E-MRS

EUROPEAN
MATERIALS RESEARCH SOCIETY

Strasbourg (France)

E-MRS 2005 Spring Meeting

May 31 – June 3, 2005

SYMPOSIUM P

Current trends in optical and X-ray metrology of advanced materials for nanoscale devices

Symposium Organizers :

Olivier Durand, Thales, Orsay, France

Mircea Modreanu, Tyndall National Institute, Cork, Ireland

Gerald E. Jellison, Oak Ridge National Laboratory, USA

Jean Massies, CRHEA/CNRS, Valbonne, France

Symposium Support

THALES

HINDS INSTRUMENTS, Inc., USA
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Papers to be published in APPLIED SURFACE SCIENCE

E-MRS 2005 Spring Meeting

SYMPOSIUM P

Tuesday, May 31, 2005 — **Morning**
Mardi 31 mai 2005 — Matin

8:30 **WELCOME**
by the Symposium Organizers

Session I : Applications : current trends in X-ray reflectometry
Session chairs : P. Mikulik, O. Durand

P-I.01 8:40 -Invited- ANALYSIS OF THIN FILMS BY X-RAY, OPTICAL REFLECTIVITY AND GRAZING INCIDENCE SMALL ANGLE X-RAY SCATTERING
Alain Gibaud(a), S. Dourdain(a) and G. Vignaud(b), (a)Université du Maine, Faculté des Sciences, LPEC UMR6087, 72085 Le Mans Cedex, France, (b)Université de Bretagne Sud, L2PIC, Rue St Maudé, 56321 L'Orient Cedex, France

P-I.02 9:20 THIN MULTILAYERS CHARACTERISATION BY GRAZING X-RAY REFLECTOMETRY AND USE OF FOURIER TRANSFORM
F. Bridou(a), J. Gautier(a), F.Delmotte(a), M-F. Ravet(a), O. Durand(b), (a)Laboratoire Charles Fabry de l'Institut d'Optique, CNRS, Unité mixte de Recherche 85801, Bat 503, Centre Scientifique d'Orsay, 91403 Orsay Cedex, France, (b)Thales Research and Technology, Domaine de Corbeville, 91404 Orsay Cedex, France

P-I.03 9:40 ELECTRON DENSITY PROFILE AT THE INTERFACE OF SiO2/Si(001)
S. Banerjee(a), S. Ferrari(b), R. Piagge(c) and S. Spadoni(c), (a)Saha Institute of Nuclear Physics, 1/AF Bidhan Nagar, Calcutta 700064, India; (b)Lab. MDM—INFM via Olivetti 2, 20041 Agrate Brianza, Milano, Italy; (c)ST Microelectronics via Olivetti 2, 20041 Agrate Brianza, Milano Italy

P-I.04 10:00 X-RAY METROLOGY FOR ADVANCED SILICON PROCESSES
C. Wyon(a), J.P. Gonchond(b), D. Delille(c), A. Michallet(b), J.C. Royer(a), F. Heider(d), L. Kwakman(c), S. Marthon(a), (a)CEA-LETI Grenoble, 17 rue des martyrs, 38054 Grenoble, France, (b)STMicroelectronics, 850 rue Jean Monnet, 38926 Crolles, France, (c)Philips Semiconductors, 860 rue Jean Monnet, 38926 Crolles, France, (d)Infineon, Siemensstrasse 2, 9500 Villach, Austria

P-I.05 10:20 A SIMPLE SOLUTION TO SYSTEMATIC ERRORS IN DENSITY DETERMINATION BY X-RAY REFLECTIVITY: THE XRR-DENSITY EVALUATION (XRR-DE) METHOD
P. Bergese, E. Bontempi and L.E. Depero, INSTM and Chemistry for Technology Laboratory, Università di Brescia, 25123 Brescia, Italy

10:40 **BREAK**

Session II : Current trends in optical spectroscopies
Session chair : M. Modreanu, M. Losurdo,

P-II.01 11:00 -Invited- THE ULTIMATE IN REAL TIME ELLIPSOMETRY: MULTICHANNEL MUELLER MATRIX SPECTROSCOPY
R.W. Collins, Chi Chen, Ilsin An* and N.J. Podraza, Dept. Physics & Astronomy, University of Toledo, Toledo OH 43606, USA; *Permanent address: Dept. Physics, Hanyang University, Ansan, Korea

P-II.02 11:40 -Invited- LIGHT AND MATTER: ADVANCED POLARIZATION SPECTROSCOPY IN FUNCTIONAL MATERIALS PHYSICS
M. Schubert[1], T. Hofmann[1], G. Leibiger[1], K. Streubel[2], A. Jaeger[2], A. Kasic[3], E. Schubert[4], B. Rauschenbach[4], M. Sousa[5] and J.-P. Locquet[5], [1]Universität Leipzig, Germany, 2OSRAM Opto Semiconductors Regensburg, Germany, [3]Linköpings universitet, Sweden, [4]Institut für Oberflächenmodifizierung Leipzig e.V., Germany, [5]IBM Research GmbH, Rüschlikon, Switzerland

P-II.03 12:00 GENERALIZED ELLIPSOMETRY IN UNUSUAL GEOMETRIES
G.E. Jellison, Jr., J.D. Hunn, D.E. Holcomb and C.M. Rouleau, Oak Ridge National Laboratory, Oak Ridge TN 37831-6030, USA

P-II.04 12:20 INVESTIGATION OF THE OPTICAL ANISOTROPY OF PET AND PEN FILMS BY VIS-FUV TO IR SPECTROSCOPIC ELLIPSOMETRY
A. Laskarakis, S. Logothetidis, Aristotle University of Thessaloniki, Department of Physics, 54124 Thessaloniki, Greece

12:40 **LUNCH**

Tuesday, May 31, 2005 — Afternoon
Mardi 31 mai 2005 — Après-midi

Session III : Methodological advances in X-ray
Session chairs :L. Kirste, V. Holy

P-III.01 14:00 -Invited-
ANOMALOUS X-RAY SCATTERING FROM SELF-ASSEMBLED SEMICONDUCTOR NANOSTRUCTURES
Vaclav Holy, Department of Electronic Structures, Charles University Prague, Czech Republic, Julian Stangl, Guenther Bauer, Institute of Semiconductor Physics, Kepler University Linz, Austria, Tobias Schuelli, ESRF Grenoble, France

P-III.02 14:40
1500 K IN-SITU RECIPROCAL SPACE MAPPING ON A LABORATORY X-RAY DIFFRACTOMETER
R. Guinebretière, A. Boulle, R. Bachelet, O. Masson, P. Thomas, SPCTS CNRS UMR 6638, ENSCI, 47 Av. A. Thomas, 87065 Limoges Cedex, France

P-III.03 15:00
TOWARDS ULTRA FAST HIGH RESOLUTION X-RAY DIFFRACTION ON PSEUDOMORPHICALLY GROWN EPITAXIAL LAYER STRUCTURES
A. Kharchenko(a), J.F. Woitok(a), P.F. Fewster(b), V. Kogan(a), (a)PANalytical Application Development Centre, Almelo, The Netherlands, (b)PANalytical Research Centre, Sussex, Brighton, U.K.

P-III.04 15:20
NOVEL METHODS AND UNIVERSAL SOFTWARE FOR HRXRD, XRR AND GISAXS DATA INTERPRETATION
A. Ulyanenkov, Bruker AXS, Östliche Rheinbrückenstr. 49, 76187 Karlsruhe, Germany

P-III.05 15:40
STRUCTURAL CHARACTERISATION OF SB-BASED HETEROSTRUCTURES BY BOTH X-RAY REFLECTOMETRY AND X-RAY DIFFRACTOMETRY
C. Renard(a), O. Durand(a), X. Marcadet(a), J. Massies(b), O. Parillaud(a), (a)TRT, THALES 91404 Orsay Cedex, France, (b)CRHEA ,CNRS, Valbonne, France

16:00 **BREAK**

Session IV : Applications : Optical spectroscopies
Session chairs : G.E. Jellison, R.W. Collins

P-IV.01 16:20 -Invited-
OPTICAL IN-SITU SPECTROSCOPY DURING EPITAXIAL GROWTH PROCESSES
T. Zettler, E. Steimetz, K. Haberland and S. Uredat, LayTec GmbH, Helmholtzstr. 13-14, 10587 Berlin, Germany

P-IV.02 17:00
ELLIPSOMETRIC CHARACTERIZATION OF NANOCRYSTALS IN POROUS SILICON
P. Petrik, M. Fried, É. Vázsonyi, T. Lohner, O. Polgár, I. Bársony, J. Gyulai, Research Institute for Technical Physics and Materials Science, P.O. Box 49, 1525 Budapest, Hungary

P-IV.03 17:20
RAMAN AND INTERFEROMETRY BASED STRESS METROLOGY FOR CHARACTERIZATION OF SI/SIGE, SOI AND OTHER NOVEL SEMICONDUCTOR STRUCTURES
Wojciech J. Walecki, Talal Azfar, Kevin Lai, Manuel Santos II, and Ann Koo, Frontier Semiconductor, 1631 North 1st Street, San Jose CA 95112, USA

P-IV.04 17:40
EFFECTS OF UV - PHOTON IRRADIATION ON SiOx ($0<x<2$) STRUCTURAL PROPERTIES
Nicolae Tomozeiu, R&D Oce Technologies B.V., Postbus 101, 5900 MA Venlo, The Netherlands

P-IV.05 18:00
ABSORBANCE SPECTRA OF POLYCRYSTALLINE AND MULTI-LAYERED OLIGOTHIOPHENES CRYSTALS
L. Raimondo, M. Campione, M. Laicini, M. Moret, A. Sassella, S. Tavazzi, INFM and Dipartimento di Scienza dei Materiali, Università di Milano Bicocca, Via Cozzi 53, 20125 Milano, Italy, P. Spearman, School of Chemical and Pharmaceutical Sciences, Kingston University, Kingston upon Thames KT1 2EE, U.K.

Wednesday, June 1, 2005 **Afternoon**
Mercredi 1er juin 2005 Après-midi

Session V : Advanced material characterization : high-k metal oxides
Session chairs : G.E. Jellison, M.F. Gartner

P-V.01 14:00 -Invited-
BAND EDGE ELECTRONIC STRUCTURE OF TRANSITION METAL/RARE EARTH OXIDE DIELECTRICS: THEORY AND EXPERIMENT
G. Lucovsky, Dept. of Physics, NC State Univ., Box 8202, Raleigh NC 27695-8202, USA

P-V.02 14:40 -Invited-
VACUUM ULTRAVIOLET SPECTROSCOPIC ELLIPSOMETRY AND NANOSCALE DEVICE APPLICATIONS: AN INDUSTRIAL PRIMER
N.V. Edwards, Freescale Semiconductor, Inc. and SEMATECH, Austin, Texas

P-V.03 15:20
STRUCTURAL-OPTICAL STUDY OF HIGH-DIELECTRIC-CONSTANT OXIDE FILMS COMBINING 0.75-6.5 EV ELLIPSOMETRY AND XRD
Maria Losurdo, Maria M. Giangregorio, Pio Capezzuto, Giovanni Bruno, Institute of Inorganic Methodologies and of Plasmas, IMIP-CNR and INSTM UdR Bari, Bari, Italy, Roberta G. Toro, Graziella Malandrino, Ignazio L. Fragalà, Dipartimento di Scienze Chimiche, Università di Catania, and INSTM, UdR Catania, Catania, Italy, Raffaella Lo Nigro, IMM, sezione di Catania, CNR, Catania, Italy

P-V.04 15:00
INVESTIGATION OF THERMAL ANNEALING EFFECT ON MICROSTRUCTURAL AND OPTICAL PROPERTIES OF HfO_2 THIN FILMS
M. Modreanu, J. Sancho-Parramon, Tyndall National Institute, Cork, Ireland, O. Durand, B. Servet, Thales R&T, Orsay, France, M. Stchakovsky, C. Eypert, Horiba Jobin-Yvon, Thin Film Division, Chilly-Mazarin, France, C. Naudin, HORIBA Jobin-Yvon Raman Division Villeneuve d'Ascq, France, A. Knowles, HORIBA Jobin-Yvon Ltd Raman Division , Middlesex , U.K., F. Bridou, M-F. Ravet, Laboratoire Charles Fabry de l'Institut d'Optique, CNRS, Unité mixte de Recherche 85801, Bat 503, Centre Scientifique d'Orsay, 91403 Orsay Cedex, France.

16:00 **BREAK**

Session VI : Advanced material characterization : oxides
Session chairs : O. Durand, M. Modreanu

P-VI.01 16:20 -Invited-
RECENT ADVANCES IN HIGH-RESOLUTION X-RAY DIFFRACTOMETRY APPLIED TO NANOSTRUCTURED OXIDE THIN LAYERS
A. Boulle, R. Guinebretière, A. Dauger, Science des Procédés Céramiques et de Traitements de Surface CNRS UMR 6638, ENSCI, 47-73 avenue Albert Thomas 87065 Limoges Cedex, France

P-VI.02 17:00
EVIDENCE FOR BA DIFFUSION IN ULTRA THIN $SRTIO_3$/BASRO/SI FILMS MEASURED BY XRD AND GIXD
M. Sousa(a), C. Marchiori(a), A. Guiller(a), M. Seo(b), J. Fompeyrine(a), H. Siegwart(a), D. Caimi(a), C. Rossel(a), R. Germann(a), J.P. Locquet(a), (a)IBM Research GmbH, Sauemerstrasse 4, 8803 Rueschlikon, Switzerland, (b)Institute of Physics of Complex Matter, EPFL Ecublens, 1015 Lausanne, Switzerland

P-VI.03 17:20
DENSITY, THICKNESS AND COMPOSITION MEASUREMENTS OF TiO_2-SiO_2 THIN FILMS BY COUPLING X-RAY REFLECTOMETRY, ELLIPSOMETRY AND ELECTRON PROBE MICROANALYSIS
A. Hodroj, H. Roussel, A. Crisci*, F. Robaut*, Ulrich Gottlieb, J.-L. Deschanvres, Laboratoire des Matériaux et du Génie Physique CNRS, Ecole Nationale Supérieure de Physique de Grenoble, BP 46 38402 St Martin d'Hères France *Consortium des Moyens Technologiques Communs Institut National Polytechnique de Grenoble BP 75 38402 St Martin d'Hères France

P-VI.04 17:40
DEVELOPMENT OF A NEW COUPLED GXRR WITH VUV-SE WITH NEW MODELLING FOR High-k GATE OXIDES
Jean-Louis Stehlé(a), Patrick Evrard(a), Christophe Defranoux(a), Alice Elbaz(b), Enrico Bellandi(b), (a)SOPRA, 26 rue Pierre Joigneaux, 92270 Bois-Colombes, France, (b)ST Microelectronics, Central R&D, via Olivetti 2, 20041 Agrate Brianza, Italy

P-VI.05 18:00
YTTRIUM OXIDE, Y2O3, X-RAY INVESTIGATION OF THIN FILMS: INTERNAL STRESS AND MICROSTRUCTURE
F. Paumier, R.J. Gaboriaud, F.P. Pailloux, Laboratoire de Métallurgie Physique, Université de Poitiers, CNRS, SP2MI, BP 30179, 86962 Chasseneuil-Futroscope cedex, France

P-VI.06 18:20
NANOSTRUCTURE CHARACTERIZATION OF HIGH K MATERIALS BY SPECTROSCOPIC ELLIPSOMETRY
L. Pereira, H. Aguas, E. Fortunato, R. Martins, Departamento de Ciência dos Materiais, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa and CEMOP, Campus da Caparica, 2829-516 Caparica, Portugal

19:00 **AWARD CEREMONY / CONFERENCE RECEPTION**
The symposium organizers and the candidates to the graduate student award are requested to attend.

Thursday, June 2, 2005 — Morning
Jeudi 2 juin 2005 — Matin

Session VII : Optical metrology : materials and devices (I)
Session chairs : M. Modreanu, B. Servet

P-VII.01 9:00 -Invited-
MODULATED REFLECTANCE AND REFLECTANCE CHARACTERISATION OF OPTOELECTRONIC DEVICE STRUCTURES
T.J.C. Hosea, Advanced Technology Institute, University of Surrey, Guildford, Surrey GU2 7XH, U.K.

P-VII.02 9:40 -Invited-
PHOTOREFLECTANCE STUDY AT THE MICROMETER SCALE
C. Bru-Chevallier, H. Chouaib, A. Bakouboula, T. Benyattou, Laboratoire de Physique de la Matière, INSA de Lyon, Bâtiment Blaise Pascal, 7 avenue Jean Capelle, 69621 Villeurbanne Cedex, France

P-VII.03 10:20
PHOTOREFLECTANCE SPECTROSCOPY CHARACTERISATION OF STRAINED SILICON EPIWAFERS
P.V. Kelly, M.E. Murtagh, V. Guénebaut and S. Ward, Optical Metrology Innovations Ltd. (OMI), 2200 Cork Airport Business Park, Cork Airport, Co. Cork, Ireland

10:40 **BREAK**

Session VIII : Optical metrology : materials
Session chairs : T.J.C. Hosea, C. Bru-Chevallier

P-VIII.01 11:00 -Invited-
ADVANCES IN MODULATION SPECTROSCOPY: STATE-OF-ART PHOTO-REFLECTANCE METROLOGY
M.E. Murtagh, P.V. Kelly, V. Guénebaut and S. Ward, Optical Metrology Innovations Ltd. (OMI), 2200 Cork Airport Business Park, Cork Airport, Co. Cork, Ireland

P-VIII.02 11:40
MODULATION SPECTROSCOPY OF Ga(In)NAs/GaAs QUANTUM WELL STRUCTURES CONTAINING Sb ATOMS
R. Kudrawiec, J. Misiewicz, Institute of Physics, Wroclaw University of Technology, Poland; H.B. Yuen, S.R. Bank, M.A. Wistey, H.P. Bae, James S. Harris Jr, Solid State and Photonics Laboratory, Department of Electrical Engineering, Stanford University, USA

P-VIII.03 12:00
SIMULTANEOUS OPTICAL MEASUREMENT OF Ge CONTENT AND CARBON DOPING IN STRAINED EPITAXIAL SiGe FILMS
S.J. Morris and D. Le Cunff, Therma-Wave Inc., 1250 Reliance Way, Fremont CA94539, USA, D. Ristoiu, V. Vachellerie, F. Deleglise and D. Dutartre, ST Microelectronics, 850 rue Jean Monnet, 38926 Crolles Cedex, France

12:20 **LUNCH**

Thursday, June 2, 2005 **Afternoon**
Jeudi 2 juin 2005 Après-midi

Session IX : Spatially resolved techniques-study of small objects
Session chairs : A. Gibaud, P. Mikulik

P-IX.01 14:00 -Invited-

SPATIAL MICROMETER-RESOLVED STRUCTURE QUALITY CONTROL OF SEMICONDUCTOR WAFERS AND LATERAL OVERGROWTH STRUCTURES BY SYNCHROTRON RADIATION ROCKING CURVE IMAGING

P. Mikulík, Institute of Condensed Matter Physics, Masaryk University, Kotlárská 2, 61137 Brno, Czech Republic, D. Lübbert, P. Pernot and L. Helfen, ISS and ANKA, Forschungszentrum Karlsruhe, Germany, D. Korytár, Institute of Electrical Engineering SAS, Vrbovská cesta 110, 92101 Pieštany, Slovakia, S. Keller, University of California at Santa Barbara, CA, USA, and T. Baumbach, ISS and ANKA, Forschungszentrum Karlsruhe, Germany

P-IX.02 14:40 -Invited-

X-RAY SCATTERING: A POWERFUL PROBE OF LATTICE STRAIN IN MATERIALS WITH SMALL DIMENSIONS

Olivier Thomas, TECSEN UMR CNRS 6122, Université Paul Cézanne, Marseille, France

P-IX.03 15:20

PHOTOREFLECTANCE SPECTROSCOPY OF SELF-ORGANIZED InAs/InP (001) QUANTUM STICKS EMITTING AT 1.55µm

H. Chouaib, N. Chauvin and C. Bru-Chevallier, Laboratoire de Physique de la Matière, INSA de Lyon (UMR-CNRS 5511), Bâtiment Blaise Pascal, 7 Avenue J. Capelle, 69621 Villeurbanne, France, C. Monat, P. Regreny and M. Gendry, Laboratoire d'Electronique, Optoélectronique et Microsystèmes, (UMR CNRS 5512), Ecole Centrale de Lyon, 36 Avenue Guy de Collongue, 69134 Ecully, France

P-IX.04 15:40

NANOPHOTONICS AND NANOMETROLOGY WITH PLANAR X-RAY WAVEGUIDE-RESONATOR

V.K. Egorov, E.V. Egorov IMT RAS, Chernogolovka, Moscow District, 142432 Russia

P-IX.05 16:00

GaN ON NANOPATTERNED GaN/Si(111) TEMPLATES: OPTICAL AND STRUCTURAL CHARACTERIZATION

L.S. Wang, B.Z. Wang, S. Tripathy and S.J Chua, Institute of Materials Research & Engineering, 3 Research Link, 117602 Singapore

16:20 **BREAK**

16:40-19:00 **POSTER SESSION**

POSTER SESSION

Thursday, June 2, 2005

16:40 – 19:00

P/P.01

OPTICAL MODELS FOR THE ELLIPSOMETRIC CHARACTERIZATION OF CARBON NITRIDE LAYERS PREPARED BY PULSED LASER DEPOSITION

P. Petrik, T. Lohner, Research Institute for Technical Physics and Materials Science, P.O. Box 49, H-1525 Budapest, Hungary L. Égerházi and Zs. Geretovszky, Department of Optics and Quantum Electronics, University of Szeged, P.O. Box. 406., H-6701 Szeged, Hungary

P/P.02

SIMULATION OF X-RAY DIFFRACTION PROFILES IN MULTILAYERS BY DIRECT WAVE SUMMATION

S. Zamir, Department of Electrical Engineering, Technion-Israel Institute of Technology, Haifa 32000, Israel, and E. Lakin, E. Zolotoyabko, Department of Materials Engineering, Technion-Israel Institute of Technology, Haifa 32000, Israel

P/P.03

OPTICAL EMISSION SPECTROSCOPY DURING FABRICATION OF INDIUM-TIN-OXYNITRIDE FILMS BY RF-SPUTTERING

M. Koufaki, M. Sifakis, Physics Department, University of Crete, PO Box 2208, 71003 Heraklion, Crete, Greece, E. Iliopoulos, M. Androulidaki, E. Aperathitis, MRG, IESL, FORTH-HELLAS, PO Box 1527, 71110 Heraklion, Crete, Greece, M. Modreanu, Photonics Group, Tyndall National Institute, Lee Mattings, Prospect Row, Cork, Ireland.

P/P.04

PHOTOREFLECTANCE SPECTROSCOPY OF SEMICONDUCTOR STRUCTURES UNDER HYDROSTATIC PRESSURE

R. Kudrawiec and J. Misiewicz, Institute of Physics, Wroclaw University of Technology, Wybrzeze Wyspianskiego 27, 50-370 Wroclaw, Poland

P/P.05

PHOTOREFLECTANCE AND CONTACTLESS ELECTROREFLECTANCE SPECTROSCOPY OF GAAS-BASED STRUCTURES: SIMILARITIES AND DIFFERENCES

R. Kudrawiec, M. Motyka, P. Sitarek, and J. Misiewicz, Institute of Physics, Wroclaw University of Technology, Wybrzeze Wyspianskiego 27, 50-370 Wroclaw, Poland

P/P.06

CHARACTERIZATION OF GaN EPITAXIAL FILMS GROWN ON SILICON-ON-INSULATOR SUBSTRATES

S. Tripathy, L.S. Wang, and S.J. Chua Institute of Materials Research and Engineering, 3 Research Link, Singapore 117602

P/P.07

DEFECT STRUCTURE OF In(GaAl)As/InP LAYERS SUBJECTED TO HIGH PRESSURE TREATMENT

J. Bak-Misiuk, A. Shalimov, Institute of Physics, PAS, Al. Lotnikow 32/46, 02-668 Warsaw, Poland, A. Misiuk, J. Kaniewski, J. Muszalski IET, Al.Lotnikow 32/46, 02-668 Warsaw, Poland, W. Wierzchowski IEMT, Wolczynska 133, 01-919 Warsaw, Poland, K. Wieteska IAE, 05-400 Swierk-Otwock, Poland, and W. Graeff DESY HASYLAB, Notkestrasse 85, D-22603 Hamburg , Germany

P/P.08

CALCULATED STRUCTURAL, ELECTRONIC AND OPTICAL PROPERTIES OF SNO_2

B. AMRANI[1,2], I. CHIBOUB[1], M. TAHIRI[1], S. HIADSI[1] 1 Laboratoire Traitement de Surface et Structure des Matériaux 2 Laboratoire de Physique Quantique et de Modélisation Mathématique, Département de Physique, Université de Mascara

P/P.09

LASER REFLECTOMETRY IN SITU MONITORING OF InGaAs GROWN BY AP-MOVPE

M. M. Habchi, A. Rebey, A. Fouzri, B. El Jani, Unité de Recherche sur les Hétéro-Epitaxies et Applications, Faculté des sciences, 5000 Monastir, Tunisia

P/P.10

APPLICATION OF SPECTROSCOPIC ELLIPSOMETRY TO THE INVESTIGATION OF THE OPTICAL PROPERTIES OF COBALT NANOCRYSTALS EMBEDDED INTO SILICA LAYERS.

M. Gilliot (1), A. En Naciri (1), L. Johann (1), C. d'Orleans (2), D. Muller (2), J.P. Stoquert (2), J.J. Grob (2).
(1) Laboratoire de Physique des Milieux Denses, 1Bd Arago, 57078 Metz Cedex 3, France (2) Laboratoire PHASE 23 rue du Loess BP 20 CR F-67037 Strasbourg Cedex 2, France

P/P.11

ULTRATHIN InAs AND MODULATED InGaAs LAYERS IN GaAs GROWN BY MOVPE STUDIED BY PHOTOMODULATED REFLECTANCE SPECTROSCOPY

P. Hazdra, J. Voves, Department of Microelectronics, Czech Technical University in Prague, Technická 2, CZ-16627, Prague 6, Czech Republic and E. Hulicius, J. Pangrác and Z. Šourek, Institute of Physics, Academy of Sciences, Cukrovarnická 10, 162 53 Prague, Czech Republic

P/P.12

IN SITU ELLIPSOMETRY OF SURFACE LAYER OF NONMETALLIC TRANSPARENT MATERIALS DURING ITS FINISH PROCESSING

L.V. Poperenko, A.Y. Filatov, Physics Department, T. Shevchenko National Kyiv University, 6 Acad. Glushkov Ave., 03022 Kyiv, Ukraine

P/P.13

EVALUATION STRATEGIES FOR MULTILAYER, MULTIMATERIAL ELLIPSOMETRIC MEASUREMENTS

O. Polgár, P. Petrik, T. Lohner, M. Fried Research Institute for Technical Physics and Material Sciences, H-1525 Budapest, POB 49, Hungary

P/P.14 HIGH RESOLUTION X-RAY DIFFRACTION OF GAN GROWN ON SI(111) BY MOVPE
N. Chaaben, T. Boufaden, A. Fouzri, and B. El Jani. Unité de Recherche sur les Hétéro-Epitaxies et Applications, Facultés des Sciences, 5019 Monastir, Tunisia.

P/P.15 TRANSFORMATION OF HYDROGEN SILSESQUIOXANE PROPERTIES WITH RIE PLASMA TREATMENT FOR ADVANCED MULTIPLE-GATE MOSFETs.
J. Penaud, F. Fruleux, E. Dubois, I.E.M.N, Microélectronique Silicium, Avenue Poincaré, B.P.69, 59652, Villeneuve d'Ascq, France

P/P.16 STABILIZATION OF THE ANATASE PHASE IN TIO2 (Fe^{3+})NANOSTRUCTURED COATINGS
C. Trapalis[1], M. Gartner[2], G. Kordas[1], M.Anastasescu[2], M. Zaharescu[2] M. Modreanu3, [1]Institute of Materials Science, National Center for Scientific Research "Demokritos", 153 10, Athens, Greece; [2]Institute of Physical Chemistry, Spl. Independentei 202, Bucharest 77208, Romania; [3]Tyndall National Institute, Lee Maltings, Prospect Row, Cork, Ireland

P/P.17 Cu NANOPARTICLES FORMATION IN Cu:SiO_2 SOL-GEL THIN COATINGS
C.C. Trapalis[1] , G. Kordas[1], M.F. Gartner[2], P. Osiceanu[2], M. Anastasescu[2], M. Zaharescu[2] ;[1]Institute of Materials Science, National Center for Scientific Research Demokritos, 153 10, Athens, Greece; [2]Institute of Physical Chemistry I.G.Murgulescu,Romanian Academy, 202 Splaiul Independentei, 77208, Bucharest, Romania

P/P.18 PHOTOLUMINESCENCE STUDY IN COMPOSITIONALLY STEP GRADED InxAl1-xAs/GaAs
N. Yahyaoui, S. Aloulou and M. Oueslati, Unité des nanomatériaux, Département de Physique, Faculté des Sciences de Tunis Compus Universitaire, le Belvédaire, Tunis 1060, Tunisie

P/P.19 BAND STRUCTURE INVESTIGATIONS OF GaN FILMS USING MODULATION SPECTROSCOPY
V.P. Makhniy, M.M. Slyotov, V.V. Gorley, P.P. Horley, Yuri Fed'kovych, Chernivtsi National University, 2 Kotsyubynsky Str., 58102, Chernivtsi, Ukraine, and Yu.V. Vorobiev, J. Gonzalez-Hernandez, CINVESTAV Unidad Queretaro, Libramiento Norponiente 2000, Fracc. Real de Juriquilla, 76230 Queretaro, QRO, Mexico

P/P.20 OPTICAL AND X-RAY CHARACTERIZATION OF PROPOLIS
S.I. Drapak(a), A.P. Bakhtinov(a), S.V. Gavrylyuk(a), I.T. Drapak(b) Z.D. Kovalyuk(a) (a) Frantsevich Institute of Materials Science Problems, the National Academy of Sciences of Ukraine, Chernivtsi Department, 5 Iryna Vilde Str., Chernivtsi, 58001, Ukraine. (b) Chernivtsi Yuriy Fedkovich National University, Optoelectronic Department, 2 Kotsyubynskii Str., Chernivtsi, 58012, Ukraine.

P/P.21 STRUCTURAL AND OPTICAL PROPERTIES OF DOPED TIN DIOXIDE THIN FILMS DEPOSITED BY CVD ON DIFFERENTS SUBSTRATES.
R. OUTEMZABET(a,b), N. GABOUZE(b), H. CHERAGA(b) and N. KESRI(a). (a) U.S.T.H.B. Faculté de physique, Laboratoire de semiconducteurs B.P. 32 El-Alia Bab-Ezzouar, Alger, Algérie. (b) U.D.T.S. 2, Bd Frantz Fanon, B.P. 399 Alger-Gare, Alger, Algérie.

P/P.22 OPTICAL AND X-RAY CHARACTERIZATION OF FERROELECTRIC STRONTIUM-BISMUTH-TANTALATE (SBT) THIN FILMS
M. Fried1, P. Petrik1, Zs. E. Horváth1, T. Lohner1, C. Schmidt2, C. Schneider2, H. Ryssel2,3 1 Research Institute for Technical Physics and Materials Science (MFA), Konkoly Thege Miklós ut 29-33, H-1121 Budapest, Hungary, 2 Fraunhofer Institute of Integrated Systems and Device Technology (IISB), Schottkystrasse 10, 91058 Erlangen, Germany, 3 Chair of Electron Devices (LEB), University of Erlangen-Nuremberg, Cauerstrasse 6, 91058 Erlangen, Germany

P/P.23 AN OPTICAL STUDY OF THE CORRELATION BETWEEN GROWTH KINETICS AND MICROSTRUCTURE OF MICROCRYSTALLINE Si GROWN BY SiH4-H2-He PECVD
M.M. Giangregorio1, M. Losurdo1, A. Sacchetti1, P. Capezzuto1, F. Giorgis2, G. Bruno1 1IMIP-CNR, via Orabona 4 - 70126 Bari, Italy 2 Physics Department, Polytechnic of Torino, Corso Duca degli Abruzzi 24, I-10129 Torino, Italy and Materials and Microsystems Laboratory (cLab), Lungo Piazza d'Armi 6, I-10034 Chivasso (Torino) Italy

P/P.24 OPTICAL CHARACTERISATION OF ROOM TEMPERATURE UV-BLUE EMMITING SiO_xN_y THIN FILMS
M. Modreanu, Tyndall National Institute, Lee Maltings, Prospect Row, Cork, Ireland, M. Gartner, Institute of Physical Chemistry, Spl. Independentei 202, Bucharest 77208, Romania; N. Tomozeiu, R&D Oce Technologies B.V. Postbus 101, 5900 MA, Venlo, The Netherlands

P/P.25 POLARIZED RAMAN SCATTERING OF WURTZITE GAN FILMS: THE DOUBLE MIXED NATURE OF THE 740 cm^{-1} BAND.
P.C. Ricci, A. Anedda, C.M. Carbonaro, R. Corpino, M. Marceddu, M. Salis, Dipartimento di Fisica, Università di Cagliari, and INFM, UdR Cagliari, sp n° 8, Km 0,700, I-09042 Monserrato (CA), Italy

P/P.26 DONOR-ACCEPTOR PAIRS IN $AgGaS_2$
A. Anedda[1], C.M Carbonaro[1], R.Corpino[1], M. Marceddu[1], P.C. Ricci[1], I.M. Tiginyanu[2] and V.V. Ursaki[2]. 1) Dipartimento di Fisica, Università di Cagliari, Cittadella Universitaria SP Monserrato-Sestu Km 0,700, 09042 Monserrato (Ca), Italy and INFM, unità di Cagliari, 2) Laboratory of Low-Dimensional Semiconductor Structures, Technical University of Moldova, 2004 Chisinau, Moldova

P/P.27 X-RAY TRIPLE-AXIS DIFFRACTOMETRY INVESTIGATION OF SI/SIGE/SI ON SILICON-ON-INSULATOR SUBJECTED TO IN-SITU LOW-TEMPERATURE ANNEALING
T. D. Ma, H. L. Tu, National Engineering Research Center for Semiconductor Materials, General Research Institute for Nonferrous Metals, No. 2, Xinjiekouwai Street, 100088 Beijing, P. R. China, G. Y. Hu, B. L. Shao, A. S. Liu, National Center of Analysis and Testing for Nonferrous Metals and Electronic Materials, General Research Institute for Nonferrous Metals, No. 2, Xinjiekouwai Street, 100088 Beijing, P. R. China

P/P.28 THE X-RAY DIFFRACTOMETRY MORPHOLOGY INVESTIGATION OF THICK POROUS SILICON LAYERS
Anastacya A. Migunova, Analitical Centre, Institute of Nuclear Physics, Almaty, Kazakhstan

P/P.29 STUDIES OF COMPACTION AND DECOMPACTION OF SIO_2 LAYERS ON SILICON SUBSTRATES BY INTERFEROMETRY AND SPECTROSCOPIC ELLIPSOMETRY
W. Rzodkiewicz, A. Panas and H. M. Przewocki, Institute of Electron Technology, Al. Lotników 46, 02-668 Warsaw, Poland.

P/P.30 STRUCTURE OF Pt-Fe/Fe MULTILAYERES INVESTIGATED BY XRD, SAXS, TEM AND COMPUTER SIMULATIONS
N. Zotov, J. Feydt, T. Walther and A. Ludwig, Caesar, Ludwig-Erhard-Allee 2, 53175 Bonn, Germany

P/P.31 SPECTROELLIPSOMETRIC CHARACTERIZATION OF SPUTTERED AMORPHOUS SILICON GERMANIUM THIN FILMS
T. Lohner, M. Serényi, Z. Zolnai, P. Petrik, Á. Nemcsics, N. Q. Khánh, Research Institute for Technical Physics and Materials Science, 1121 Budapest, Konkoly Thege M. ut 29-33, Hungary

P/P.32 OPTICAL CHARACTERIZATION OF $In_XGa_{1-X}N$ ALLOYS EMBEDDED IN MULTILAYER STRUCTURES
M. Gartner[1], C. Kruse[2], M. Modreanu[3], D. Hommel[2], [1] Institute of Physical Chemistry "I.G.Murgulescu" of the Romanian Academy, 202 Splaiul Independentei, 060021, Bucharest, Romania [2] Institute of Solid State Physics, University of Bremen, Otto-Hahn-Allee NW 1, D-28359 Bremen, Germany [3] Tyndall National Institute, Lee Maltings, Prospect Row, Cork, Ireland

P/P.33 OPTICAL CHARACTERISTICS AND MICROSTRUCTURE OF RF-SPUTTERED BARIUM TITANATE THIN FILMS
A. Ianculescu1, M. Gartner2, B. Despax3, V. Bley3, Th. Lebey3, R. Gavrila4 1 "Politehnica" University of Bucharest, Department of Oxide Materials Science and Engineering, 1 Gh. Polizu, 78216, Bucharest, ROMANIA 2 Institute of Physical Chemistry of the Romanian Academy, 202 Splaiul Independentei, 77208 Bucharest, ROMANIA 3 "Paul Sabatier" University, Department of Electrical Engineering, 118 Route de Narbonne, 31062 Toulouse, FRANCE 4 National Institute of Microtechnologie, 32B Erou Iancu Nicolae, 72225 Bucharest, ROMANIA

P/P.34 AN XPS STUDY ON ION BEAM INDUCED OXIDATION OF TITANIUM SILICIDE
P. Osiceanu, Institute of Physical Chemistry "I.G. Murgulescu", Spl. Indep. 202, Bucharest 77208, Romania

P/P.35 CHARACTERIZATION OF Si NANOCRYSTALS INTO SiO_2 MATRIX
Gravalidis C., Logothetidis S., Hatziaras N., Laskarakis A., Fragkis N., Tsiaousis I., Department of Physics, Aristotle University of Thessaloniki, GR-54124, Thessaloniki, Greece

P/P.36 MODELLING OF LASER REFLECTANCE EVOLUTION DURING MOVPE GROWTH OF GaN ON 2D AND 3D NUCLEATION LAYER
H. Fitouri, Z. Benzarti, I. Halidou, T. Boufaden and B. El Jani Unité de Recherche sur les Hétéro-Epitaxies et Applications, Faculté des Sciences de Monastir, 5019 Monastir, Tunisie

P/P.37 NEW CALIBRATION METHOD FOR A UV/VIS PHOTOTHERMAL DEFLECTION SPECTROSCOPY SET-UP
Jordi Sancho-Parramon, Josep Ferré-Borrull, Anna Krasilnikova* and Salvador Bosch Departament de Física Aplicada i Òptica, Universitat de Barcelona Diagonal 647, 08028 Barcelona, Spain * Optical Coatings Group, ENEA, Via Anguillarese 301, 00060 Roma, Italy

P/P.38 OPTICAL CHARACTERIZATION OF ns-SiN:H IN THE INFRARED BY SPECTROSCOPIC ELLIPSOMETRY
Jordi Sancho-Parramon, Salvador Bosch and Adolf Canillas Departament de Física Aplicada i Òptica, Universitat de Barcelona Diagonal 647, 08028 Barcelona, Spain

P/P.39 ENERGETICS AND PARAMETERS IN TGS FERROELECTRIC TRANSITION
C. Berbecaru, H.V. Alexandru, F. Stanculescu, A. Dutu, Faculty of Physics, University of Bucharest; V. Ciupina, "Ovidius" University of Constanta, Romania.

P/P.40 OPTICAL PROBING OF THE WEAK DIELECTRIC TENSOR COMPONENT IN QUATERTHIOPHENE CRYSTALS
S. Tavazzi, A. Borghesi, M. Laicini, A. Papagni, L. Raimondo, S. Trabattoni INFM and Dipartimento di Scienza dei Materiali, Università di Milano Bicocca, Via Cozzi 53, I-20125 Milano, Italy P. Spearman School of Chemical and Pharmaceutical Sciences, Kingston University Kingston upon Thames, KT1 2EE, United Kingdom

P/P.41 BST SOLID SOLUTIONS, TEMPERATURE EVOLUTION OF THE FERROELECTRIC TRANSITIONS
H.V. Alexandru, C. Berbecaru, A. Dutu, Faculty of Physics, University of Bucharest; A. Ioachim, National Institute of Materials Physics, Bucharest-Magurele Romania

P/P.42 REDUCTION OF GAAS DRY ETCH DAMAGE BY A CL_2/Ar NEUTRAL BEAM ETCHING
Byoung-Jae Park, Do-Haing Lee, Dong Yul Lee*, Dong Woo Kim* and Geun-Young Yeom Department of Materials Science & Engineering, Sungkyunkwan University, Suwon, Korea * Samsung Electromechanics, Korea

P/P.43 BAND GAP STRUCTURE PECULIARITIES OF GaAs MODIFIED TO PATTERNED As_2O_3 - GaAs MEDIA
T.Ya. Gorbach, L.A. Matveeva, P.S. Smertenko, V. Lashkarev Institute of Semiconductors Physics, National Academy of Sciences of Ukraine, 45 prospekt Nauki, 03028 Kyiv, Ukraine; and M. Kuzma, Institute of Physics, Rzeszów University, Rejtana 16a, 35-309 Rzeszów, Poland

P/P.44 IMPLANTATION DOSE OF Si^+ INTO SiO_2 EFFECTS ON THE ELLIPSOMETRIC PARAMETERS
M. Mansour(a), A. En Naciri(a), L. Johann(a), V. Dzhagan(b), M.Ya. Valakh(b), V.O. Yukhymchuk(b), (a)Laboratoire de Physique de la Matière Dense, 1Bd Arago, CP 87811, 57078 Metz Cedex 3, France, (b)Lashkaryov Institute of Semiconductor Physics, NAS of Ukraine, Prospekt Nauki 41, 03028 Kyiv, Ukraine

P/P.45 PYROELECTRIC COEFFICIENT MANIPULATION IN DOPED TGS CRYSTALS
H.V. Alexandru, C. Berbecaru, L. Ion, A. Dutu, F. Ion, University of Bucharest; L. Pintilie, National Institute of Materials Physics, Bucharest-Magurele, Romania; R.C. Radulescu, Galway-Mayo Institute of Technology, Dublin Road, Galway, Ireland

P/P.46 HIGH-K Mg-DOPED ZST FOR MICROWAVE APPLICATIONS
A. Ioachim, M.G. Banciu, M.I. Toacsen, L. Nedelcu, D. Ghetu, National Institute of Materials Physics, Bucharest-Magurele, H.V.Alexandru, C.Berbecaru, University of Bucharest, G. Stoica I.P.E.E. Curtea de Arges, Romania

P/P.47 GIXR AND GISAXS STUDY OF SILICON OXINITRIDE FILMS
S. Bernstorff, Sincrotrone Trieste, SS 14, km 163.5, Basovizza (TS), Italy, P. Dubcek, B. Pivac, I. Kovacevic, R. Boskovic Institute, P.O. Box 180, Zagreb, Croatia, A. Sassella, A. Borghesi, Universita degli Studi di Milano-Bicocca, Milano, Italy

P/P.48 GRAZING INCIDENCE X-RAY REFLECIVITY STUDY OF HYDROGEN IMPLANTED SILICON
P. Dubcek, B. Pivac, Rudjer Boskovic Institute, POBox 180, 10000 Zagreb, Croatia, S. Bernstorff, Sincrotrone Trieste, SS 14km163,5, 34012 Basovizza(TS), Italy, F. Corni, R. Tonini, G. Ottaviani, Dipartimento di Fisica, Universita di Modena, Via Campi 213a, 41100 Modena, Italy

P/P.49 INFRARED SPECTROSCOPIC ELLIPSOMETER APPLICATION IN YIELD OPTIMISATION FOR IC MANUFACTURING
Jean-Louis Stehlé(a), Sophie Bourtault(a), Marc Bucchia(a), Christophe Defranoux(a), Cécile Guillotin (a), Dorian Zahorski(a), Laurens Kwakman(b), Chantal Trouillet(c), (a)SOPRA, 26 rue Pierre Joigneaux, 92270 Bois-Colombes, France, (b)PHILIPS Semiconductors, 850 rue Jean Monnet, 38920 Crolles, France, (c)STMicroelectronics, 850 rue Jean Monnet, 38920 Crolles, France

P/P.50 CHARACTERIZATION OF COMPLEX MULTILAYERED MATERIALS BY BOTH FFT AND WAVELET TRANSFORM ANALYSIS ON X-RAY REFLECTOMETRY PROFILES. APPLICATION TO HETERO-STRUCTURES DEDICATED TO OPTOELECTRONIC DOMAIN
O. Durand, N. Morizet, Thales Research and Technology, Domaine de Corbeville, 91404 Orsay Cedex, France

P/P.51 SPECTROSCOPIC STUDY ON HIGH TC YBCO THIN FILMS OBTAINED BY PULSED LASER DEPOSITION
M. Branescu, National Institute for R&D of Material Physics, P.O. Box MG-7, Bucharest, Romania, P. Ionescu, "Horia Hulubei" National Institute for Physics and Nuclear Engineering, P.O. Box MG-6, Bucharest, Romania, A. Moldovan, National Institute for Lasers, Plasma and Radiations Physics, P.O. Box MG-36, Str. Atomistilor, Nr. 111, Bucharest, Romania

P/P.52 INTERFEROMETRIC EQUIPMENT FOR MORE PRECISE DETERMINATION OF ISOTROPIC AND ANISOTROPIC MATERIAL REFRACTIVE INDEXES
A.S. Andrushchak, B.V. Tybinka, M.V. Kaidan, Lviv Polytechnic National University, 5 Knyaza Romana Str., 79005 Lviv, Ukraine

P/P.53 QUANTITATIVE METHODS FOR NANOPOWDERS CHARACTERIZATION
T. Wejrzanowski(a), R. Pielaszek(b), J. Michalski(a), H. Matysiak(a), W. Wojkowski(b), K.J. Kurzydowski(a), (a) Warsaw University of Technology, Faculty of Materials Science and Engineering, Wooska 141, 02-507 Warsaw, Poland, (b)High Pressure Research Center of the Polish Academy of Science, Sokolowska 29, 01-142 Warsaw, Poland

P/P.54 EVOLUTION OF NEAR BAND EDGE ABSORPTION OF SIO_X THIN FILMS UPON ANNEALING
I. Stenger, L. Siozade, B. Gallas, S. Fisson, G. Vuye, J. Rivory, Institut des Nano-Sciences de Paris, UMR CNRS 7588, Universités Paris 6 et Paris 7, 140 rue de Lourmel, 75015 Paris, France

P/P.55 OPTIMISATION GROWTH CONDITIONS OF BINARY COMPOUND In_2S_3 THIN FILMS DEPOSITED IN VACUUM BY THERMAL EVAPORATION TECHNIQUE
A. Timoumi, H. Bouzouita*, R.Brini, M. Kanzari and B. RezigLaboratoire de Photovoltaïques et Matériaux Semi-conducteurs (LPMS)Ecole Nationale des Ingénieurs de Tunis (E.N.I.T) BP 37 belvédère 1002 Tunis, Tunisie

Friday, June 3, 2005 — Morning
Vendredi 3 juin 2005 — Matin

Session X : Optical metrology : materials and devices (II)
Session chairs : M. Schubert, M. Modreanu

P-X.01 9:00 -Invited-
CHARACTERIZATION OF GRATINGS BY MUELLER POLARIMETRY IN CONICAL DIFFRACTION
Antonello De Martino, Tatiana Novikova, Sami BenHatit, Bernard Drévillon, Laboratoire de Physique des Interfaces et des Couches Minces, CNRS UMR7647, Ecole polytechnique, 91128 Palaiseau, France, Denis Cattelan, Département Couches Minces, Jobin Yvon, Groupe HORIBA, 5 av Arago, 91380 Chilly Mazarin, France

P-X.02 9:40
LOW FREQUENCY RAMAN SCATTERING IN SOI : PROBING ELECTRON-PHONON INTERACTION AND CAVITY EFFECTS
F. Poinsotte, J. Groenen A. Zwick, V. Paillard, A. Mlayah, Laboratoire de physique des solides (LPST), Universite P. Sabatier, Toulouse, France and C.M. Sotomayor Torres, National Microelectronics Research Centre, Cork, Ireland and M. Prunnila, J. Ahopelto, VTT Centre for Microelectronics Espoo, Finland

P-X.03 10:00
ANOMALOUS PSEUDODIELECTRIC FUNCTION OF GaN: EXPERIMENT, MODEL AND APPLICATION TO STUDY THE SURFACE PROPERTIES
S. Shokhovets(a), G. Gobsch(a), V. Lebedev(b), and O. Ambacher(b), Institute of Physics(a) and Center for Micro- and Nanotechnologies(b), Ilmenau Technical University, PF 100565, 98684 Ilmenau, Germany

P-X.04 10:20
CHARACTERIZATION OF OXIDE THIN FILMS USING OPTICAL TECHNIQUES
J.H. Hao, Department of Physics, The University of Hong Kong, Pokfulam Road, Hong Kong and Department of Optoelectronic Engineering, Huazhong University of Science and Technology, Wuhan 430074, P.R. China, J. Gao, Department of Physics, The University of Hong Kong, Pokfulam Road, Hong Kong

10:40 **BREAK**

Session XI : Advanced material characterization : nitrides
Session chairs : O. Thomas, T. Baumbach

P-XI.01 11:00 -Invited-
X-RAY ANALYTICAL PROCESS MONITORING IN THE DEVELOPMENT OF GROUP-III-NITRIDE DEVICES
L. Kirste, S. Müller, R. Kiefer, R. Quay, K. Köhler, Fraunhofer-Institut für Angewandte Festkörperphysik (IAF), Tullastr. 72, 79108 Freiburg, Germany; N. Herres, Interstaatliche Hochschule für Technik Buchs NTB, 9471 Buchs (SG), Switzerland

P-XI.02 11:40
REAL TIME ELLIPSOMETRY FOR MONITORING PLASMA-ASSISTED EPITAXIAL GROWTH OF GaN
Giovanni Bruno, Maria M. Giangregorio, Pio Capezzuto, Maria Losurdo, Institute of Inorganic Methodologies and of Plasmas, IMIP-CNR and INSTM UdR Bari, via Orabona 4, 70126 Bari, Italy, April S. Brown, Tong-Ho Kim, Soojeong Choi, Dept of Electrical and Computer Engineering and Department of Physics, Duke University, 128 Hudson Hall, Durham NC, USA

P-XI.03 12:00
STRUCTURAL CHARACTERISATION OF GAALN/GAN HEMT HETEROSTRUCTURES BY BOTH X-RAY REFLECTOMETRY AND X-RAY DIFFRACTOMETRY
N. Sarazin, O. Durand, M. Magis, M-A di Forte Poisson, J. Di Persio, Thales R&T, Domaine de Corbeville, 91404 Orsay Cedex, France

P-XI.04 12:20
STRUCTURAL AND OPTICAL CHARACTERIZATION OF GaN HETEROEPITAXIAL FILMS ON SiC SUBSTRATES
Mike Morse, Pae Wu, Soojeong Choi, Tong-Ho Kim, and April S. Brown, Dept of Electrical and Computer Engineering and Department of Physics, Duke University, 128 Hudson Hall, Durham NC, USA, Maria Losurdo and Giovanni Bruno, Institute of Inorganic Methodologies and of Plasmas, IMIP-CNR and INSTM UdR Bari, via Orabona 4, 70126 Bari, Italy

12:40 **LUNCH**

Friday, June 3, 2005 — Afternoon
Vendredi 3 juin 2005 — Après-midi

14:00 **ROUND TABLE**
Advances in optical and X-ray metrology
Session chairs : O. Durand, G.E. Jellison