

SCIENTIFIC PROGRAM

ORAL SESSIONS

SECTION A

PROCESSING OF OXIDE FILMS AND MULTILAYERS

SESSION 1

THURSDAY, 28.09.2000, 9³⁰ - 12⁰⁰

Chairman Dr. Albert FIGUERAS

- O1A. **Georg WAHL** (invited), *Institut für Oberflächentechnik und Plasmatechnische Werkstoffentwicklung, Technische Universität Braunschweig, Germany*
INDUSTRIAL SCALE PROCESSING OF OXIDE LAYERS AND MULTILAYERS
- O2A. **Jean-Pierre SÉNATEUR** (invited), *LMGP, ENS de Physique de Grenoble, France*
APPLICATION OF PULSED-INJECTION MOCVD TO THE SYNTHESIS OF MULTILAYERS AND SUPERLATTICES AT NANOMETRIC SCALE
- O3A. **Johannes LINDNER**, *AIXTRON AG, Aachen, Germany*
INDUSTRIAL SCALE MOCVD PROCESSING OF ELECTROCERAMIC THIN FILMS
- O4A. **Catherine DUBOURDIEU**, *LMGP, ENS de Physique de Grenoble, France*
PULSED LIQUID-INJECTION MOCVD OF MANGANITE – BASED SUPERLATTICES
- O5A. **Arunas TEISERSKIS**, *Vilnius University, Lithuania*
LARGE AREA YBCO FILMS DEPOSITED BY PULSED INJECTION CVD

SESSION 2

THURSDAY, 28.09.2000, 14³⁰ - 16⁰⁵

Chairman Dr. Francois WEISS

- O6A. **Andrej KAUL** (invited), *Moscow State University, Russia*
EPITAXIAL PHASE STABILISATION PHENOMENA IN THIN FILM GROWTH
- O7A **Jose SANTISO**, *ICMAB-CSIC, Barcelona, Spain.*
COMPOSITION DEPENDENCE OF THIN FILM GROWTH CHARACTERISTICS IN COMPLEX OXIDES.
- O8A. **Mazhar BARI**, *Trinity College, Dublin 2, Ireland*
THIN FILMS OF Sr₂FeMoO₆ DEPOSITED BY PULSED LASER DEPOSITION
- O9A **Ahti NIILISK**, *University of Tartu, Estonia*
TiO₂ THIN FILMS BY ATOMIC_LAYER CHEMICAL VAPOUR DEPOSITION: GROWTH AT 365 °C

SECTION B

**CHARACTERISATION AND APPLICATION OF OXIDE FILMS AND
MULTILAYERS**

SESSION 3

FRIDAY, 29.09.2000, 9⁰⁰ – 10³⁵

Chairman Prof. Michael COEY

- O1B. **Josep FONTCUBERTA** (Invited), *Institut de Ciència de Materials de Barcelona, Spain*
Sr₂FeMoO₆ DOUBLE PEROVSKITES. ARE THEY ALTERNATIVE MATERIALS FOR SPIN DEVICES?
- O2B. **Oleg GORBENKO**, *Moscow State University, Russia*
NON-DESTRUCTIVE CHARACTERIZATION OF EPITAXIAL PEROVSKITE LAYERS BY RAMAN SPECTROSCOPY
- O3B. **Bonifacas VENGALIS**, *Semiconductor Physics Institute, Vilnius, Lithuania*
SPIN-POLARIZED QUASIPARTICLE INJECTION DEVICE BASED ON MOCVD-GROWN YBa₂Cu₃O₇/SrTiO₃/La_{1-x}Sr_xMnO₃ HETEROSTRUCTURES
- O4B. **Karol FRÖHLICH**, *Slovak Academy of Sciences, Bratislava, Slovak Republic*
NON-LINEAR CURRENT-VOLTAGE CHARACTERISTICS OF La_{1-x}MnO₃ FILMS.

SESSION 4

FRIDAY, 29.09.2000, 10⁵⁵ – 12³⁵

Chairman Dr. Karol FRÖHLICH

- O5B. **Piotr DŁUŻEWSKI**, *Polish Academy of Sciences, Warsaw, Poland*
TEM AND X-RAY CHARACTERIZATION OF MICROSTRUCTURE OF YBaCuO THIN FILMS DEPOSITED BY LASER ABLATION ON COLD SUBSTRATES
- O6B. **A. GALDIKAS**, *Kaunas University of Technology, Lithuania*
ION BEAM DEPTH PROFILING OF MULTILAYERS
- O7B. **Vladimir IGNATOVICH**, *FLNP JINR, Dubna, Moscow region, Russia*
MULTILAYERED SYSTEM WITH FORBIDDEN REFLECTIONS
- O8B. **Sigitas TAMULEVICIUS**, *Kaunas University of Technology, Lithuania*
OPTICAL MEASUREMENTS OF STRAIN AND STRESS IN THIN FILMS
- O9B. **Vladimir POKROPIVNY**, *Institute for Problems of Materials Science of NASU, Kiev, Ukraine*
NANOTUBULAR 2D CRYSTALS. SYNTHESIS AND PROMISING APPLICATIONS.

POSTER SESSION

THURSDAY, 28.09.2000, 16¹⁵ - 18⁰⁰

SECTION A

- P1A. **C. Jiménez^a, F. Weiss^a, J. P. Senateur^a, A. Abrutis^b, A. Teiserskis^b, O. Stadel^c, J. Schmidt^c, G. Wahl^c, M. Krellmann^d, D. Selbmann^d, N.V. Markov^e, S. V. Samoylenkov^e, O. Yu. Gorbenko^e, A. R. Kaul^e, F. Fillot^f, H. Guillon^f.**

^a *Laboratoire des Matériaux et du Génie Physique (LMGP), ENSPG, Rue de La Houille Blanche, Domaine Universitaire BP46, F-38402 Saint Martin D'Hères Cedex, France*

^b *Vilnius University, Department of Chemistry, LT-2006 Vilnius, Lithuania*

^c *Institut für Oberflächentechnik und Plasmatechnische Werkstoffentwicklung (IOPW), Technische Universität Braunschweig, Bienroder Weg 53, 38108 Braunschweig, Germany*

^d *Institut für Festkörper und Werkstofforschung Dresden (IFW), Postfach 270016, D-01171 Dresden, Germany*

^e *Department of Chemistry, Moscow State University, 119899 Moscow, Russia.*

^f *J.I.P.ELEC, 17 Chemin du Vieux Chêne, F-38240 Meylan, France*

DEPOSITION OF YBCO BY MOCVD FOR COATED CONDUCTORS
FABRICATION

- P2A. **L.Fàbrega¹, M. Caussanel, R.Rubi¹, J.Fontcuberta¹, V.Trtík², F.Sánchez², C.Ferrater², M. V. García-Cuenca² and M.Varela²**

¹*Institut de Ciència de Materials de Barcelona (C.S.I.C.), Campus de la U.A.B., 08193 Bellaterra, Spain,* ²*Dpt. Física Aplicada i Òptica, Universitat de Barcelona, Diagonal 648, 08028 Barcelona, Spain*

FERROMAGNETIC AND SUPERCONDUCTING OXIDE HETEROSTRUCTURES
FOR SPIN INJECTION DEVICES

- P3A. **A.A.Bosak^{*1}, S.V.Samoilenkov¹, O.Yu.Gorbenko¹, A.N.Botev¹, A.R.Kaul¹, J.-P. Sénateur², C.Dubourdieu²**

¹*Chemistry Department, MSU, 119899 Moscow, Russia,* ²*ENSPG/LMGP, BP46, 38402, Saint Martin d'Hères, France*

SELF-TUNING APPROACH TO THE MOCVD OF HIGH-QUALITY LEAD-
CONTAINING HETEROSTRUCTURES

- P4A. **B. Vengalis, K. Oginskas, V. Lisauskas, R. Butkute, A. Maneikis, L. Dapkus, V. Jasutis and N. Shiktorov**

Semiconductor Physics Institute, A.Goštauto 11, LT-2600 Vilnius, Lithuania,

GROWTH AND INVESTIGATION OF THE (LaNiO₃, RuO₂)/La_{1-x}Ca_xMnO₃
HETEROSTRUCTURES

- P5A. **V. Plausinaitienė^{1,2}, A. Abrutis¹, B. Vengalis², R. Butkute², J.P. Senateur³, Z. Saltyte¹, V. Kubilius¹, S.Pasko¹, L.Dapkus²**

¹*Vilnius University, Dep. of General and Inorganic Chemistry, Naugarduko 24, LT-2006 Vilnius, Lithuania*

²*Semiconductor Physics Institute, A.Goštauto 11, LT-2600 Vilnius, Lithuania*

³*LMGP, ENSPG, INPG, UMR CNRS 5628, Saint Martin d'Hères, France*

MOCVD GROWTH AND CHARACTERISATION OF La_{1-x}Sr_xMnO₃/SrTiO₃/
La_{1-x}Sr_xMnO₃ HETEROSTRUCTURES

P6A J. Santiso, V. Laukhin, G. Garcia and A. Figueras

Laboratorio de crecimiento cristalino, ICMA-B-CSIC. Campus UAB. 08193 Bellaterra. Barcelona. Spain. E-mail santi@icmab.es

Ll. Balcells and J. Fontcuberta

Laboratorio de propiedades eléctricas y magnéticas, ICMA-B-CSIC.

L.A. Angurel, R.I. Merino and V.M. Orera

ICMA-CSIC Zaragoza

OXIDE THIN FILM DEPOSITION ON EUTECTIC SUBSTRATES

P7A. P. B. Tavares

Secção de Química, Universidade de Trás-os-Montes e Alto Douro, 5000 Vila Real, Portugal, and Departamento de Engenharia Cerâmica e Vidro, Universidade de Aveiro, 3810 Aveiro, Portugal

J. P. Araújo, J. B. Sousa

IFIMUP, Departamento de Física, Faculdade de Ciências da Universidade do Porto, Rua do Campo Alegre 687, 4150 Porto, Portugal.

V. S. Amaral

Departamento de Física, Universidade de Aveiro, 3810 Aveiro, Portugal.

J. M. Vieira

Departamento de Engenharia Cerâmica e Vidro, Universidade de Aveiro, 3810 Aveiro, Portugal

THE EFFECTS OF TEMPERATURE ON BISRCACUO THIN FILMS USING AEROSOL-ASSISTED METALORGANIC CHEMICAL VAPOR DEPOSITION (MOCVD).

P8A. A. Teiserskis, A. Abrutis, Z. Saltyte

Vilnius University, Dep. of General and Inorganic Chemistry, Naugarduko 24, LT-2006 Vilnius, Lithuania

C. Jimenez, F. Weiss, J.P. Senateur

LMGP, ENSPG, INPG, UMR CNRS 5628, Saint Martin d'Hères, France

HongLi Suo, Jean-Yves Genoud, René Flükinger

D.P.M.C University of Geneva, CH-1211 Geneva 4, Switzerland

MOCVD DEPOSITION OF YBCO FILMS ON BIAXIALLY TEXTURED Ag SUBSTRATES

P9A. A. Rakauskas, J. Dudonis, V. Stankus

Kaunas University of Technology, studentų-50, LT-3000 Kaunas, Lithuania.

DEPOSITION OF OXIDE THIN FILMS BY THE COMBINED CATHODIC ARC-MAGNETRON SPUTTER TECHNIQUE

P10A. V. Stankus*, A. Rakauskas, J. Dudonis

Kaunas University of Technology, studentų-50, LT-3000 Kaunas, Lithuania.

SYNTHESIS OF PbTiO₃ IN SPUTTERED Pb/Ti LAYER BY SOLID STATE REACTIONS

P11A. S. Rajesh, K. Perumal

Solar Energy Lab., Dept. of Physics, Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore-641020 India

EFFECT OF DEPOSITION PARAMETERS ON THE OPTOELECTRICAL PROPERTIES AND MICROSTRUCTURE OF THE SPIN COATED METAL OXIDE THIN FILMS

SECTION B

- P1B. **M. Rosina^a, K. Fröhlich^a, C. Dubourdieu^b, F. Weiss^b, M. Jergel^c**
^aInstitute of Electrical Engineering, SAS, Dúbravská cesta 9, 842 39 Bratislava, Slovakia
^bLMGP, UMR CNRS 5628, ENSPG BP 46, 38 402 Saint Martin d'Hères, France
^cInstitute of Physics, SAS, Dúbravská cesta 9, 842 28 Bratislava, Slovakia.
INVESTIGATION OF THE QUALITY OF SURFACES AND INTERFACES OF SINGLE LAYERS, BILAYERS AND MULTILAYERS BASED ON $\text{La}_{2/3}\text{Sr}_{1/3}\text{MnO}_3$ BY AFM AND X-RAY REFLECTIVITY METHOD
- P2B. **M.Pripko^a, K. Fröhlich^a, M. Maryško^b**
^aInstitute of Electrical Engineering, Slovak Academy of Sciences, Dúbravská cesta 9, 842 39 Bratislava, Slovak Republic
^bInstitute of Physics, Czech Academy of Sciences, 162 53 Praha 6, Czech Republic
MAGNETO-TRANSPORT PROPERTIES OF OXYGEN POST-ANNEALED LaMnO_3 THIN FILMS
- P3B. **A. Kalvane, M. Antonova, M. Livinsh, A. Spule, L. Shebanovs, A. Sternberg**
Institute of Solid State Physics, University of Latvia, 8 Kengaraga str., Riga, LV 1063, Latvia
STRUCTURE AND PROPERTIES OF HIGH PIEZOELECTRIC COUPLING $\text{Pb}(\text{B}', \text{B}'')\text{O}_3 - \text{PbTiO}_3$ BINARY SYSTEMS
- P4B. **A.Jukna¹, J.Paršeliūnas¹, S.Balevičius¹, O.Kiprijanovič¹, V.Lisauskas¹, A.Abrutis², V.Plaušinitienė², A.Teišerskis²**
¹Semiconductor Physics Institute, A.Goštauto 11, LT-2600 Vilnius, Lithuania
²Vilnius University, Naugarduko 24, LT-2006 Vilnius, Lithuania
ELECTRIC PROPERTIES OF THIN SUPER-CONDUCTING FILM AERIAL
- P5B. **P. Dłużewski, A. Szczepańska, J. Pelka, W. Paszkowicz, A. Wawro, L.T. Baczewski**
Institute of Physics, Polish Academy of Sciences, Al. Lotników 32/46, 02-668 Warsaw, Poland
X-RAY AND TEM STRUCTURAL STUDY OF Co/Gd MULTILAYERS WITH EXOTIC MAGNETIC PROPERTIES
- P6B. **G.-J.Babonas¹, L.Leonyuk², R.Szymczak³, A.Reza¹, V.Maltsev², M.Baran³, L.Dapkus¹, V.Jasutis¹**
¹Semiconductor Physics Institute, Goštauto 11, LT-2600 Vilnius, Lithuania
²Moscow State University, 119899 Moscow, Russia
³Institute of Physics, PAN, 02-668 Warsaw, Poland
SURFACE LAYERS ON $(\text{M}_2\text{Cu}_2\text{O}_3)_m(\text{CuO}_2)_n$ SUPERCONDUCTORS
- P7B. **F. Anisimovas, J. Liberis, B. Vengalis**
Semiconductor Physics Institute, Goštauto 11, LT-2600 Vilnius, Lithuania.
MICROWAVE NOISE IN $\text{La}_{0.67}\text{Ca}_{0.33}\text{MnO}_3$ THIN FILMS

P8B. V. Karpus¹, A. Rėza¹, G.-J. Babonas¹, A. Suchodolskis¹, W. Assmus², R. Sterzel², V. Kazlauskienė³, J. Miškinis³, and A. Miniotas⁴

¹ *Semiconductor Physics Institute, Goštauto 11, LT-2600 Vilnius, Lithuania.*

² *J. W. Goethe-Universität, Postfach 111932, D-60054 Frankfurt am Main, Germany*

³ *Vilnius University, Naugarduko 24, LT-2734 Vilnius, Lithuania*

⁴ *Royal Institute of Technology, S-10044 Stockholm, Sweden*

SURFACE OXIDE LAYERS ON *i*-ZnMg(Y,Ho) QUASICRYSTALS

P9B. O.Kiprijanovič, S.Balevičius, V.Pyragas, E.E.Tornau, A.Jukna, B.Vengalis, F.Anisimovas

Semiconductor Physics Institute, Goštauto 11, LT-2600 Vilnius, Lithuania.

EFFECT OF NANOSECOND MAGNETIC AND ELECTRIC PULSES ON RESISTANCE OF $\text{La}_{0.67}\text{Ca}_{0.33}\text{MnO}_3$ THIN FILMS

P10B. K. Bormanis, M. Kalnberga, M. Livinsh, A. Patmalnieks, and A. Sternberg

Institute of Solid State Physics, University of Latvia, 8 Kengaraga str., Riga, LV 1063, Latvija

MICROSCOPIC STUDIES OF THE SURFACE OF FERROELECTRIC AND HIGH TEMPERATURE SUPERCONDUCTOR LAYERS

P11B. V.Vaicikauskas, R.Antanavicius, R.Januskevicius, J.Bremer*, O.Hunderi*

Institute of Physics, Goštauto 12, LT-2600 Vilnius, Lithuania

**Department of Physics, Norwegian University of Science and Technology, 7491 Trondheim, Norway*

OPTICAL CONSTANTS OF ITO DETERMINED BY ELLIPSOMETRY OF SURFACE PLASMONS

P12B. A.Galdikas, S.Kačiulis, A.Mironas, D.Senulienė, V.Strazdienė and A.Šetkus

Semiconductor Physics Institute, Goštauto 11, Lt-2600 Vilnius, Lithuania

SENSITIVITY TUNING BY ADDITIONAL LAYERS IN TiN OXIDE THIN FILM BASED GAS SENSORS

P13B. I.E.Graboy*¹, O.Yu.Gorbenko¹, M.A.Novojilov¹, S.V.Samoylenkov¹, A.R.Kaul¹, H.W.Zandbergen²

¹ *Department of Chemistry, Moscow State University, 119899 Moscow, Russia*

² *National Centre for HREM, Laboratory of Materials Science, Delft university of Technology, Rotterdamseweg 137, Delft 2628 AL, The Netherlands*

TRANSMISSION ELECTRON MICROSCOPY STUDY OF OXIDE HETEROSTRUCTURES