



Strasbourg (France)

**E-MRS IUMRS ICEM 2006 Spring Meeting
Nice, France - May 29 – June 2, 2006**

SYMPOSIUM K

ZnO and Related Materials

Symposium Organizers:

Robert Triboulet, CNRS-LPSC, Meudon, France

Bruno K. Meyer, University of Giessen, Germany

Vicente Muñoz-Sanjosé, University of Valencia, Spain

Andreas Waag, TU Braunschweig, Germany

Yoon Soo Park, Rensselaer Polytechnic Institute, USA

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Papers to be published in Superlattices and Microstructures

E-MRS IUMRS ICEM 2006 Spring Meeting

SYMPOSIUM K

Monday, May 29, 2006

Lundi 29 mai 2006

Morning

Matin

Session I Doping effects in ZnO I

Chair: Y.S. Park

K I 01	invited	09:00	Hydrogen transport properties in zinc oxide N. H. Nickel Hahn-Meitner-Institut Berlin, Kekuléstr. 5, 12489 Berlin, Germany
K I 02		09:30	Lattice location of implanted As in ZnO U. Wahl 1,2), E. Rita 1,2), J.G. Correia 1,2), A.C. Marques 2,3), E. Alves 1,2), J.C. Soares 2), and the ISOLDE collaboration 3) 1) Instituto Tecnológico e Nuclear, EN 10, 2686-953 Sacavém, Portugal 2) Centro de Física Nuclear da Universidade de Lisboa, 1649-003 Lisboa, Portugal 3) CERN-PH, 1211 Geneva 23, Switzerland
K I 03		09:50	Observation of a p-n junction in hydrogen implanted ZnO by scanning capacitance microscopy E.V. Monakhov, K. Maknys, J.S. Christensen, B.G. Svensson and A.Yu. Kuznetsov Department of Physics/Center for Material Science and Nanotechnology, University of Oslo, PO Box 1048 Blindern, 0316 Oslo, Norway
K I 04		10:10	Arsenic and Nitrogen mono- and dual-doped ZnO-epilayers grown by MOCVD: structural and optical properties S. Giemsch ¹ , A. Dadgar ¹ , A. Krttschil ¹ , F. Bertram ¹ , J. Bläsing ¹ , Y. Suchorski ² , A. Diez ¹ , H. Weiss ² , J. Christen ¹ , A. Krost ¹ ¹ Institute of Experimental Physics, Otto-von-Guericke-University Magdeburg, Germany ² Institute of Chemistry, Otto-von-Guericke-University Magdeburg, Germany
		10:30	Break

Session II Doping effects in ZnO II**Chair: D. Look**

K II 01	11:00	Cluster-doping method for the fabrication of p-type ZnO Zhi Gen Yu and Ping Wu Institute of High Performance Computing, 1 Science Park Road, #01-01 The Capricorn Singapore Science Park II, Singapore 117528
K II 02	11:20	Electrical characterization of deep acceptor states in nitrogen implanted ZnO single crystals H. von Wenckstern ¹ , H. Schmidt ¹ , R. Pickenhain ¹ , G. Biehne ¹ , M. Brandt ¹ , G. Brauer ² , M. Lorenz ¹ , and M. Grundmann ¹ ¹ Universität Leipzig, Institut für Experimentelle Physik II, Linnestraße 5, D- 04103 Leipzig, Germany ² Institut für Ionenstrahlphysik und Materialforschung, FZ Rossendorf, Postfach 510119, D-01314 Dresden, Germany
K II 03	11:40	MATERIAL PROPERTIES OF NITROGEN-DOPED ZnO THIN FILMS GROWN BY PLASMA-ASSISTED PULSED-LASER DEPOSITION ON SAPPHIRE SUBSTRATES S. Chakrabarti ¹ , B. Doggett ¹ , M. Novotny ² , R. O'Haire ¹ , E. McGlynn ¹ , M.O. Henry ¹ , A. Meaney ¹ and J.-P. Mosnier ¹ , ¹ School of Physical Sciences, National Centre for Plasma Science and Technology, Dublin City University, Glasnevin, Dublin 9, Ireland ² Institute of Physics, Academy of Sciences of the Czech Republic, Na Slovance 2, 182 21 Prague, Czech Rep.
K II 04	12:00	Arsenic related recombination in MOVPE-grown ZnO/GaAs films J.R. Botha, K.T. Roro, C. Weichsel, A.W.R. Leitch Physics Department, PO Box 77000, Nelson Mandela Metropolitan University, Port Elizabeth, 6031, South Africa J. Weber Institute for Applied Physics – Semiconductor Physics, University of Technology, D-01062 Dresden, Germany
K II 05	12:20	Effects of Ga doping on electrical and optical properties of ZnO polycrystalline films prepared by reactive plasma deposition Sho Shirakata ¹ Toshiyuki Sakemi ² Kiyoshi Awai ³ Tetsuya Yamamoto ³ ¹ Faculty of Engineering, Ehime University, Matsuyama, Ehime, Japan ² Research and development center, Sumitomo Heavy Industries, Ltd, Niihama, Ehime, Japan ³ Materials Design Center, Kochi University of Technology, Tosayamada, Kochi, Japan
K II 06	12:40	Microwave Irradiation an Alternative Source for Conventional Annealing: A Study of pure ZnO, and ZnO doped Ga Thin Films by a Sol-gel Process for Electronic Applications A. R. Phani, F. Ruggieri*, M. Passacantando, S. Santucci INFM and Department of Physics - University of L'Aquila, via Vetoio 10, 67010 Coppito, L'Aquila - ITALY
	13:00	Lunch

Monday, May 29, 2006
Lundi 29 mai 2006

Afternoon
Après-midi

Session III Thin films: growth and characterization

Chair: R. Triboulet

K III 01	14:00	Structural characterisation of molecular-beam-epitaxy-grown ZnO on R-plane sapphire J.M. Chauveau, P. Vennéguès, C. Morhain, B. Lo, M. Teisseire-Doninelli and C. Deparis CRHEA-CNRS, rue Bernard Grégory, 06560 Valbonne, France
K III 02	14:20	Vapour Phase Transport Growth of ZnO Layers and Nanostructures A. Bakin, A. Che Mofor, A. El-Shaer, and A. Waag Institute of Semiconductor Technology, Technical University Braunschweig, Hans-Sommer-Straße 66, Braunschweig, Germany
K III 03	14:40	EFFECT OF GROWTH PARAMETERS on CRYSTALLINITY AND PROPERTIES OF ZnO FILMS BY PLASMA-ASSISTED MOCVD Maria Losurdo, Maria M. Giangregorio, Pio Capezzuto, Giovanni Bruno Institute of Inorganic Methodologies and of Plasmas, IMIP-CNR, and INSTM, Dept. of Chemistry, University of Bari, Via Orabona, 4 - 70126 Bari, Italy Graziella Malandrino, Ignazio L. Fragalà, Dipartimento di Scienze Chimiche, Università di Catania, and INSTM, Udr Catania, Viale A. Doria 6, I-95125 Catania, Italy
K III 04	15:00	Near-field study of optical modes in randomly textured ZnO thin films K. Bittkau, Institute of Photovoltaics, Juelich Research Center R. Carius, Institute of Photovoltaics, Juelich Research Center
K III 05	15:20	Scintillator and electrical properties of single-crystalline zinc oxide films prepared by liquid phase epitaxy Dirk Ehrentraut, Martin Nikl ¹ , Hideto Sato ² , Miyuki Miyamoto ³ , Oliver Schmidt ⁴ , Peter Kiesel ⁴ , and Tsuguo Fukuda Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai 980-8577, Japan 1 Institute of Physics, AS CR, Cukrovarnicka 10, 16253 Prague, Czech Republic 2 Murata Mfg. Co., Ltd., Yasu-gun 520-2393, Shiga, Japan 3 Mitsubishi Gas Chemical Co., Inc., 6-1-1 Niijuku, Katsushika-ku, Tokyo 125-0051, Japan 4 Palo Alto Research Center Inc., 3333 Coyote Hill Road, Palo Alto, CA 94303, USA
K III 06	15:40	Raman investigations on the disorder activation of silent phonon modes in zinc oxide F. Friedrich, I. Sieber, and N.H. Nickel Hahn Meitner Institut Berlin, Kekuléstr. 5, D-12489 Berlin
	16:00	Break
	16:30-18:30	Poster Session I

Poster Session I
Monday, May 29, 2006
16:30 - 18:30

- K P-I 01 The Effect of Heat Treatment on the Morphological and Electrical Properties of Aluminium doped Zinc Oxide Film
D. G. Lim[1], J. K. Kim[1], O. Kwon[1], G. S. Kang[1], J. H. Lee[1], B. S. Kim[2], M. W. Park[3], D. J. Kwak[4] [1] Dept. of Electronic Engineering, Chungju National University, Chungbuk 380-702, Korea [2] Sntek LTD., Gyeonggi 924-1, Korea [3] Dept. of Electrical Engineering, Kyungsung University, Busan 608-736, Korea [4] Dept. Advanced Materials Engineering, Kyungsung University, Busan 608-736, Korea
- K P-I 02 Dependence of electrical, optical properties of nitrogen-doped ZnO thin films grown by atomic layer epitaxy on the reactants feed sequence and post annealing temperature
Chongmu Lee, Jongmin Lim, Department of Materials Science & Engineering Inha University, 253 Yonghyeondong, Incheon 402-751, Korea
- K P-I 03 Annealing of n-type ZnN films made by rf-sputtering from a ZnN target and oxidation into p-type ZnO films
V. Kambalafka (1), P. Voulgaropoulou (2), S. Dounis (2), E. Iliopoulos (3), M. Androulidaki (3), M. Ružinský (4), V. Šály (4) and E. Aperathitis (3) (1) Physics Department, University of Crete, P.O. Box 2208, 71003 Heraklion, Crete, Greece (2) Materials Science & Technology Department, University of Crete, P.O. Box 2208, 71003 Heraklion, Crete, Greece (3) Microelectronics Research Group, Institute of Electronic Structure & Laser, Foundation for Research and Technology –FORTH-Hellas, P.O. Box 1527, Heraklion 71110, Crete, Greece (4) Slovak University of Technology, Faculty of Electrical Engineering and Information Technology Ilkovičova 3, SK-812 19 Bratislava, Slovak Republic
- K P-I 04 The effect of thermal annealing in NH₃ ambient on the p-type doping of ZnO films
Eun Soo Jung¹, Ho Jun Lee¹, Hong Seung Kim^{1*}, Hyung Kun Cho², and Jin Hyeok Kim³ ¹ Department of Applied Physics, Korea Maritime University, Busan 606-791, Korea ² Material Science & Engineering, Sunkyunkwan University, Suwon 110-745, Korea ³Department of Materials Science & Engineering, Chonnam National University Gwangju, 500-757, Korea
- K P-I 05 Change in electrical and optical properties of undoped and Al-doped ZnO thin films after air and hydrogen atmosphere annealing
Jun Hong Noh, Jin young Kim, Hyen Suk Jung, Kug Sun Hong School of Material Science & Engineering, Seoul National University, Korea
- K P-I 06 Ag-DOPED p-TYPE ZnO THIN FILMS
Hong Seong Kang, Byung Du Ahn, Gun Hee Kim, Sung Hoon Lim, Hyun Woo Chang, Jong Hoon Kim, and Sang Yeol Lee, Department of Electrical and Electronic Engineering, Yonsei University, 134, Shinchon-dong, Seodaemoon-ku, 120-749, Seoul, Korea
- K P-I 07 LASER ANNEALING EFFECT ON ELECTRICAL PROPERTIES OF ZnO:P THIN FILMS
Hyun Woo Chang, Hong Seong Kang, Gun Hee Kim, Chang Eun Kim, Dong Lim Kim, and Sang Yeol Lee, Department of Electrical and Electronic Engineering, Yonsei University, 134, Shinchon-dong, Seodaemoon-ku, 120-749, Seoul, Korea
- K P-I 08 Dependences of structural and electrical properties on thickness of polycrystalline Ga-doped ZnO thin film prepared by reactive plasma deposition
Takahiro Yamada, Takuya Nebiki, Seiichi Kishimoto, Hisao Makino, Kiyoshi Awai, Tadashi Narusawa, Tetsuya Yamamoto
- K P-I 09 Pulsed laser deposition of high crystalline quality Al or Co doped ZnO thin films on 110 oriented perovskite substrates and field effect experiments.
E. Bellingeri, G. Canu, A. Caviglia, D. Marré, I. Pallecchi, L. Pellegrino, and A.S. Siri INFN-Lamia, Corso Perrone 24, 16152 Genova, Italy Dipartimento di Fisica, Università di Genova, Via Dodecaneso 33, 16146 Genova, Italy
- K P-I 10 A CHARACTERISATION OF PHOSPHORUS-DOPED ZNO THIN FILMS GROWN BY PULSED LASER DEPOSITION
Doggett, S. Chakrabarti, R. O'Haire, A. Meaney, E. McGlynn, M.O. Henry and J. P. Mosnier, National Centre for Plasma Science and Technology, School of Physical Sciences, Dublin City University, Glasnevin, Dublin 9, Ireland.

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- K P-I 11 UNDOPED AND NITROGEN AND MAGNEZIUM DOPED ZnO THIN FILMS DEPOSITED BY PULSED LASER DEPOSITION
1G. Epurescu, 1G. Dinescu, 1A. Moldovan, 1M. Dinescu, 2F. Di Pietrantonio, 2E. Verona, 2P. Verardi, 3L.C. Nistor, 3C. Ghica, 1National Institute for Laser, Plasma and Radiation Physics, PO Box MG-16 Magurele, 077125 Bucharest, Romania 2CNR-Istituto di Acustica, Via del Fosso del Cavaliere 100, I-00133 Rome, Italia, 3National Institute for Material Research, Bucharest, 77125, Bucharest, Romania
- K P-I 12 Growth of n+ ZnO Films by large Area of MOCVD
S. Sun, C. E. Rice, B. Hoerman and G. S. Tompa Structured Materials Industries, Inc., (www.structuredmaterials.com), 201 Circle Drive N. / Unit 102/103, Piscataway, NJ 08854
- K P-I 13 THE STUDY OF THE INFLUENCE OF DOPING AND CODOPING ON THE OPTICAL AND ELECTRICAL PROPERTIES OF ZnO THIN FILMS
PETRONELA PREPELITA, CRISTIAN BABAN, FELICIA IACOMI Al.I. Cuza University, Faculty of Physics, 11 Carol I Blvd., 700506, Iasi Romania
- K P-I 14 Deposition of ZnO:In by spray pyrolysis: the influence of growth conditions on the electrical and optical properties
J. Wienke, A.S. Booij Energy research Centre of the Netherlands, Solar Energy, Thin-Film Photovoltaics, P.O. Box 1, 1755 ZG Petten, The Netherlands
- K P-I 15 Growth and Characterization of Undoped and Ga doped ZnO films using PE-MOCVD
Chang-Bae Lee, Ju-hoon Park, Byung-Teak Lee Photonic and electronic Thin Film Laboratory, Department of Materials Science and Engineering, Chonnam National University, Gwangju, Korea.
- K P-I 16 RF magnetron sputtered (Zn,Mg)O thin films and electronic surface properties
G. Venkata Rao, J.A. Sans, F. Säuberlich, A. Klein Darmstadt University of Technology, Institute of Materials Science, Surface Science Division, Petersenstrasse 23, 64287-Darmstadt, Germany
- K P-I 17 OXYGEN EFFECT ON THE OPTICAL PROPERTIES OF ZINC OXIDE THIN FILM GROWTH BY RF-SPUTTERING DEPOSITION
M. Giofrè^{1,2}, M. Angeloni¹, M. Gagliardi¹, M. Iodice¹, G. Coppola¹, C. Aruta³ and F.G. Della Corte² 1 Istituto per la Microelettronica e Microsistemi -CNR- Italy 2 Università "Mediterranea" di Reggio Calabria - Facoltà di Ingegneria - Italy 3 Coherentia CNR-INFN and Dipartimento di Ingegneria Meccanica - Università di Roma "Tor Vergata" - Italy
- K P-I 18 GROWTH AND PROPERTIES OF MBE-GROWN ZnO EPILAYERS ON AlN/Si(111) Templates
D.A. Buell, C. Morhain, F. Semond, B. Lo, J.M. Chauveau, M. Laügt, M. Teisseire-Doninelli, I.R. Sellers, C. Deparis Centre de Recherche sur l'Hetero-Epitaxie et ses Applications, CRHEA / CNRS, rue Bernard Gregory, F-06560 Valbonne-Sophia-Antipolis (France)
- K P-I 19 Deposition and characterization of sputtered ZnO films
W.L. Dang, Y.Q. Fu, J.K. Luo, A.J. Flewitt, W.I. Milne; Electrical Engineering Division, Engineering Department, University of Cambridge
- K P-I 20 SURFACE NANOSTRUCTURE OF ZnO DEPOSITED ON Si(100) BY SPRAY PYROLYSIS USING INELASTIC XPS PEAK SHAPE ANALYSIS
M^aC. López, F. Martín, D. Leinen and J.R. Ramos-Barrado. Laboratorio de Materiales y Superficie (Unidad Asociada al CSIC). Dptos Física Aplicada. Universidad de Málaga. E29071 Málaga (Spain) F. Yubero. Instituto de Ciencia de Materiales de Sevilla (CSIC-U.Sevilla). c/ Americo Vespucio s/n, 41092 Sevilla (Spain)
- K P-I 21 Atomic Layer Deposition and Characterization of Ga-doped ZnO Thin Films
K. Saito^[1], Y. Hiratsuka^[1], A. Omata^[1], H. Makino^[2], S. Kishimoto^[2], T. Yamamoto^[2], N. Horiuchi^[3], H. Hirayama^[3] and M. Osada^[4] [1] Teikyo Univ. Sci. Tech., 2525 Uenohara, Yamanashi 409-0193, Japan, [2] Kochi Univ. Tech., 185 Tosayamada-cho, Kochi 782-8502, Japan, [3] Photodynamics Research Center, RIKEN, 519-1399 Aoba, Aramaki, Sendai 980-0845, Japan, [4] National Institute for Material Science, 1-1 Namiki, Tsukuba, Ibaraki 305-0044, Japan
- K P-I 22 Impact of rapid thermal annealing on properties of ZnO: Cu thin films.
V.S.Khomchenko,L.V.Zavyalova, N.N.Roshchina, V.E.Rodionov,V.B.Khachatryan, Institute of Semiconductor Physics, NAS of Ukraine, 41, Prospect Nauky, 03028 Kiev, Ukraine. T.G.Kryshab,J.A.Andraca-Adame,Instituto Politecnico Nacional - ESFM, Av. IPN, Ed.9, U.P.A.L.M., c.p. 07738, Mexico D.F., Mexico.

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- K P-I 23 Controlling the Wettability of Nanostructured ZnO Thin Films Prepared by Electrodeposition
C. Badre, M. Turmine, T. Pauporté, D. Lincot, V. Lair Laboratoire d'Électrochimie et de Chimie Analytique (UMR 7575), ENSCP, 11 rue Pierre et Marie Curie, 75231 Paris cedex 05, France
- K P-I 24 Influence of processing conditions on the morphology of heteroepitaxial ZnO thin films formed on GaN-buffered Al₂O₃ (0001) substrates by low temperature hydrothermal synthesis at 90 °C
Eun-Mi Kim¹, Fred. F. Lange² and Jin Hyeok Kim¹ ¹ Photonic and Electronic Thin Film Laboratory, Department of Materials Science and Engineering, Chonnam National University, 300 Yongbong-Dong, Puk-Gu, Gwangju 500-757, South Korea ² Materials Department, University of California at Santa Barbara, Santa Barbara, CA93106, USA
- K P-I 25 Angularly Resolved Emission from ZnO films produced by Pulsed Laser Deposition and Sol-Gel techniques
M.T. Taschuk*, P. Kursa**, H. Nguyen**, Y.W. Sun*, R.G. DeCorby**, and Y.Y. Tsui*
*Department of Electrical and Computer Engineering, University of Alberta, Edmonton, Alberta T6G 2V4, Canada. **TRLabs, 7th floor, 9107-116 street, Edmonton, Alberta T6G 2V4, Canada.
- K P-I 26 Study of structural, optical and electrical properties of ZnO and SnO₂ thin films
B.N. Mukashev, A.B. Aimagambetov, N.B. Beisenkhanov, S.M. Kikkarin, V.B. Glazman, B.M. Veremenithev, D.M. Mukhamedshina, K.A. Mit Institute of Physics and Technology, Ibragimov str. 2, 050032 Almaty, KAZAKHSTAN
- K P-I 27 Cubic structure of ZnO:CuO thin films obtained by RF sputtering
V.S.Teodorescu , A.Goldenblum National Institute of Material Physics, 105 bis Atomistilor Street, 077125 Bucharest-Măgurele, Romania M-G.Blanchin Université Claude Bernard Lyon 1, 43 Boulevard du 11 Novembre 1918, 69622 Villeurbanne CEDEX-France
- K P-I 28 Characterization of Zinc Oxide Thin Films grown by Pulsed Filtered Cathodic Vacuum Arc Deposition
Ebru Senadim, Hamide Kavak, Ramazan Esen Department of Physics, Cukurova University, Adana, Turkey
- K P-I 29 Deposition time effect on properties of RF sputtered Al-doped ZnO thin films
M. Selmi, F. Chaabouni, M. Abaab and B. Rezig
- K P-I 30 Atypical grain boundaries in ZnO layers deposited on sapphire by rf magnetron sputtering on (0001) sapphire
M. Abouzaid, and P. Ruterana; SIFCOM UMR 6176 CNRS-ENSICAEN, 6, Boulevard du Marechal Juin, 14050 Caen Cedex, France; C. Liu and H. Morkoç, Department of Electrical Engineering, Virginia Commonwealth University, Richmond, VA 23284
- K P-I 31 Preparation and characterization of ZnO thin films prepared by thermal oxidation of evaporated Zn thin films
G.G. Rusu, Mihaela Gîrtan. Al.I.Cuza University, 11 Carol I Bd., 700506 Iasi, Romania
- K P-I 32 Nanostructured ZnO thin films obtained by PLD for optoelectronic applications
L. Ion (a), G. Socol (b), I. N. Mihailescu (b), Marcela Socol (c), C. Tazlaoanu (a), C. Ducu (d), S. Antohe (a) (a) University of Bucharest, Faculty of Physics, POB MG-11, 077125, Magurele Romania (b) National Institute for Plasma Physics, and Radiation, Bucharest, Romania (c) National Institute for Materials Physics, Bucharest, Romania (d) University of Pitesti, Targul din Vale 1, 110040 Pitesti, Romania
- K P-I 33 ELECTRICAL PROPERTIES OF ZnO THIN FILMS OBTAINED BY MAGNETRON SPUTTERING
O. Angelov¹, H. Nichev¹, V. Grigorov¹, D. Dimova-Malinovska¹ J.C.Pivin² , ¹Central Laboratory of Solar Energy and New Energy Sources, BAS, 72 "Tzarigradsko Chaussee" blvd, 1784 Sofia, Bulgaria, ²CSNSM, CNRS-IN2P3, Bat.108, 91405 Orsay Campus, France.
- K P-I 34 Growth of wide band gap wurtzite ZnMgO epilayers on (0001) Al₂O₃ by radical-source molecular beam epitaxy
A. El-Shaer¹, A. Bakin¹, M. Al-Suleiman¹, S. Ivanov² , A. Che Mofor¹, and A. Waag¹
¹Institute of Semiconductor Technology, Technical University Braunschweig, Hans-Sommer-Straße 66, D-38106 Braunschweig, Germany ²Center of Nanoheterostructure Physics, Ioffe Physico-Technical Institute of RAS, St.-Petersburg, Russia
- K P-I 35 Ultraviolet photoconductivity in oxygen annealed epitaxial ZnO layers grown by CSVT
J. Mimila-Arroyo*, J. F. Rommeluere, F. Jomard, A. Lusson and P. Galtier Laboratoire de Physique de Solides et Cristallogénèse, UMR CNRS, 1 Place A. Briand, 92190 Meudon, France

Symposium K

- K P-I 36 EFFECT OF THERMAL ANNEALING ON ZnO:Al THIN FILMS GROWN BY SPRAY PYROLYSIS
A. El Manouni, F. J. Manjón, M. González, M. Mollar, B. Marí, Dept. Física Aplicada, Universitat Politècnica de València, Camí de Vera s/n 46022 València (Spain), N. Garro, Dept. Física Aplicada i Institut de Ciència de Materials, Universitat de València, 46100 Burjassot (Spain), M^aC. López, J. R. Ramos Barrado, Dept. Física Aplicada, Laboratorio de Materiales y Superficie (unidad asociada al CSIC). Universidad de Málaga, 29071 Málaga (Spain)
- K P-I 37 Influence of growth temperature and precursor ratio on the quality of ZnO films grown on GaAs substrates by Metal-Organic Chemical Vapor Deposition.
S. Agouram* , J. A. Bastos-Segura and V. Muñoz-Sanjosé Departamento de Física Aplicada y Electromagnetismo, Universitat de València, C/ Dr. Moliner 50, 46100 Burjassot, Spain
- K P-I 38 Properties of ZnO films grown under different O/Zn ratio in the precursors of diethyl zinc and tertiary butanol
J.Z. Wang , M. Peres, J. Soares, O. Gorochoy, N.P. Barradas,E. Alves, J.E. Lewis, A. Neves, E. Fortunato, R. Martins, Z.H. Hu, S.B. Zhang T. Monteiro
- K P-I 39 Luminescence of pure and doped ZnO films synthesised by thermal annealing on GaSb single crystals
Oscar Martínez (1), Jose Luis Plaza (2), Bárbara Capote (2), Ernesto Diéguez (2), Julio Mass (1), Juan Jiménez (1) (1) Dpto. Física de la Materia Condensada. E.T.S.I.I, Univ. de Valladolid, 47011 Valladolid, Spain (2) Laboratorio de Crecimiento de Criterios Facultad de Ciencias Universidad Autonoma de Madrid 28049, Cantoblanco, Madrid, Spain
- K P-I 40 EXPANDING THERMAL PLASMA DEPOSITED ZnO FILMS: FILM GROWTH CONTROL AND APPLICATIONS
I.Volintiru¹, M. Creatore¹, J.L.Linden², and M.C.M. van de Sanden¹ ¹Eindhoven University of Technology, Department of Applied Physics, Eindhoven, The Netherlands ²TNO TPD, Division Models and Processes, Eindhoven, The Netherlands
- K P-I 41 Effect of annealing on the structure and optical properties of zinc oxide thin films grown by RF sputtering
B. Esfandyarpour, F. Nayeri, G. Daneshmand and E. Soleimani Thin film laboratory, Department of Electrical and Computer Eng., University of Tehran, Tehran, Iran
- K P-I 42 Structural and optical properties of ZnO thin films by the sol-gel method
M.Sahal(a,b),K.Abderrafi(a),B.Hartiti(a),B.Mari(b), A.Ridah(a) and M.Mollar(b) (a):Laboratoire LPMAER,FSTM,Université Hassan II , BP 146 , 20800 Mohammédia,Morocco (b):Grup d'Optoelectronica i Semiconductors , departement de física aplicada –ETSED, Universitat Politècnica de València, Camí de Vera s/n 46022 València
- K P-I 43 Structural and optical properties of ZnO thin films obtained by spray pyrolysis
M.Sahal(a,b),K.Abderrafi(a),B.Hartiti(a),B.Mari(b), A.Ridah(a) and M.Mollar(b) (a):Laboratoire LPMAER,FSTM,Université Hassan II , BP 146 , 20800 Mohammédia,Morocco (b):Grup d'Optoelectronica i Semiconductors , departement de física aplicada –ETSED, Universitat Politècnica de València, Camí de Vera s/n 46022 València
- K P-I 44 On the Electronic Transport and Optical Properties of Polycrystalline ZnO Films
I.I. Rusu, M. Caraman, D.I. Rusu Faculty of Physics, Univesity of Bacau, 157 Marasesti Blvd., RO-600114, Bacau, Romania
- K P-I 45 ZnO Films Grown by Laser Ablation with and without Oxygen CVD
L. Bentes, R. Schwarz Departamento de Física, Instituto Superior Técnico, Lisboa, Portugal P. Sanguino Departamento de Electrónica e Informática, Instituto Superior de Engenharia de Lisboa, Lisboa, Portugal O. Conde Departamento de Física, Faculdade de Ciências da Universidade de Lisboa, Lisboa, Portugal M. Peres, T. Monteiro Departamento de Física, Universidade de Aveiro, Aveiro, Portugal O. Teodoro Departamento de Física, Universidade Nova de Lisboa, Monte de Caparica, Portugal
- K P-I 46 Epitaxial thin films of undoped ZnO grown by reactive pulsed magnetron sputtering
M. Vinnichenko, A. Rogozin, N. Shevchenko, A. Kolitsch, W. Moeller Institute of Ion Beam Physics and Materials Research, Forschungszentrum Rossendorf, P.O. Box 51 01 19, 01314 Dresden, Germany
- K P-I 47 Infinite etch selectivity of undoped and doped ZnO layers to photoresist during CH₄/H₂/Ar inductively coupled plasma etching
M.H. Shin, M. S. Park, S. H. Jung¹, J. H. Boo¹, N.-E. Lee* Dept. of Materials Science & Engineering and Center for Advanced Plasma Surface Technology, Sungkyunkwan University

Symposium K

- K P-I 48 Layer by layer growth of ZnO on (0001) sapphire substrates by radical-source molecular beam epitaxy
A. Bakin¹, A. El-Shaer¹, A. Che Mofor¹, J. Stoimenos² and A. Waag¹ ¹Institute of Semiconductor Technology, Technical University Braunschweig, Hans-Sommer-Straße 66, D-38106 Braunschweig, Germany ²Physics Department, Aristotele University Thessaloniki, Greece
- K P-I 49 First-principles calculations of the optical band-gaps of ZnxCd1-xO alloys
H. Rozale¹, L. BModelling and Simulation in Materials eldi¹, B. Bouhafs¹, and P. Ruterana*² ¹Science Laboratory, Physics Department, University of Sidi Bel-Abbes, 22000 Sidi Bel-Abbes, Algeria. ²Laboratoire Structures des Interfaces et Fonctionnalité des Couches Mincees (SIFCOM), UMR 6176 CNRS-ENSICAEN, 6, Boulevard du Maréchal Juin, 14050 Caen Cedex, France
- K P-I 50 Preparation and properties of heterostructure
H.A.Huseynov*, R.M.Mamedov, S.A.Jahangirova
- K P-I 51 Argentum doping of ZnO and ZnS thin films by closed space sublimation technique.
V.S.Khomchenko, A.K.Savin, L.V.Zavyalova, V.B.Khachatryan, O.A.Lytvyn, S.A.Optasuk, Institute of Semiconductor Physics, NAS of Ukraine. T.G.Kryshtab, Department of Material Sciences ESFM-Institute Polytechnic National.

Tuesday, May 30, 2006
Mardi 30 mai 2006

Morning
Matin

Session IV Magnetic properties in ZnO related materials

Chair: A. Waag

K IV 01	invited	08:30	Zn _{1-x} Mn _x O - typical member of II-VI:Mn DMS family E.Chikoidze ¹ , Y.Dumont ¹ , H.J.von Bardeleben ² , J.Gleize ³ , O. Gorochov ¹ ¹ Groupe d'Etude de la Matière Condensée, CNRS, Meudon, France ² Institut des Nanosciences de Paris- INSP, Universités Paris 6&7 / CNRS, Paris, France ³ Université de Metz - Institut de Physique Laboratoire de Physique des Milieux Denses France
K IV 02		09:00	Growth and characterizations of ZnO and Co-doped ZnO thin films for their use in spintronic. A. Fouchet, W. Prellier, B. Mercey. Laboratoire CRISMAT, CNRS UMR 6508, ENSICAEN 6 Bd Maréchal Juin, F-14050 Caen Cedex, FRANCE
K IV 03		09:20	Resonant inelastic x-ray scattering measurement of Mn-doped ZnO G. S. Chang(a), T. Pederson(a), E. Z. Kurmaev(b), G.-C. Yi(c), and A. Moewes (a), (a)Dept. Physics and Engineering Physics, University of Saskatchewan, Saskatoon, Canada, (b)Russian Academy of Science-Ural Division, Institute of Metal Physics, Yekaterinburg, Russia, (c)Dept. Materials Science and Engineering, POSTECH, Pohang, Korea
K IV 04		09:40	Antiferromagnetic correlations in ZnO:Co thin films P. Sati ¹ , C. Morhain ² , C. Deparis ² , S. Régnier ¹ , S. Schäfer ¹ and A. Stepanov ¹ ¹ Laboratoire Matériaux et Microélectronique de Provence, 13397 Marseille Cedex 20, France ² CRHEA-CNRS, 06560, Valbonne Sophia-Antipolis, France
K IV 05		10:00	LOW-TEMPERATURE MOCVD PROCESSING AND PROPERTIES of CoO-DOPED ZnO EPITAXIAL FILMS L.I. Burova ¹ , S.V. Samoylenkov ¹ , M. Fonin ² , E. Biegger ² , Yu. Dedkov ³ , E.A. Ganshina ⁴ , O.Yu. Gorbenko ¹ , U. Rüdiger ² and A.R. Kaul ¹ , ¹ Department of Chemistry, Moscow State University, Moscow 119992, Russia; ² Department of Physics, University of Konstanz, 78457 Konstanz, Germany; ³ Institut für Festkörperphysik, Technische Universität Dresden, 01062 Dresden, Germany; ⁴ Department of Physics, Moscow State University, Moscow 119992, Russia
		10:20	Break

Session V Physical properties in ZnO and related materials I**Chair: B.K. Meyer**

K V 01	invited	10:50	Cathodoluminescence Nano-Characterization of ZnO and ZnO-based Heterostructures Jürgen Christen Institute of Experimental Physics, Otto-von-Guericke-University Magdeburg, Germany
K V 02		11:20	Interfacial electronic properties of ZnO and related materials L. F. J. Piper, T. D. Veal, P. H. Jefferson and C. F. McConville Department of Physics, University of Warwick, Coventry, CV4 7AL United Kingdom W. J. Schaff Department of Electrical and Computer Engineering, Cornell University, Ithaca, New York, 14853, USA J. Zúñiga-Pérez and V. Muñoz-Sanjosé Departamento de Física Aplicada y Electromagnetismo, Universitat de València, C/ Dr. Moliner 50, 46100 Burjassot, Spain
K V 03		11:40	Studies of Minority Carrier Transport in n- and p-type ZnO Leonid Chernyak and Olena Lopatiuk-Tirpak Physics Department, University of Central Florida, Orlando, FL 32816-2385, U.S.A.
K V 04		12:00	Exciton transfer between localized states in ZnO quantum well structures T. Makino Department of Material Science, University of Hyogo, Kamigoori, 672-1297, and RIKEN (Institute of Physical and Chemical Research), Sendai 980-0845, Japan K. Saito Department of Physics, The University of Tokyo, Tokyo 113-0033, Japan M. Kawasaki Institute for Materials Research, Tohoku University, Sendai, 980-8577 and Combinatorial Materials Exploration and Technology, NIMS, Tsukuba, 305-0047, Japan H. Koinuma National Institute of Materials Science, Tsukuba, 305-0047, Japan
K V 05		12:20	TEMPERATURE DEPENDENT PHOTOLUMINESCENCE FROM ZNO/MGXZN1-XO MULTIPLE QUANTUM WELLS GROWN BY PULSED LASER DEPOSITION Pankaj Misra, Tarun. K. Sharma* and Lalit. M. Kukreja, Thin Film Laboratory/*SSLD, Raja Ramanna Centre for Advanced Technology, Indore 452 013 INDIA
K V 06		12:40	Vacancy defects in (Zn,Mn)O F. Tuomisto Laboratory of Physics, Helsinki University of Technology, P.O.Box 1100, FI-02015 TKK, Finland A. Mycielski and K. Graszka Institute of Physics, Polish Academy of Sciences, Lotników 32/46, 02-668 Warsaw, Poland
		13:00	Lunch

Tuesday, May 30, 2006
Mardi 30 mai 2006

Afternoon
Après-midi

Session VI Physical properties in ZnO and related materials II

Chair: A. Mycielski

- | | | |
|---------|-------|--|
| K VI 01 | 14:00 | Investigation of piezoelectrically induced charges associated with dislocations in ZnO and GaN
E. Müller and D. Gerthsen |
| K VI 02 | 14:20 | Faceting of nonpolar ZnO thin films
J. Zúñiga-Pérez (a), E. Palacios-Lidón (b), J. Colchero (b), and V. Muñoz-Sanjósé (a) (a) Departament de Física Aplicada i Electromagnetisme, Universitat de València, C/Dr. Moliner 50, 46100 Burjassot, SPAIN (b) Departamento de Física, Facultad de Química, Campus Espinardo, Universidad de Murcia, 30100 Murcia, SPAIN |
| K VI 03 | 14:40 | Evidence for non-zero hole effective g-values by magneto-optical studies of bound exciton complexes in ZnO
M. R. Wagner, R. McKenna, U. Habocek, A. Hoffmann Institute of Solid State Physics, Technical University Berlin S. Lautenschläger, J. Sann, B. K. Meyer I. Physics Institute, Justus Liebig University Giessen |
| K VI 04 | 15:00 | Composition fluctuation and phase separation in ZnCdO: Localization, thermalization, and freeze out of excitons
F. Bertram, Th. Hempel, S. Petzold, and J. Christen Institute of Experimental Physics, Otto-von-Guericke-University Magdeburg, Postbox 4120, 39106 Magdeburg, Germany R. Kling, and C. Kirchner Department of Semiconductor Physics, Ulm University, Germany A. Waag Department of Semiconductor Technology, Braunschweig Technical University, Germany |
| K V 06 | 15:20 | Optical and photoelectron spectroscopy study of the band-gap renormalization in Ga-doped ZnO films prepared by pulsed laser deposition
J.A.Sans, J.F. Sánchez-Royo, A.Segura, Institut de Ciència dels Materials, Departament de Física Aplicada, Universitat de València, Ed. Investigació, E-46100 Burjassot, Spain |
| K VI 06 | 15:40 | Analysis of spin-polarized transport in n-magnetic/p-nonmagnetic junction
Lei Zhang, Ning Deng, Peiyi Chen Institute of Microelectronics, Tsinghua University, Beijing 10084, P. R. China |
| | 16:00 | Break |

Session VII Physical properties in ZnO and related materials III

Chair: V. Muñoz-Sanjósé

- | | | | |
|----------|---------|-------------|---|
| K VII 01 | invited | 16:30 | Hydrothermal growth and Characterization of ZnO bulk crystals
T. Fukuda a,b, Y. Kagamitania, A. Yoshikawaa Y. Mikawab, D. Ehretrauta, and T. Onoc a) Institute of Multidisciplinary Research for Advanced Materials Tohoku University 2-1-1 Katahira Aoba-ku Sendai, 980-8577, JAPAN b) Fukuda X'tal Laboratory, 6-6-3 Minami-Yoshinari, Aoba-ku, Sendai, 989-3204, JAPAN c) Tokyo Denpa Co., LTD., 5-6-11 Chuo, Ohta-ku, Tokyo, Japan |
| | | 17:00-19:00 | Poster Session II |

Poster Session II
Tuesday, May 30, 2006
17:00-19:00

- K P-II 01 Optical, X-ray absorption and photoelectron spectroscopy investigation of the Co site configuration in ZnCoO films prepared by pulsed laser deposition
 J.A.Sans(1), J.F. Sánchez-Royo(1), J. Pellicer(1), A.Segura(1), G. Martinez-Criado(2), A. Muñoz-Páez(3) and V. López-Flores(3) 1)Institut de Ciència dels Materials-Departament de Física Aplicada, Universitat de València, Ed. Investigació, E-46100 Burjassot, Spain 2) ESRF, ID22 BP 220, 38043 Grenoble CEDEX 9, France 3) ICMSE- Departamento de Química Inorgánica , Ava Americo Vespucio nº 49, 41092 Sevilla, Spain
- K P-II 02 Electrical and magnetic properties of RE-doped ZnO thin films, (RE = Gd, Nd)
 Mariana Ungureanu*, Heidemarie Schmidt, Qingyu Xu, Holger von Wenckstern, Daniel Spemann, Holger Hochmuth, Michael Lorenz, and Marius Grundmann Institut für Experimentelle Physik II, Fakultät für Physik und Geowissenschaften, Universität Leipzig, Linnéstrasse 3-5, 04103 Leipzig, Germany
- K P-II 03 Structural and magnetic characterization of cobalt doped ZnO thin films prepared by sol-gel method
 Y. Belghazi, A. Berradaa, Laboratoire de Physique des Matériaux, Faculté des Sciences, B.P. 1014, Rabat, Morocco. S. Colis, G. Schmerber, J.L. Rehspringer, F. Perret, M. Abes and A. Diniab,* Institut de Physique et Chimie des Matériaux Strasbourg, IPCMS UMR 7504 du CNRS-ULP, 23 rue du Loess, B.P. 43, 67034 Strasbourg, France.
- K P-II 04 Properties of vanadium doped ZnO films produced by pulsed laser deposition
 M. E. Koleva, P. A. Atanasov, O. I. Vankov, N. I. Mihailov Institute of Electronics, Bulgarian Academy of Sciences, Tzarigradsko shosse 72, 1784 Sofia, Bulgaria
- K P-II 05 Pulsed laser deposited ZnO thin films with metal clusters on top and study of their surface catalytic behavior with reversed-flow gas chromatography
 Giannoudakos A.1,2*, Agelakopoulou F.1, Roubani-Klantzopoulou F.1 Kompitsas M.2 1. National Technical University of Athens, School of Chemical Engineering, 9 Iroon Polytechniou St., 15780 Zografou, Athens, Greece 2. National Hellenic Research Foundation, Theoretical and Physical Chemistry Institute, Vasileos Konstantinou Ave. 48, 11635 Athens, Greece
- K P-II 06 Magnetic characterization of ZnO implanted with transition metals
 E. Schlenker¹, A.C. Mofor¹, A. El-Shaer¹, B. Postels¹, C. Ronning², M. Kreye¹, A. Bakin¹, A. Waag¹, S. Sievers³, M. Albrecht³, U. Siegner³, D.Fuhrmann⁴, A.Hangleiter⁴ 1 Institute of Semiconductor Technology, Technical University Braunschweig, Germany 2 II. Institute of Physics, Georg-August-University Göttingen, Germany 3 Physikalisch-Technische Bundesanstalt (PTB), Braunschweig, Germany 4 Institute of Applied Physics, Technical University Braunschweig, Germany
- K P-II 07 OPTICAL AND MAGNETO-OPTICAL STUDIES OF ZnMnO THIN FILMS
 A.I.Savchuk, V.I.Fediv, M.V.Kurganetsky, Ye.O.Kandyba, S.A.Savchuk, Department of Physics of Semiconductors and Nanostructures, Chernivtsi National University, 2 Kotsubinsky Str., 58012 Chernivtsi, Ukraine, A.Perrone, University of Lecce, Physics Department and INFN, Via per Arnesano, 73100 Lecce, Italy
- K P-II 08 Structures and properties of Mn-implanted ZnO thin films
 V. Selvaraj, N. Ohashi, I. Sakaguchi, Y.-G. Wang, T. Kolodiazhnyi, H. Ryoken, T. Ohgaki, H. Haneda
- K P-II 09 Optical, Electrical, and Magnetic Properties of P+-implanted ZnO-based DMS thin films incorporated with Mn
 Deuk Young Kim^{1*}, Sejoon Lee¹, Yoon Shon¹, Tae Won Kang¹, and Youn Hwan Lee² 1 Quantum-functional Semiconductor Research Center, Dongguk University, Seoul 100-715, Korea 2 Department of Information and Communication Engineering, Dongguk University, Kyungju 780-714, Korea
- K P-II 10 Resonant Raman scattering in Mn:ZnO diluted magnetic semiconductors
 J. Gleize (1) (1) Laboratoire de Physique des Milieux Denses, Université Paul Verlaine - Metz, 1 bd. Dominique-François Arago, 57078 Metz, France E.Chikoidze (2) , Y.Dumont (2) , E. Rzepka (2) and O. Gorochov (2) (2) CNRS - Université de Versailles Saint Quentin en Yvelines ; Groupe d'Etude de la Matière Condensée (ex : LPSC) ; 1 Pl. A. Briand ; 92195 Meudon cedex, France

Symposium K

- K P-II 11 Growth and Physical Properties of Sol-Gel derived Co doped ZnO Thin Films
Young-Sung Kim* and Ki-Chul Kim Advanced Material process of Information Technology, Sungkyunkwan University, Suwon 440-746, Korea Cambridge-ETRI joint R&D Centre, Electronics and Telecommunications Research Institute, Daejeon 305-350, Korea
- K P-II 12 Synthesis and magnetism of diluted magnetic semiconductor nanocrystals for spintronics
X. F. Wang, J. B. Xu* Department of Electronic Engineering, The Chinese University of Hong Kong, Shatin, NT, SAR Hong Kong R. Zhang Department of Physics, Nanjing University, Nanjing, China
- K P-II 13 Ferromagnetism in Co and Al co-doped ZnO thin films grown by pulsed laser deposition
H. Bieber, T. Fix, J. Alaria, S. Colis, G. Versini, J-P Loison and A. Dinia Institut de Physique et Chimie des Matériaux de Strasbourg (IPCMS), UMR 7504 ULP-CNRS (ULP-ECPM), 23 rue du Loess, BP 43, F-67034 Strasbourg Cedex 2, France
- K P-II 14 Tetrahedral versus octahedral Mn site coordination in wurtzite and rock-salt Zn_{1-x}Mn_xO investigated means of XAS experiments under pressure.
J. Pellicer-Porres(1), J.A. Sans(1), J. F. Sanchez-Royo(1), A. Segura(1), J.P. Itié(2), A.M. Flank(2), P. Lagarde(2) and A. Polian(3) 1ICMUV, Universidad de Valencia, Burjassot, Valencia (SPAIN) 2) Synchrotron SOLEIL, L'Orme des Merisiers, Saint-Aubin - BP 48 91192 GIF-sur-YVETTE CEDEX 3) Physique des Milieux Denses, IMPMC, Université P. et M. Curie, 140 Bvd de Lourmel, 75015 Paris
- K P-II 15 Studies of ZnO/magnetic transition metal oxide alloys deposited by MOCVD
C. E. Rice, B. H. Hoerman, S. S. Sun, and G. S. Tompa, Structured Materials Industries, Inc., 201 Circle Drive, Unit 102, Piscataway NJ 08854 USA
- K P-II 16 Ab initio studies of optical properties of ZnX (X=O, S, Se, Te)
S. Karazhanov¹, P. Ravindran¹, A. Kjekshus¹, H. Fjellvåg¹, B.G. Svensson² ¹Department of Chemistry, University of Oslo, PO Box 1033 Blindern, N-0315 Oslo, Norway ²Department of Physics, University of Oslo, PO Box 1048 Blindern, N-0316 Oslo, Norway
- K P-II 17 Optical Characterization of ZnO-SnO₂ Thin Films Deposited by Filtered Vacuum Arc
E. Çetinörgü*, S. Goldsmith, R.L. Boxman Electrical Discharge and Plasma Laboratory, Tel Aviv University, POB 39040, Tel Aviv 69978, Israel
- K P-II 18 Inductively coupled plasma reactive ion etching of ZnO using C₂F₆ and BCl₃-based gas Plasmas
Dong-Jin Kang and Gun-Kyo Lee, Byung -Teak Lee Department of Materials Science and Engineering Photonic & Electronic Thin film Laboratory, Chonnam National University
- K P-II 19 Low resistance nonalloyed Al and Al/Pt ohmic contact on n-ZnO
Han-Ki Kim School of Advanced Materials and Systems Eng. Kumoh National Institute of Technology (KIT)
- K P-II 20 Characterization of Luminescent Properties of ZnO:Er Powders and Thin Films in The Visible Range
Hyundon Song, Young Jin Kim Department of Materials Science and Engineering, Kyonggi University, Suwon 443-760, Korea
- K P-II 21 COMPREHENSIVE COMPARISON OF PHOTOLUMINESCENCES OF ZnO-BASED THIN FILMS
Hong Seong Kang, Gun Hee Kim, Sung Hoon Lim, Hyun Woo Chang, Byung Du Ahn, Jong Hoon Kim, and Sang Yeol Lee, Department of Electrical and Electronic Engineering, Yonsei University, 134, Shinchon-dong, Seodaemoon-ku, 120-749, Seoul, Korea.
- K P-II 22 Electronic Structure of the CO and H Adsorbed Polar Zn- and O-terminated ZnO Surfaces
Yoon-Suk Kim(1), Sung-Ho Lee(1,2), and Yong-Chae Chung(1) (1)Department of Ceramic Engineering, Hanyang University, Seoul 133-791, Korea (2)Central R&D Institute, Samsung Electro-Mechanics Co., Ltd., Suwon 443-743, Korea
- K P-II 23 Effect of the surface conditions on the optical properties of bulk ZnO single crystals - Surface Photovoltage and Photothermal Spectroscopy
S. Oyama, K. Fukushima, K. Sakai, H. Yokoyama, A. Fukuyama and T. Ikari DEEE, University of Miyazaki, 1-1- Gakuen-kibanadai, Miyazaki 889-2192, Japan

- K P-II 24 Comparative characterization of differently grown ZnO single crystals by positron annihilation and Hall effect
G. Brauer, W. Anwand, and W. Skorupa Institut für Ionenstrahlphysik und Materialforschung, Forschungszentrum Rossendorf, Postfach 510119, D-01314 Dresden, Germany J. Kuriplach, O. Melikhova, J. Cizek, and I. Prochazka Department of Low Temperature Physics, Charles University, V Holesovickach 2, CZ-180 00 Prague, Czech Republic C. Moisson Savoie Technolac – Arche Bat. 4, BP 267, F-73375 Le Bourget du Lac Cedex, France H. von Wenckstern, H. Schmidt, M. Lorenz and M. Grundmann Institut für Experimentelle Physik II, Universität Leipzig, Linnestr.5, D-04103 Leipzig, Germany
- K P-II 25 Magnetic nanoparticle formation in Fe implanted ZnO
Shengqiang Zhou, K. Potzger, A. Mücklich, H. Reuther, F. Eichhorn, N. Schell, W. Skorupa, M. Helm and J. Fassbender Institute of Ion Beam Physics and Materials Research, Forschungszentrum Rossendorf, P.O. Box 510119, 01314 Dresden, Germany
- K P-II 26 Intense Photoluminescence of slightly ZnO doped SiO₂ matrix
M. Bouguerra, M. Samaha, M. A. Belkhiria, A. Cherguia, L. Gerbousb, G. Nouetc, D. Chateigner, R. Madelon a Département de Physique, Laboratoire de Physique Théorique, Université de Bejaia Route de Targa-Ouzemour 06000 Bejaia, Algérie. b Centre de Recherche Nucléaire d'Alger (CRNA), 02 Bd de Frantz Fanon BP 399, Alger, Algérie. c SIFCOM-ENSICAEN 6 Bld Maréchal Juin, 14050 Caen cedex, France. d CRISMAT-ENSICAEN, 6 Bd Maréchal Juin, Université de Caen-Basse Normandie, 14050 Caen cedex, France
- K P-II 27 Radiative recombinations in nitrogen-treated ZnO powders
J. Sann, J. Stehr, S. Graubner, D. Pfisterer, D. M. Hofmann, B. K. Meyer I. Physikalisches Institut, Justus-Liebig-Univ., D-35392 Giessen, Germany A. Neumann, M. Plana, M. Lerch, Technische Univ. Berlin, Institut für Chemie; Str. des 17. Juni, 135, 10623 Berlin, Germany U. Haboek, and A. Hoffmann Technische Univ. Berlin, Inst. für Festkörperphysik, Hardenberg Str. 36, 10623 Berlin, Germany
- K P-II 28 Growth, structural and optical characterization of ZnO thin films
T. Viseu, M.F. Cerqueira, T. de Lacerda-Arôso and J. Tovar Departamento de Física, Universidade do Minho, Portugal
- K P-II 29 Low energy luminescence of ZnO bulk crystals
W. Gebicki a, C. Jastrzebskia, A. Mycielski b, K. Graszka b a Faculty of Physics, Warsaw university of Technology, ul. Koszykowa 75, PL-00-661, Warszawa, Poland bInstitute of Physics, Polish Academy of Sciences, AL. Lotników 32/44 PL-02-668 Warszawa, Poland
- K P-II 30 Electrical Conduction effects at low temperatures in undoped ZnO thin films
N.Brilis (1), D.Tsamakis (1), H.Ali (2), S.Krishnamoorthy (2) and A. A.Iliadis (2,3) (1): School of Electrical Engineering and Computer Science, National Technical University of Athens, Iroon Polytechniou 9 Zografou, 15780 Athens, Greece (2): Department of Electrical & Computer Engineering, University of Maryland, College Park, Maryland 20742, USA (3): Department of Information and Communication Systems Engineering, University of the Aegean, Karlovasi, 83200 Samos, Greece
- K P-II 31 Nanomechanical properties of sputtered ZnO thin films
S. Kassavetis¹, C. Gravalidis¹, S. Logothetidis¹, P. Horvath², G. Kiriakidis² ¹Aristotle University of Thessaloniki, Department of Physics, Laboratory for Thin Films - Nanosystems and Nanometrology, GR-54124 Thessaloniki, Greece ²Institute of Electronic Structure and Laser, Foundation for Research and Technology - Hellas, P.O. Box 1527, GR-711 10 Heraklion, Greece
- K P-II 32 Photoinduced Excess Carrier Dynamics in PLD-Grown ZnO
P. Queiroz, R. Schwarz Departamento de Física, Instituto Superior Técnico, Lisboa, Portugal M. Niehus Departamento de Electrónica e Informática, Instituto Superior de Engenharia de Lisboa, Lisboa, Portugal E. Morgado Departamento de Engenharia Electrotécnica, Instituto Superior Técnico, Lisboa, Portugal A. Fedorov, J. Martinho Centro de Química-Física Molecular, Instituto Superior Técnico, Lisboa, Portugal F. Wuensch, M. Kunst Hahn-Meitner-Institut, Solare Energetik, Berlin, Germany
- K P-II 33 PHONONS IN SAPPHIRE – SUBSTRATE FOR ZnO and GaN
H.W. Kunert¹, A.G.J. Machatine¹, D.J.Brink¹, J. Malherbe¹, J. Barnas² ¹Department of Physics, University of Pretoria, 0001 Pretoria, South Africa ² Department of Physics, Adam Mickiewicz University, ul.Umultowska 85, 61-614 Poznan, Poland
- K P-II 34 Unusual Electrical Properties of Hydrothermally Grown ZnO
David C. Look, Semiconductor Research Center, Wright State University, Dayton, Ohio, 45435, USA

Symposium K

- K P-II 35 Thermal annealing of ZnO substrates
K. Graszka 1),2), E. Lusakowska 1), P. Skupinski 1), H. Sakowska 2) and A. Mycielski 1) 1) Institute of Physics, Polish Academy of Sciences, Al.Lotników 32/46, 02-668 Warsaw, Poland 2) Institute of Electronic Materials Technology, 133 Wolczynska Str. 01-991 Warsaw, Poland
- K P-II 36 CROSS SECTION SCANNING SPREADING RESISTANCE MEASUREMENTS OF HYDROGEN-IMPLANTED ZINC OXIDE
K. M. Johansen, L. Vines, J. S. Christensen, E. V. Monakhov, A. Yu. Kuznetsov, B. G. Svensson, University of Oslo, Dep. of Physics, P.O. Box 1048 Blindern, NO-0316 Oslo, Norway
- K P-II 37 Role of annealing ambient on the green luminescence from hydrothermally grown ZnO
Thomas Moe Børseth(a), Peter Klason(b), Qing Xiang Zhao(b), Magnus Willander (b), Bengt G.Svensson(a) and Andrej Yu. Kuznetsov(a), (a)Centre for Materials Science and Nanotechnology, University of Oslo, N-0316 Oslo, Norway,(b) Department of Physics, Göteborg University, S-412 96 Göteborg, Sweden
- K P-II 38 CARRIER CONCENTRATION AND SHALLOW ELECTRON STATES IN SB-DOPED HYDROTHERMALLY GROWN ZNO
Ulrike Grossner, Jens S. Christensen, Bengt Gunnar Svensson, and Andrej Yu. Kuznetsov, Department of Physics / SMN, University of Oslo, PO Box 1048 Blindern, 0316 Oslo, Norway
- K P-II 39 CORRELATION BETWEEN TRANSIENT DECAYS IN WIDE GAP SEMICONDUCTORS: PHOTOLUMINESCENCE VS. PHOTOCURRENT
Departamento de Engenharia , M. Niehus (1), and R. Schwarz (2) (1) de Electrónica e Telecomunicações e de Computadores, Instituto Superior de Engenharia de Lisboa, Rua Conselheiro Emídio Navarro 1, 1959-007 Lisbon, Departamento de Física, Instituto Superior Técnico, Av. Rovisco Portugal (2) Pais 1, 1049-001 Lisbon, Portugal
- K P-II 40 Recombination and Relaxation Kinetics of Excitons in ZnO
F. Bertram, J. Christen, A. Dadgar, and A. Krost Institute of Experimental Physics, Otto-von-Guericke-University Magdeburg, Germany
- K P-II 41 New hyperfine splitting features in hydrogenated ZnO
M. A. Gluba, F. Friedrich, K. Petter, K. Lips, and N. H. Nickel, Hahn-Meitner-Institut Berlin, Kekulestr. 5, 12489 Berlin
- K P-II 42 Electrochemistry for the Design of ZnO-Based Films with Controlled High Photoluminescence.
Thierry Pauporté Laboratoire d'Électrochimie et de Chimie Analytique (UMR 7575), ENSCP, 11 rue Pierre et Marie Curie, 75231 Paris cedex 05, France
- K P-II 43 Optical and electrical properties of phosphorous-doped ZnO thin films
H. von Wenckstern¹, J. Sann², M. Brandt¹, A. Krtschil³, M. Lorenz¹, M. Grundmann¹, B. K. Meyer², and A. Krost³ ¹ Universität Leipzig, Institut für Experimentelle Physik II, Linnèstraße 5, D-04103 Leipzig, Germany ² I. Physikalisches Institut JLU-Gießen, Heinrich-Buff-Ring 16, D-35392 Gießen, Germany ³Institut für Experimentelle Physik, Otto-von-Guericke- Universität Magdeburg, PO Box 4120, 39016 Magdeburg, Germany
- K P-II 44 Cathodoluminescence study of extended defects in hydrothermal ZnO crystals
J. Mass, M. Avella, and J. Jiménez Física de la Materia Condensada, ETSII, 47011 Valladolid, Spain M. Callahan, E. Grant, K. Rakes, and D. Bliss Air Force Research Laboratory, Sensors Directorate, Hanscom AFB, MA 01731,USA B. Wang Solid State Scientific Corp., Nashua, NH03049,USA
- K P-II 45 Structural characterization of the sol-gel oxide powders from the system ZnO-TiO₂-SiO₂
B.A.Sava¹, Adriana.Diaconu¹, M.Elisa², C.E.A.Grigorescu², I.C.Vasiliu², A.Manea³ ¹National Glass Institute, Research Department, 47 Th. Pallady Av., Bucharest, Romania ²National Institute of Research &Development Optoelectronics - INOE 2000, Advanced materials for Optospintronics Department, 1 Atomistilor St., P.O. Box MG-5, RO – 77125, Com. Magurele, Jud. Ilfov, Romania ³National Institute of R&D of Materials Physycs, 105 bis Atomistilor St., Box-MG-7, RO-77125, Com. Magurele, Jud. Ilfov, Romania

Wednesday, May 31, 2006
 Mercredi 31 mai 2006

Afternoon
 Après-midi

Joint Sessions Symposium K and R

Session VIII Devices I
Chair: E. Fortunato

K/R VIII 01	invited	14:00	UV Electroluminescence in ZnO Layers Grown by Pulsed Laser Deposition David Rogers, Nanovation SARL, 103 bis Rue de Versailles, Orsay, 91400, France.& Université de Technologie de Troyes, 12 rue Marie Curie, Troyes, 10010, France F. Hosseini Teherani, Nanovation SARL, 103 bis rue de Versailles, 91400, France. P. Kung, MPT, Evanston, Illinois, USA. M. Razeghi, Center for Quantum Devices, Northwestern University, Evanston, Illinois, USA
K/R VIII 02		14:30	ZnO nanowires and nanoplatelets arrays electrodeposited and application to nanostructured solar cells R. Tena-Zaera, J. Elias, A. Katty, and C. Lévy-Clément LCMTR-CNRS, UPR 209, 2-8, rue Henri Dunant, 94320 Thiais, France
K/R VIII 03		14:50	WHAT ARE ESSENTIALS OF PRODUCING ULTRAVIOLET ELECTROLUMINESCENT DEVICES BASED ON ZINC OXIDE? S. Tüzemen and Emre Gür Department of Physics, Faculty of Arts and Sciences, Atatürk University, 25240 Erzurum, Turkey
K/R VIII 04		15:10	Semi-transparent ZnO-TFTs with polymer gate dielectric for optical inverter application Kimoon Lee, Jeong-M. Choi, H. S. Bae, D. K. Hwang, Min-Suk Oh, Seongil Im*
K/R VIII 05	invited	15:30	ZnO UV Emitting Devices Y. R. Ryu, T. S. Lee, J. A. Lubguban[1], H. W. White[1], C. J. Youn[2] MOXtronics, Inc., 1309 Elsdon Court, Columbia, MO 65203, USA [1]Department of Physics & Astronomy, University of Missouri, Columbia, MO 65211, USA [2]Semiconductor Physics Research Center (SPRC), Jeonbuk National University Jeonju 561-756, South Korea
		16:00-17:00	Poster Session III

Session IX Devices II
Chair: G. Herman

K/R IX 01	invited	17:00	Zinc oxide: a new "elastronic" material Elvira Fortunato, Isabel Ferreira, Alexandra Gonçalves, Ana Pimentel, António Marques, Pedro Barquinha, Gonçalo Gonçalves, Rodrigo Martins Materials Science Department, FCT-UNL, 2829-516 Caparica, Portugal
K/R IX 02	invited	17:30	Electronic Structure of Transparent Conducting Oxides and Gate Dielectrics for their FETs J Robertson Engineering Dept, Cambridge University, Cambridge CB2 1PZ, UK
K/R IX 03		18:00	Magnetolectrical properties of the devices based on ZnO/ Si and Co-doped ZnO/Si heterostructures A. Fouchet, W. Prellier, and B. Mercey Laboratoire CRISMAT, CNRS UMR 6508, ENSICAEN 6 Bd Maréchal Juin, F-14050 Caen Cedex, France

Poster Session III
Wednesday, May 30, 2006
16:00-17:00

- R P-III 01 Influence of the characterization temperature, light and pressure conditions on the electrical properties of IZO films and IZO based transparent TFTs
P. Barquinha*, G. Gonçalves, L. Pereira, R. Martins and E. Fortunato Department of Materials Science/CENIMAT, Faculty of Sciences and Technology, New University of Lisbon and CEMOP-UNINOVA, Campus da Caparica, 2829-516 Caparica, Portugal
- R P-III 02 Fabrication and characterization of NiO/ZnO/ITO p-i-n heterostructure
Wang, Yuriy Vygranenko, and Arokia Nathan Department of Electrical and Computer Engineering, University of Waterloo, Ontario N2L 3G1, Canada
- R P-III 03 Microstructure and gas sensing properties of Zn_xO_yN_z thin films
Viorica Musat^{1*}, Elvira Fortunato² and Regina Monteiro² *contact author ¹Dep. of Metals and Materials Science, "Dunărea de Jos" University of Galati, 6200 Galati, Romania ²Dep. of Materials Science, CENIMAT, Faculty of Sciences and Technology, New University of Lisbon, Campus da Caparica, 2829-516 Caparica, Portugal
- K P-III 01 The effect of the annealing temperature of Li-doped ZnO thin film for film bulk acoustics resonator filter
Eung Kwon Kim(a), Young Sung Kim(b), Joon Tae Song(a.*) a School of Information and Communication Engineering, Sunggyunkwan University, 300, Chunchun-dong, Jangan-gu, Suwon, Kyonggi-do, 440-746, Republic of Korea b Technology of Innovation center, Sunggyunkwan University, 300, Chunchun-dong, Jangan-gu, Suwon, Kyonggi-do, 440-746, Republic of Korea
- K P-III 02 Low resistance ohmic contact to p-ZnO using Pt/Ni/Au for the fabrication of p-n homojunction diode
Ji-Myon Lee Department of Materials Science and Metallurgical Engineering, Suncheon National University, Suncheon, Jeonnam 540-742, Korea K. K.Kim, H. Tampo, Y. Yamada, H. Shibata, and S. Niki National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki 305-8568, Japan
- K P-III 03 PERIODICALLY STRUCTURED ZnO THIN FILMS FOR OPTICAL GAS SENSOR APPLICATION
A. Og. Dikovska, P. A. Atanasov Institute of Electronics, Bulgarian Academy of Sciences, 72 Tsarigradsko chaussee, Sofia 1784, Bulgaria H. Tonchev Institute of Solid State Physics, Bulgarian Academy of Sciences, 72 Tsarigradsko chaussee, 1784 Sofia, Bulgaria L. Escoubas Institut Fresnel UMR CNRS 6133, Ecole Généraliste d'Ingénieurs de Marseille EGIM, Domaine Universitaire de St Jérôme, 13397 Marseille cedex 20, France
- K P-III 04 Electrical / Dielectric Properties of ZnO varistor
A.Kanapitsas Technological Educational Institute of Lamia Department of Electronics 3rd Km Old National Road Lamia-Athens Lamia, 35100, Greece C.Tsonos Technological Educational Institute of Lamia Department of Electronics 3rd Km Old National Road Lamia-Athens Lamia, 35100, Greece I.Stavrakas Materials Research Lab Department of Electronics Technological Educational Institute of Athens, Athens 12210, Greece C.Anastasiades Materials Research Lab Department of Electronics Technological Educational Institute of Athens, Athens 12210, Greece D.Triantis Materials Research Lab Department of Electronics Technological Educational Institute of Athens, Athens 12210, Greece P.Pissis National Technical University of Athens Physics Department Zografou Campus Zografou 15780, Athens Greece
- K P-III 05 Effect of addition of carbon black and the increase in film thickness on the sensing layers of ZnO/ ZnFe₂O₄ in polymer thick films gas sensors
K. Arshak , I. Gaidan, E.G. Moore and C. Cunniffe Microelectronic and semiconductor Research Group, ECE Department, University of Limerick, Plassey Technological Park, Limerick, Ireland
- K P-III 06 PULSED LASER DEPOSITED ZnO FILM ON SIDE-POLISHED FIBER AS A GAS SENSING ELEMENT
A. Og. Dikovska, P. A. Atanasov, T. R. Stoyanchov Institute of Electronics, Bulgarian Academy of Sciences, 72 Tsarigradsko chaussee, Sofia 1784, Bulgaria A. Ts. Andreev, B. S. Zafirova Institute of Solid State Physics, Bulgarian Academy of Sciences, 72 Tsarigradsko chaussee, 1784 Sofia, Bulgaria

Symposium K

- K P-III 07 SOL-GEL SYNTHESIS AND LUMINESCENT BEHAVIOUR OF ZnO:Eu³⁺ NANOSYSTEMS FOR OPTOELECTRONIC DEVICES
L. Armelao¹, M. Bettinelli², G. Bottaro¹, C. Maccato³, M. Pascolini¹, M. Sessolo³, A. Speghini², E. Tondello³ ¹CNR-ISTM and INSTM, Dipartimento di Scienze Chimiche, Università di Padova, Italy ²Dipartimento Scientifico and Tecnologico and INSTM, Università degli Studi di Verona, Italy ³Dipartimento di Scienze Chimiche and INSTM, Università degli Studi di Padova, Italy
- K P-III 08 The gas sensors based on zinc oxide
Marina E. Bugayova, Viktoria M. Koval, George V. Lashkarev, Vasiliy I. Lazorenko, Vitalii A. Karpyna Institute for Problems of Materials Science National Academy of Sciences of Ukraine
- K P-III 09 EFFECT OF ZnO FILM THICKNESS ON THE PERFORMANCES OF ORGANIC LIGHT EMITTING DIODES
Bruno Lucas, Aumeur El Amrani, Wassim Rammal, André Moliton XLIM-Département : MINACOM Faculté des Sciences et Techniques, 123 Av Albert Thomas 87060 Limoges (France)
- K P-III 10 Fabrication of Solution Processed Thin Film Transistor Using Zinc Oxide Nanoparticles at Low Temperature
Sul Lee, Bong Kyun Park, Donjo Kim, Sunho Jeong, and Jooho Moon Department of Materials Science and Engineering Yonsei University, Seoul 120-749, Korea
- K P-III 11 pin a-Si:H solar cells prepared on textured ZnO:Al front TCO.
Jeong Chul Lee, Vresh Dutta, Jinsu Yoo*, Junsin Yi*, Jinsoo Song, Kyung Hoon Yoon Korea Institute of Energy Research Sungkyunkwan University
- K P-III 12 Nitrogen oxides and ammonia sensing characteristics of SILAR deposited ZnO thin film
Shishiyanu S. sergeteo7@yahoo.com lupan@mail.utm.md, Shishiyanu T. S., Lupan O. I.T. Department of Microelectronics and Semiconductor Devices, Technical University of Moldova, bd. Stefan cel Mare 168, FCIM, MD-2004, Chisinau, Republic of Moldova
- K P-III 13 SIMPLE APPROACH TOWARD REALIZATION OF HIGH-QUALITY TRANSPARENT CONDUCTIVE FILMS OBTAINING
V. Khranovskyy^{1,2}, U. Grossner², V. Lazorenko¹, G. Lashkarev¹, B.G. Svensson², R. Yakimova³ ¹Institute for Problems of Material Science, Krzhyzhanovskyy str. 3, 03142, Kiev, Ukraine ²University of Oslo, Physics Department & Centre for Materials Science and Nanotechnology, N-0316 Oslo, Norway ³Linköping University, Department of Physics and Measurement Technology, S-5818, Linköping, Sweden
- K P-III 14 Effects of an Ag overlayer on optical and electrical properties of ZnO:Al transparent conducting thin films
M. von Kreutzbruck(a), Th. Krämer(b), G. Lembke(a), and B.K. Meyer(b) (a) Institut für Angewandte Physik, Justus-Liebig-Universität Giessen, Heinrich-Buff-Ring 16, 35392 Giessen (b) I. Physikalisches Institut, Justus-Liebig-Universität Giessen, Heinrich-Buff-Ring 16, 35392 Giessen
- K P-III 15 Fabrication and characterization of n-ZnO on p-SiC heterojunction diodes on 4H-SiC substrates
A. El-Shaer, A. Bakin, E. Schlenker, A. Che Mofor, and A. Waag Institute of Semiconductor Technology, Technical University Braunschweig, Hans-Sommer-Straße 66, D-38106 Braunschweig, Germany
- K P-III 16 Focused Ion Beam (FIB) based sputtering yield measurements on ZnO and Mo solar cell structures
E. Horváth a,b , A. L. Tóth a , L.P. Biró a , J. Gyulai a , G. Battistig a a Research Institute for Technical Physics and Materials Science, H-1525 P. O. Box 49, Budapest, Hungary b Budapest University of Technology and Economics, H- 1521, P. O. Box. 91, Budapest, Hungary

Thursday, June 1, 2006
 Jeudi 1er juin 2006

Morning
Matin

Session X Nanostructures
Chair: M. Lorentz

K X 01	invited	09:00	Catalyst-free vapor phase epitaxial ZnO nanorods and their nanodevice applications Gyu-Chul Yi National CRI Center for Semiconductor Nanorods and Department of Materials Science and Engineering, Pohang University of Science and Technology (POSTECH), Pohang 790-784, Korea
K X 02		09:30	Catalyst Selection for ZnO Nanowire Growth A.V. Davydov, B. Nikoobakht, D. Josell, W.J. Boettinger, N. Sanford, L. Robins, I. Levin National Institute of Standards and Technology, 100 Bureau Drive, Gaithersburg, MD 20899 USA
K X 03		09:50	Synthesis and transport properties of ZnO nanoparticles and nanorods synthesized by organometallic chemistry J. Carrey (*), M. L. Kahn (x), B. Chaudret (x), M. Respaud (*) (*) Laboratoire de Nanomagnétisme et Optoélectronique, INSA TOulouse, 135 av. Ranguel, 31077 Toulouse cedex 4 (x) Laboratoire de Chimie de Coordination, 205 rte de Narbonne, 31077 Toulouse cedex 4
K X 04		10:10	SELF-ORGANIZED, HORIZONTAL, CUBIC PHASE ZNO NANOWIRES JUSTINA GRABOWSKA, KARUNA KAR NANDA1 R.T. RAJENDRA KUMAR J. P. MOSNIER, M.O. HENRY AND ENDA MCGLYNN School of Physical Sciences, NCPST, Dublin City University, Glasnevin, Dublin 9, Ireland 1 Present address: Materials Research Centre, Indian Institute of Science, Bangalore 560 012, India
		10:30	Break

Session XI Nanostructures II**Chair: M. Henry**

K XI 01	11:00	In-situ mass spectrometry analysis and monitoring of vapour phase during carbo-thermal CVD growth of ZnO A. Quarta,(a) A. Tersigni,(a) P. Prete,(b) and N. Lovergine(a) (a) CNISM, and Dipartimento di Ingegneria dell'Innovazione, Università di Lecce, Via Arnesano, I-73100 Lecce, Italy. (b) Istituto per la Microelettronica e Microsistemi (IMM) del CNR, Unità di Lecce, Via Arnesano, I-73100 Lecce, Italy.
K XI 02	11:20	Effects of structural strain and surface conditions on asymmetry growth of ZnO Sun-Hong Park, Soo-Young Seo, Seon.-Hyo Kim and Sang-Wook Han
K XI 03	11:40	LUMINESCENCE PROPERTIES OF ZnO ELONGATED NANOSTRUCTURES OBTAINED FROM ZnS BY VAPOUR SOLID METHODS L. Khomenkova, P. Fernández* and J. Piqueras Departamento de Física de Materiales, Facultad de Ciencias, Físicas, Universidad . Complutense de Madrid, 28040 Madrid, Spain
K XI 04	12:00	From Nanostructured ZnO-Based Thin Films to Arrays of Free-Standing Nanowires: Self-Organized Growth by Pulsed Laser Deposition Michael Lorenz University Leipzig, Institute for Experimental Physics II, Linnéstr. 5, D-04103 Leipzig, Germany
K XI 05	12:20	ZnO nanowires and their use for innovative optical gas sensor. C. Baratto, M. Picinelli, E. Comini, G. Faglia, M. Ferroni, G. Sberveglieri CNR-INFN, SENSOR Laboratory, Dept. of Chemistry and Physics. University of Brescia, Via Valotti, 9, 25133 BRESCIA, Italy
K XI 06	12:40	Fabrication of 3D well-ordered ZnO macroporous structure via a template-mediated electrophoresis process Yi-Wen Chung(a), Ing-Chi Leu(b), Jian-Hong Lee(a) and Min-Hsiung Hon(a)(c) (a). Department of Materials Science and Engineering, National Cheng Kung University, 1, Ta-Hsueh Road, Tainan, 701 Taiwan, ROC (b). Department of Materials Science and Engineering, National United University, Miao-Li, 360 Taiwan, ROC. (c). Da-Yeh University, 112 Shan-Jiau Rd, Da-Tsuen, Chang-hua, 515 Taiwan, ROC.
	13:00	Lunch

Thursday, June 1, 2006
 Jeudi 1er juin 2006

Afternoon
 Après-midi

Session XII Nanostructures III
Chair: Gyu-Chul Yi

K XII 01	invited	14:00	Fundamentals and Properties of Zinc Oxide Nanostructures: Optical and Sensing M. Willander Physical Electronic and Photonics Department of Physics Göteborg University SE-41296 Göteborg Sweden
K XII 02		14:30	Blue luminescence in transition metal doped ZnO nanocrystals P. Lommens*, P. F. Smet#, F. Loncke#, H. Vrielinck#, S. Van Wijmeersch*, F. Callens#, D. Poelman# and Z. Hens* *Physical Chemistry Laboratory, Ghent university, Krijgslaan 281-S12, B-9000 Ghent,Belgium #Department of Solid State Science, Ghent University, Krijgslaan 281-S1, B-9000 Ghent, Belgium
K XII 03		14:50	MORPHOLOGICAL CONTROL OF ZNO NANOSTRUCTURES ON SILICON SUBSTRATES R.T. RAJENDRA KUMAR, JUSTINA GRABOWSKA, J. P. MOSNIER, M.O. HENRY AND ENDA MCGLYNN School of Physical Sciences, National Centre for Plasma Science and Technology (NCPST), Dublin City University, Glasnevin, Dublin 9, Ireland
K XII 04		15:10	Characterization of ZnO nanowires grown on Si (100) with and without Au catalyst F. C. Tsao(1), C. J. Pan(1), B. J. Pong(1), C. H. Kuo(2), G. C. Chi(1), C. Y. Chang(1),(3), and S. J. Pearton(3) (1)Department of Physics, National Central University, Jhongli, Taoyuan 32001, Taiwan (2)Institute of Optical Sciences, National Central University, Jhongli, Taoyuan 32001, Taiwan (3)Department of Materials Science and Engineering, University of Florida, Gainesville, Florida 32611, USA
K XII 05		15:30	A simple route to ZnO nanorod arrays Graziella Malandrino, Manuela Blandino, Ignazio L. Fragalà Dipartimento di Scienze Chimiche, Università di Catania, and I.N.S.T.M. UdR di Catania, Viale Andrea Doria 6, I-95125 Catania, Italy, and Raffaella Lo Nigro, IMM, sezione di Catania, CNR, Stradale Primosele n 50, 95121 Catania, Italy.
		15:50	Break
		16:15-18:30	Poster Session IV

Poster Session IV
Thursday, May 30, 2006
16:15 - 18:00

- K P-IV 01 Optical properties of ZnO nanorods realised by aqueous chemical growth
C. Bekeny*¹, L. Wischmeier¹, H. Gafsi¹, T. Voss¹, J. Gutowski¹, B. Postels², M. Kreye², and A. Waag²¹ Institute of Solid State Physics, University of Bremen, P.O Box 330440, 28334 Bremen, Germany ² Institute of Semiconductor Technology, Technical University of Braunschweig, Hans-Sommer- Str. 66, 38106 Braunschweig, Germany
- K P-IV 02 ZnO/Er₂O₃ core/shell nanowires
Danilo Mustafa, Daniel Biggemann and Leandro R. Tessler IFGW, Unicamp, Campinas, SP, Brazil Ji Wu and Jeffery L. Coffey Dep. of Chemistry, Texas Christian University, Fort Worth, Texas, USA
- K P-IV 03 AN HYBRID RF-SPUTTERING/SOL-GEL ROUTE TO Er(III)-DOPED ZnO NANOSYSTEMS
L. Armelao¹, D. Barreca¹, G. Bottaro¹, A. Gasparotto², D. Leonarduzzi², C. Maragno², C. Sada³, E. Tondello² ¹IISTM-CNR and INSTM – Department of Chemistry – Padova University - Via Marzolo, 1 - 35131 Padova, Italy. ²Department of Chemistry – Padova University and INSTM - Via Marzolo, 1 - 35131 Padova, Italy. ³INFN and Department of Physics - Padova University - Via Marzolo, 8 - 35131 Padova, Italy
- K P-IV 04 Control of Diameter of ZnO Nanorods Grown by Chemical Vapor Deposition with Laser Ablation of ZnO
Takashi Kimpara, Shinichi Nakamura, Tomomasa Satoh and Takashi Hirate Kanagawa University
- K P-IV 05 Fabrication of ZnO Nanorod-based p-n Heterojunction on SiC Substrate
A. Che Mofor¹, A. Bakin¹, A. El-Shaer¹, E. Schlenker¹, G. Wagner², and A. Waag¹ ¹ Institute of Semiconductor Technology, Technical University Braunschweig, Braunschweig, Germany ² Institut für Kristallzucht (IKZ), Berlin, Germany
- K P-IV 06 Anomalous tip growth of ZnO nanowire on silicon substrates using a CVD method
B.Ganjipour, S.Shafiei, M.ZahediFar Institute of Nanoscience and Nanotechnology, University of Kashan, Kashan, IRAN
- K P-IV 07 Synthesis and Optical Properties of Ga and S-Doped ZnO Nanowires using Thermal Evaporation
B.Ganjipour, S.Shafiei, M.ZahediFar Institute of Nanoscience and Nanotechnology, University of Kashan, Kashan, IRAN
- K P-IV 08 Growth of ZnO nanowires using a modified plasma-enhanced chemical vapor deposition
B.Ganjipour Institute of nanotechnology and nanoscience, University of Kashan, Kashan, Iran
- K P-IV 09 Hydrothermal and microwave-assisted synthesis of nanocrystalline ZnO photocatalysts
Vladimir K. Ivanov (Institute of General and Inorganic Chemistry, Moscow, Russia) Alexey S. Shaporev (Institute of General and Inorganic Chemistry, Moscow, Russia) Felix Yu. Sharikov ("Applied Chemistry" Research Center, St.Peterbourg, Russia) Alexander Ye. Baranchikov (Institute of General and Inorganic Chemistry, Moscow, Russia)
- K P-IV 10 Optical studies in Er³⁺-doped ZnO nanocrystals
M. Peres¹, A. Cruz¹, M. J. Soares¹, A. Neves¹, T. Monteiro¹, A. S. Pereira², M. A. Martins², T. Trindade², E. Alves³ (1) Departamento de Física, FSCOSD, Universidade de Aveiro, Aveiro, Portugal (2) Departamento de Química, CICECO, Universidade de Aveiro, Aveiro, Portugal (3) Instituto Tecnológico e Nuclear, EN-10, 2686-953 Sacavém, Portugal
- K P-IV 11 Selective growth of ZnO nanorods in aqueous solution
B. Postels¹, M. Kreye¹, H.-H. Wehmann¹, P. Görrn², T. Riedl², W. Kowalsky², A. Waag¹ ¹ Institute of Semiconductor Technology, Technical University of Braunschweig, Hans-Sommer-Straße 66, 38106 Braunschweig, Germany ² Institute of Highfrequency Technology, Technical University of Braunschweig, Schleinitzstraße 22, 38106 Braunschweig, Germany
- K P-IV 12 LITHIUM ION AS GROWTH-CONTROLLING AGENT OF ZnO NANOPARTICLES PREPARED BY ORGANOMETALLIC SYNTHESIS: INFLUENCE ONTO LUMINESCENCE PROPERTIES.
A. Glaria,¹ M. L Kahn,¹ T. Cardinal,² B. Chaudret¹. ¹Laboratoire de Chimie de Coordination, UPR8241 CNRS, 205 route de Narbonne, 31077 Toulouse Cedex, France. ²Institut de Chimie de la Matière Condensée de Bordeaux, CNRS-Université Bordeaux 1, 87 Av. Dr. Schweitzer, 33608 Pessac, France.

Symposium K

- K P-IV 13 Growth and optical study of ZnO nanorods
N. Boukos 1, C. Chandrinou 1, K. Giannakopoulos 1, A. Lusson 2, A. Travlos 1 1 Institute of Materials Science, National Center for Scientific Research "Demokritos", 15310 Ag. Paraskevi, Athens, Greece. Tel +30 210 6503337 nboukos@ims.demokritos.gr 2 Groupe d'Etude de la Matière Condensée, C.N.R.S. - Université de Versailles-Saint Quentin en Yvelines 1, Place Aristide Briand - 92190 Meudon Cedex - France
- K P-IV 14 Comparing the electrical properties of wet chemically grown single ZnO nanopillars and arrays
M.Kreye 1, B. Postels 1, B. Panhans 1, D. Weber 2, A. Götzhäuser 2, N. Boukos 3, A. Travlos 3, A. Waag 1 1 Institute of Semiconductor Technology, Technical University of Braunschweig, Hans-Sommer-Straße 66, 38106 Braunschweig, 2 Institute of Physics of Supramolecular Systems Atoms and Clusters, University of Bielefeld, Universitätsstraße 25, 33615 Bielefeld 3 Institute of Materials Science, National Center for Scientific Research „Demokritos“, GR 15310 Ag. Paraskevi Attikis, 60228 Athens
- K P-IV 15 Yellowish-white photoluminescence from ZnO nanoparticles
J. Nayak, S. Nozaki, H. Ono, and K. Uchida, Department of Electronic Engineering, University of Electro-Communications 1-5-1- Chofugaoka, Chofu-Shi, Tokyo 182-8585, Japan
- K P-IV 16 Preparation and characterization of Zn and ZnO nano-nano-aggregates on Si (100) by electrodeposition
T. Devers¹, I. Kante¹, P. Andreatza², C. Andreatza-Vignolle², and K. Konstantinov³ 1 Laboratoire Electronique Signaux et Images, LESI-IUT de Chartres, EA 1715 21, rue Loigny la Bataille- 28000 Chartres, France Centre de Recherche de la Matière Divisée – CRMD, UMR 6619 1bis, rue de la Férollerie – 45071 Orléans Cedex. France 3 Institute for Superconducting and Electronic Materials, University of Wollongong, 2522 Wollongong, NSW, Australia
- K P-IV 17 Growth of ZnO nanowalls by metalorganic chemical vapor deposition
Sang-Woo Kim (a), Shizuo Fujita (b), Min-Su Yi (c), and Dae Ho Yoon (d); (a) School of Advanced Materials and System Engineering, Kumoh National Institute of Technology, Gumi, Gyeongbuk 730-701, Korea; (b) International Innovation Center, Kyoto University, Kyodai-Katsura, Nishikyo-ku, Kyoto 615-8510, Japan; (c) Department of Materials Science and Engineering, Sangju National University, Sangju, Gyeongbuk, 742-711, Korea; (d) Department of Advanced Materials Engineering, Sungkyunkwan University, Suwon, Kyunggi 440-746, Korea
- K P-IV 18 Synthesis of the Hollow Structured Chrysanthemumlike and Beltlike ZnO via a Solvothermal Method
Xiao-Li Zhang and Young Soo Kang* Department of Chemistry, Pukyong National University, 599-1 Daeyon 3-Dong, Namgu, Busan 608-737, Korea
- K P-IV 19 Microcontact Printing of Organic SAM for Patterned Growth of Well-Aligned ZnO Nanorod Arrays
Jian-Hong Lee 1, Ing-Chi Leu 2, Yi-Wen Chung 1, Ming-Chi Hsu 1 and Min-Hsiung Hon 1,3 1 Department of Materials Science and Engineering, National Cheng Kung University, 1, Ta-Hsueh Road, Tainan, 701 Taiwan, ROC. 2 Department of Materials Science and Engineering, National United University, Miao-Li 360, Taiwan, ROC. 3 Da-Yeh University, 112 Shan-Jiau Rd, Da-Tsuen, Chang-hua, 515 Taiwan ROC.
- K P-IV 20 SYNTHESIS OF SELF-CATALYZED ZnO NANOWIRES ON c-ORIENTED ZnO THIN FILMS
Kyung Ah Jeon, Hyo Jeong Son, Jong Hoon Kim and Sang Yeol Lee, Department of Electrical and Electronic Engineering, Yonsei University, 134, Shinchon-dong, Seodaemun-ku, 120-749, Seoul, Korea
- K P-IV 21 Catalytic Growth of ZnO on Different Substrate Materials and Influence of the Substrate-Catalyst-Interaction on the Growth Products
A. Reiser, A. Ladenburger, G. M. Prinz, M. Schirra, M. Feneberg, U. Röder, R. Sauer, and K. Thonke Universität Ulm, Abteilung Halbleiterphysik, Albert-Einstein-Allee 45, D-89081 Ulm
- K P-IV 22 A NOVEL DEPOSITION PROCESS OF ZnO NANORODS: SPRAY PYROLYSIS
M. Krunks, T. Dedova, I. Oja Acik, A. Mere, O. Volobujeva, M. Grossberg Department of Materials Science, Tallinn University of Technology, Ehitajate tee 5, Tallinn 19086, Estonia
- K P-IV 23 Field emission from ZnO nanostructures G.V.Lashkarev, V.I.Lazorenko, V.A.Karpyna Institute for Problems of Material Science, National Academy of Sciences of Ukraine Krzizhanovskogo Str.3, 03680 Kyiv, Ukraine A.A.Evtukh, M.O.Semenenko Institute of Semiconductor Physics, National Academy of Sciences of Ukraine, pr. Nauky 45, Kyiv, Ukraine

Symposium K

- K P-IV 24 Enhancement of surface morphology and optical properties of nanocolumnar ZnO films
a-V.Donderis, b- M.A. Hernández-Fenollosab*, b-L.C.Damonte, b-B.Maríb,c - J.Cembrero a -
Departamento de Ingeniería Eléctrica, Universidad Politécnica de Valencia, Camí de Vera s/n,
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- K P-IV 25 Growth and Characterization of ZnO Nanostructures Grown on Bare and Patterned Sapphire
Substrates Using Pulsed Laser Deposition
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- K P-IV 26 Photoluminescence of ZnO nanostructures grown by the aqueous chemical growth technique
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- K P-IV 27 Preparation and Characterisation of ZnO polymer nanocomposite sensors for the detection of
Alcohol vapours
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Ireland
- K P-IV 28 Synthesis of ZnO nanoparticles stabilized in MgO and their catalytic properties
I.O. Slobodianiuk, P.E.Strizhak, O.Z.Didenko, G.R.Kosmambetova, V.I.Gritsenko
L.V.Pisarzhevsky Institute of Physical Chemistry of the NAS of Ukraine
- K P-IV 29 Room temperature UV lasing in ZnO tetrapod-like crystallites.L.E. Li, L.N. Dem'yanets
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- K P-IV 30 HYDROTHERMAL SYNTHESIS AND LASING IN ZnO DISORDERED OBJECTS
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- K P-IV 31 STRUCTURE, COMPOSITION AND OPTICAL PROPERTIES OF RARE EARTH DOPED ZINC OXIDE
NANOCRYSTALS
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