday 16:40-19:20

Chair: Norbert Esser Auditorium

Invited 21-1 16:40 – 17:10 **Granular Superconductivity in Cuprate/Manganite Multilayer Observed by THz Ellipsometry**

•Premysl Marsik[1], Benjamin P.P. Mallett[1,2], Jarji Khmaladze[1], Mathias Soulier[1], Subhrangsu Sarkar[1], Edith Perret[1,3], Andrea Cerreta[1], Milan Orlita[4], Neven Biškup[5], Maria Varela[5], Christian Bernhard[1]

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[3]*EMPA, Lerchenfeldstrasse 5, 9014 St. Gallen, Switzerland*

[4]*Laboratoire National des Champs Magnétiques Intenses, CNRS-UJF-UPS-INSA, Grenoble, France*

[5]*Departamento de Física Aplicada III, Instituto Pluridisciplinar, Univ. Complutense de Madrid, Spain* ... 312

Oral 21-2 17:10 – 17:30 **Direct observation of double exchange in ferromagnetic $La_{0.7}Sr_{0.3}CoO_3$ by broadband ellipsometry**

P. Friš, D. Munzar, O. Caha, •A. Dubroka

Department of Condensed Matter Physics, Faculty of Science and Central European Institute of Technology, Masaryk University, Kotlářská 2, 611 37 Brno, Czech Republic 313

17:30 – 18:00 **Coffee Break**

Oral 21-3 **Temperature Dependence of the Critical Point Parameters of the Direct Band Gap of**
18:00 – 18:20 **Germanium**

•Carola Emminger, Nuwanjula Samarasingha, Farzin Abadizaman, Stefan Zollner
Department of Physics, New Mexico State University, Las Cruces, NM 88003, USA 314

Oral 21-4 **Band-to-Band Transitions, Selection Rules, and Excitonic Contributions in Monoclinic**
18:20 – 18:40 **β-$(Al_xGa_{1-x})_2O_3$**

•Matthew Hilfiker[1], Ufuk Kilic[1], Alyssa Mock[1,2], Sean Knight[1], Rafal Korlacki[1], Akhil Mauze[4], Yuewei Zhang[4], James Speck[4], Mathias Schubert[1,2,3]
[1]*Department of Electrical and Computer Engineering, University of Nebraska-Lincoln, Lincoln, Nebraska 68588, USA*
[2]*Department of Physics, Chemistry and Biology, Linköping University, SE 58183, Linköping, Sweden*
[3]*Leibniz Institute for Polymer Research, 01069 Dresden, Germany*
[4]*Materials Department, University of California Santa Barbara, Santa Barbara, CA 93106, USA* 315

Oral 21-5 **Point-By-Point Ellipsometry Analysis Of Lead Halide Perovskite Films**
18:40 – 19:00

•Alvaro Tejada[1,a,2], Steffen Braunger[1,a], Carolin Rehermann[1,b], Eva Unger[1,b], Steve Albrecht[1,c], Lars Korte[1,a], Jorge Andrés Guerra[2]
[1]*Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Kekuléstraße 5, 12489 Berlin, Germany*
[a]*Institut für Silizium-Photovoltaic*
[b]*Young Investigator Group Hybrid Materials Formation and Scaling*
[c]*Young Investigator Group for Perovskite Tandem Solar Cells*
[2]*Departamento de Ciencias, Sección Física, Pontificia Universidad Católica del Perú, Av. Universitaria 1801, Lima 32, Peru* 316

Oral 21-6 **The Direct Band Gap of α-Sn Investigated by Infrared Ellipsometry**
19:00 – 19:20

•Rigo A. Carrasco[1], Cesy M. Zamarripa[1], Stefan Zollner[1], José Menéndez[2]
[1]*Department of Physics, New Mexico State University, MSC 3D, P.O. Box 30001, Las Cruces, NM 88003, USA*
[2]*Department of Physics, Arizona State University, Tempe, AZ, 85287, USA* 317

Session 22 **Imaging and Process Monitoring** Thursday 16:40-19:20
Chair: Péter Petrik A Rooms

Invited 22-1 **Structured Illumination Mueller Matrix Imaging**
16:40 – 17:10

•Thomas A. Germer, Joseph P. Angelo, Maritoni Litorja
Sensor Science Division, National Institute of Standards and Technology, 100 Bureau Drive, Gaithersburg, MD 20899 USA 318

Oral 22-2 **Mueller-Matrix Imaging Ellipsometry of Structural Anomalies and Inhomogenities**
17:10 – 17:30

•Daniel Fischer, Andreas Hertwig, Uwe Beck
Dep. Surface Modification and Measurement Technology, BAM Bundesanstalt für Materialforschung und -prüfung, Unter den Eichen 44-46, 12203 Berlin, Germany 319

17:30 – 18:00 **Coffee Break**

Oral 22-3 **In-situ Monitoring Oxygen Plasma Enhanced Atomic Layer Deposition of metal Oxide**
18:00 – 18:20 **Ultra-thin Films using Dual Box model based Spectroscopic Ellipsometry**

•Ufuk Kilic[1], Alyssa Mock[2], Derek Sekora[1], Natale Ianno[1], Eva Schubert[1], Mathias Schubert[1,2,3]
[1]*Department of Electrical and Computer Engineering, University of Nebraska-Lincoln, Lincoln, Nebraska 68588, USA*
[2]*THz Materials Analysis Center, Department of Physics, Chemistry and Biology, Linköping University, 58183 Linköping, Sweden*
[3]*Leibniz Institute for Polymer Research, 01069 Dresden, Germany* 320

Oral 22-4
18:20 – 18:40
Determining the states of excitation of thin gold films upon irradiation with ultrafast laser radiation by ultrafast spectroscopic imaging ellipsometry and reflectometry
•Markus Olbrich, Theo Pflug, Philipp Lungwitz, Alexander Horn
Laserinstitut Hochschule Mittweida, Schillerstrasse 10, 09648 Mittweida, Germany 321

Oral 22-5
18:40 – 19:00
Imaging Ellispometry for full Wafer Analysis and Characterization through all Manufacturing Processes in the Field of 2D-Materials
•Sebastian Funke[1], Philipp Braeuninger-Weimer[2], Peter H. Thiesen[1], Stephan Hofmann[2]
[1]*Accurion GmbH, Stresemannstrasse 30, 37079 Goettingen, Germany*
[2]*Department of Engineering, University of Cambridge,Cambridge CB3 0FA, United Kingdom* 322

Oral 22-6
19:00 – 19:20
Spectroscopic Ellipsometry Investigation of Temperature Effects in Heated Self-Organized 2D Arrays of Au Nanoparticles
•Michele Magnozzi[1,2], Marzia Ferrera[1], Lorenzo Mattera[1], Maurizio Canepa[1], Francesco Bisio[3]
[1]*OptMatLab, Dipartimento di Fisica, Università di Genova, via Dodecaneso 33, 16146 Genova, Italy*
[2]*INFN - Sezione di Genova - via Dodecaneso 33, 16146 Genova, Italy*
[3]*CNR-SPIN, Corso Perrone 24, 16152 Genova, Italy* 323

Keynote 7
Potential and perspective of ellipsometry in materials science
Maria Losurdo
Institute of Nanotechnology, CNR-NANOTEC, via Orabona 4, Bari, Italy . 324
Friday 08:30-09:10
Auditorium
Chair:
Juan Antonio Zapien

Session 23
Optical and Electronic Applications
Chair: Juan Antonio Zapien
Friday 09:10-11:50
Auditorium

Invited 23-1
09:10 – 09:40
Giant Refractive Index Materials: From Optical Constants Measurement to Applications in Nanophotonics
•Johann Toudert[1], Rosalia Serna[1], Marina García Pardo[1], Nicolas Ramos[1], Ramón J. Peláez[2], Belén Maté[2]
[1]*Laser Processing Group, Instituto de Óptica, CSIC, Madrid, Spain*
[2]*Instituto de Estructura de la Materia, CSIC, Madrid, Spain* 325

Oral 23-2
09:40 – 10:00
Sleek Circular Polarized Light Detecting Photodiodes Based on Homochiral Small Molecular Semiconductors
Matthias Schulz[1], •Frank Balzer[2], Oriol Arteaga[3], Arne Lützen[1], Stefan C.J. Meskers[4], Manuela Schiek[5]
[1]*Kekulé Institute of Organic Chemistry and Biochemistry, Rheinische-Friedrich-Wilhelms-University of Bonn, D-53121 Bonn, Germany*
[2]*Mads Clausen Institute, University of Southern Denmark, DK-6400 Sønderborg, Denmark*
[3]*Department of Applied Physics and IN2UB, University of Barcelona, 08028 Barcelona, Catalonia, Spain*
[4]*Department of Applied Physics, Eindhoven University of Technology, 5600MB Eindhoven, The Netherlands*
[5]*Energy and Semiconductor Research Laboratory, Institute of Physics, Carl-von-Ossietzky-University of Oldenburg, D-26129 Oldenburg, Germany* 326

Oral 23-3
10:00 – 10:20
Study on the optical properties of Cs_2AgBiX_6 (X = Cl, Br) double perovskite by spectroscopic ellipsometry

•Honggang Gu[1], Shunran Li[2], Mingsheng Fang[1], Baokun Song[1], Jiang Tang[2], Xiuguo Chen[1], Chuanwei Zhang[1], Shiyuan Liu[1]

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[2]*Wuhan National Laboratory for Optoelectronics (WNLO) and School of Optical and Electronic Information, Huazhong University of Science and Technology, Wuhan 430074, China* 327

Oral 23-4
10:20 – 10:40
Refractive Index Contrast and Wavelength Dispersion of Channel Waveguides Inscribed by fs-Laser Induced Ion-migration Revealed by Imaging Ellipsometry

P. Moreno-Zárate[1], A. Gonzalez[2], S. Funke[2], A. Días[4], B. Sotillo[3], J. Hoyo[5], M. García[4], •R. Serna[4], P. Fernandez[3], J. Solis[4]

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[4]*Laser Processing Group, Instituto de Óptica, CSIC, Serrano 121, 28006 Madrid, Spain*

[5]*Institute FEMTO-ST, 15B Avenue des Montboucons, 25030 Besançon cedex, France* 328

10:40 – 11:10 **Coffee Break**

Oral 23-5
11:10 – 11:30
Tailoring optical and other properties of TiO_2 thin films by reactive ion beam sputter deposition

•Carsten Bundesmann, Thomas Amelal, Lukas Pietzonka, Daniel Spemann

Leibniz Institute of Surface Engineering (IOM), Ion Beam Source Development and Application Group, 04318 Leipzig, Germany 329

Oral 23-6
11:30 – 11:50
Ellipsometric study of Al_2O_3 protection films deposited on silver mirrors by atomic layer deposition process

•Pavel Bulkin[1,4], Sofia Gaiaschi[2], Patrick Chapon[2], Natalya Kundikova[3,4]

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[4]*Optoinformatics Department, Physics Faculty, Institute of Natural Sciences and Mathematics, South Ural State University, Chelyabinsk 454080, Russia* 330

Session 24 **Polarimetry and Scatterometry** Friday 09:10-11:50
Chair: Adolf Canillas A Rooms

Invited 24-1
09:10 – 09:40
Concepts for Understanding Nonlinear Ellipsometry

J. Resl, C. Reitböck, E. E. Lopez, A. Alejo-Molina, •K. Hingerl

Center for Surface- and Nanoanalytics, Johannes Kepler University Linz, Altenbergerstr. 69, Linz, Austria 331

Oral 24-2
09:40 – 10:00
Fast adaptive polarimetry based on liquid crystal compensators for birefringence measurement

•Berta Martínez-Prat[1,2], Oriol Arteaga[2,3], Francesc Sagués[1,2], Jordi Ignés-Mullol[1,2]

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[3]*Dep. Física Aplicada, Feman Group, C/ Martí i Franquès, Universitat de Barcelona, 08028 Barcelona* . . 332

Oral 24-3 **Highly Robust Snapshot Interferometric Spectro-Ellipsometry**

10:00 – 10:20 •Vamara Dembele, Sukhyun Choi, Inho Choi, Saeid Kheiryzadehkhanghah, Madhan Jayakumar Paul, Junho Kim, Cheong-Song Kim, Daesuk Kim

Division of Mechanical System Engineering, Chonbuk National University, Jeonju, Republic of Korea ... 333

Oral 24-4 **Effect of partially polarized analysers in the performance of division of focal plane polarimeters based on microretarders**

10:20 – 10:40 •Albert Van Eeckhout[1], Juan Campos[1], Angel Lizana[1], Andrés Marquez[2]

[1]*Departament de Física, Universitat Autònoma de Barcelona, Bellaterra, 08193, Spain*

[2]*Dept. de Física, Ingeniería de Sistemas y Teoría de la Señal, Universidad de Alicante, Ap. 99, Alicante, 03080, Spain* 334

10:40 – 11:10 **Coffee Break**

Oral 24-5 **Determination of the driving voltage and temperature sensitivities of Liquid Crystal Variable Retarders and its influence on the signal-to-noise ratio of a polarimeter on-board the Solar Orbiter space mission**

11:10 – 11:30 •Alberto Álvarez-Herrero[1], Pilar García-Parejo[2]

[1]*Space Optics Area, Instituto Nacional de Técnica Aeroespacial, INTA, Ctra de Ajalvir km 4, 28550 Madrid, Spain*

[2]*ISDEFE, Beatriz de Bobadilla 3, 28040 Madrid, Spain* 335

Oral 24-6 **Dynamic characteristics of liquid crystal variable retarders investigated using high-speed polarimetry**

11:30 – 11:50 •Song Zhang, Hao Jiang, Shiyuan Liu

State Key Laboratory of Digital Manufacturing Equipment and Technology, Huazhong University of Science and Technology, Wuhan 430074, China 336

Paul Drude Award Friday 11:50-13:10

Chair: Mathias Schubert Auditorium

11:50 – 12:50 **Award Ceremony**

12:50 – 13:10 **Closing Remarks**