



E-MRS – IUMRS – ICEM 2000



SYMPOSIUM O

Thin Film Materials for Large Area Electronics

May 30 – June 2, 2000

Symposium Organizers:

Bernard Equer, Ecole Polytechnique, France

John Robertson, Cambridge University, UK

Pere Roca i Cabarrocas, Ecole Polytechnique, France

Guglielmo Fortunato, Roma, Italy

Roland Buerkle, Mainz, Germany

Symposium Support:

Balzer AG, Liechtenstein

Papers will be published in Thin Solid Films

E-MRS 2000 SPRING MEETING

SYMPOSIUM O

Tuesday May 30, 2000

Mardi 30 mai 2000

Morning

Matin

Session I - Growth of microcrystalline silicon films

Chairperson: **P. Roca i Cabarrocas**

- O-I.1** 9:00 **Invited** LOW TEMPERATURE GROWTH OF MICROCRYSTALLINE SILICON AND ITS APPLICATION TO SOLAR CELLS, **M. Kondo** and Akihisa Matsuda, Electrotechnical Laboratory, Tsukuba, Ibaraki 305, Japan
- O-I.2** 9:30 ULTRATHIN MICROCRYSTALLINE SILICON FILMS DEPOSITED BY PECVD, **R. Rizzoli**, C. Summonte, J. Pla, CNR-Lamel Institute, Bologna, Italy and A. Desalvo, E. Centurioni, F. Zignani, Dipartimento di Chimica Appl. e Scienze dei Materiali, Università di Bologna, Italy
- O-I.3** 9:50 RAPID DEPOSITION OF HYDROGENATED MICROCRYSTALLINE SILICON BY A HIGH CURRENT DC DISCHARGE, D. Franz⁽¹⁾, **F. Grangeon**⁽¹⁾, T. Delachaux⁽¹⁾, A. A. Howling⁽¹⁾, Ch. Hollenstein⁽¹⁾, J. Karner⁽²⁾, ⁽¹⁾Centre de Recherches en Physique des Plasmas, Ecole Polytechnique Fédérale de Lausanne, PPB Ecublens, 1015 Lausanne, Switzerland, ⁽²⁾Balzers AG, Balzers, Liechtenstein
- O-I.4** 10:10 FREQUENCY EFFECTS ON THE PECVD OF HYDROGENATED MICROCRYSTALLINE SILICON, E. Amanatides, **D. Mataras**, D. Rapakoulias, University of Patras, Greece
- 10:30 **BREAK**

Session II - Thin Film Transistors and large area displays

Chairperson: **R. Buerkle**

- O-II.1** 11:00 **Invited** LOW TEMPERATURE POLY-Si TFT-LCD BY EXCIMER LASER ANNEAL, **S. Uchikoga**, Toshiba Corp., Corporate R&D Center, Kawasaki, Japan, and Nobuki Ibaraki, Toshiba Corp., LCD R&D Center, Fukaya, Japan
- O-II.2** 11:30 **Invited** ACTIVE MATRIX ADDRESSING OF FLAT PANEL DISPLAYS BASED ON ORGANIC LIGHT EMITTING DIODES, **D. Pribat**, LCR Thomson-CSF, Domaine de Corbeville, 91400 Orsay, France
- O-II.3** 12:00 PULSED KrF LASER ANNEALING OF LATERALLY EMITTING THIN FILM ELECTROLUMINESCENT DISPLAYS, **D.C. Koutsogeorgis**, E.A. Mastio, W.M. Cranton, C.B. Thomas, The Nottingham Trent University, Department of Electrical and Electronic Engineering, Burton Street, Nottingham NG1 4BU, UK
- 12:20 **LUNCH**

Tuesday May 30, 2000

Mardi 30 mai 2000

Afternoon

Après-Midi

Session III - Silicon thin-films crystallization I

Chairperson: G. Fortunato

- O-III.1** 14:00 **Invited** METAL INDUCED CRYSTALLIZATION OF AMORPHOUS SILICON, **J. Jang**, S.Y. Yoon, Department of Physics, Kyung Hee Univ. Dongdaemoon-ku, Seoul 130-701, Korea
- O-III.2** 14:30 **Invited** ADVANCED EXCIMER LASER CRYSTALLIZATION TECHNIQUES, **L. Mariucci**, A. Pecora, R. Carluccio and G. Fortunato, IESS-CNR, Via Cineto Romano 42, 00156 Rome, Italy
- O-III.3** 15:00 A TEM INVESTIGATION INTO THE EXCIMER-LASER CRYSTALLIZATION OF AMORPHOUS Si FILMS, **F.C. Voogt**, P.Ch. van der Wilt, R. Ishihara, DIMES/ECTM, Delft University of Technology, The Netherlands and F.D. Tichelaar, Dept. of Materials Science, Delft University of Technology, The Netherlands
- O-III.4** 15:20 NUMERICAL AND EXPERIMENTAL ANALYSIS OF SURFACE MELT DYNAMICS IN 200 NM - EXCIMER LASER CRYSTALLIZATION OF a-Si FILMS ON GLASS, **E. Fogarassy**, S. de Unamuno, B. Prévot, Laboratoire CNRS-PHASE, BP 20, 67037 Strasbourg, France. T. Harrer, S. Maresch, Universitat Stuttgart, Allmandring 3B, 70550 Stuttgart, Germany
- O-III.5** 15:40 ENHANCED SILICON CRYSTALLISATION BY DOUBLED-FREQUENCY YAG LASER ANNEALING, **A. Romano-Rodríguez**, A. Bachroui, J.R. Morante, EME, Dept. Electronics, University of Barcelona, Martí i Franquès 1, 08028 Barcelona, Spain and T. Mohammed-Brahim, Y. Helen, A. Rahal, F. Raoult, GMV, ESA-CNRS 6076, Université de Rennes I, Campus de Beaulieu, Bât. 11B, 35042 Rennes Cedex, France
- 16:00 **BREAK**

Session IV - Materials and interfaces characterization

Chairperson: J.R. Morante

- O-IV.1** 16:30 **Invited** TRANSPORT MECHANISMS IN MICROCRYSTALLINE SILICON FILMS, **R. Brenot**, R. Vanderhaghen, B. Drévillon, P. Roca i Cabarrocas, Laboratoire de Physique des Interfaces et des Couches Minces, UMR 7647 du CNRS, Ecole Polytechnique, 91128 Palaiseau Cedex, France
- O-IV.2** 17:00 ELECTRONIC AND TOPOGRAPHIC PROPERTIES OF AMORPHOUS AND MICROCRYSTALLINE SILICON THIN FILMS, **J.P. Kleider**, C. Longeaud, R. Brüggemann, F. Houzé, Laboratoire de Génie Electrique de Paris, Plateau de Moulon, 91192 Gif-sur-Yvette Cedex, France
- O-IV.3** 17:20 THE CHARACTERIZATION OF SILICON NITRIDE FILMS BY CONTACTLESS TRANSIENT PHOTOCONDUCTIVITY MEASUREMENTS, F. Wunsch, O. Abdallah and M. Kunst, Hahn Meitner Institut, Glienicke Strasse 100, 14109 Berlin, Germany
- O-IV.4** 17:40 INFLUENCE OF THE TRANSDUCER CONFIGURATION ON THE p-i-n IMAGE SENSOR RESOLUTION, **J. Martins**, F. Sousa, M. Fernandes, R. Schwarz, and M. Vieira, Electronics and Communications Dept., ISEL, Lisboa, Portugal
- O-IV.5** 18:00 SPECTROSCOPIC ELLIPSOMETRY STUDY OF INTERFACES AND CRYSTALLIZATION BEHAVIOR DURING ANNEALING OF a-Si:H FILMS, **M. Losurdo**⁽¹⁾, F. Roca⁽²⁾, R. De Rosa⁽²⁾, P. Capezzuto⁽¹⁾, G. Bruno⁽¹⁾; ⁽¹⁾Plasma Chemistry Research Center-CNR, via Orabona 4, 70126 Bari, Italy; ⁽²⁾CR ENEA Portici loc. Granatello, 80055 Portici Napoli, Italy

Wednesday May 31, 2000

Mercredi 31 mai 2000

Afternoon

Après-Midi

Session V - Silicon thin-films crystallization II

Chairperson: E. Fogarassy

- O-V.1** 14:00 **Invited** FROM POLYCRYSTALLINE TO CRYSTALLINE SILICON ON GLASS, **J.H. Werner**, Inst. for Physical Electronics, University of Stuttgart, Pfaffenwaldring 47, 70569 Stuttgart, Germany
- O-V.2** 14:30 ROOM TEMPERATURE ELECTRIC FIELD INDUCED CRYSTALLISATION OF WIDE BAND GAP HYDROGENATED AMORPHOUS SILICON, **I. Pelant**, P. Fojtik, K. Luterova, J. Kocka, Institute of Physics, Academy of Sciences of the Czech Republic, Cukrovarnicka 10, 162 53 Praha 6, Czech Republic
- O-V.3** 14:50 ION-BEAM STIMULATED SOLID-PHASE CRYSTALLIZATION OF AMORPHOUS Si ON SiO₂, **Masanobu Miyao**, Isao Tsunoda, Taizoh Sadoh and Atsushi Kenjo, Department of Electronic Device Engineering, Graduate School of Information Science and Electrical Engineering, Kyushu University, 6-10-1 Hakozaki, Fukuoka 812-8581, Japan
- O-V.4** 15:10 LARGE GRAIN GROWTH IN SILICON FILMS BY CURRENT-INDUCED JOULE HEATING, **T. Sameshima** and K. Ozaki, Tokyo University of Agriculture and Technology, 2-24-16 Naka-machi, Koganei-city, Tokyo 184-8588, Japan
- O-V.5** 15:30 GRAIN POPULATIONS IN LASER-CRYSTALLIZED SILICON THIN FILMS ON GLASS SUBSTRATES, **M. Nerding**⁽¹⁾, R. Dassow⁽²⁾, J. Krinke⁽¹⁾, J.R. Köhler⁽²⁾, H.P. Strunk⁽¹⁾, ⁽¹⁾Universität Erlangen-Nürnberg, Institut für Werkstoffwissenschaften, Lehrstuhl für Mikrocharakterisierung, Cauerstr. 6, 91058 Erlangen, ⁽²⁾Universität Stuttgart, Institut für Physikalische Elektronik, Pfaffenwaldring 47, 70569 Stuttgart, Germany
- O-V.6** 15:50 STRUCTURAL IMPROVEMENT OF SiGe FILMS BY C AND F IMPLANTATION AND SOLID PHASE CRYSTALLIZATION, A. Rodríguez, **J. Olivares**, J. Sangrador, T. Rodríguez, E.T.S.I.T.-U.P.M., Madrid, Spain, C. Ballesteros, E.P.S.-U.Carlos III, Leganés, Madrid, Spain, M. Castro. CC.FF. U.C.M., Madrid, Spain, R.M. Gwilliam. University of Surrey, Guildford, UK
- 16:10 **BREAK**
- 16:40-19:00 **POSTER SESSION**
- O/P1** RPECVD OF DIELECTRIC FILMS FROM MOLECULAR PRECURSORS, **T.P. Smirnova**, L.V. Yakovkina, V.N. Kitchay. Institute of Inorganic Chemistry, Siberian Department, Lavrentiev ave. 3, 630090 Novosibirsk, Russia
- O/P2** REMOTE PLASMA ASSISTED CVD OF BORON NITRIDE FILMS USING BORAZINE AS SINGLE SOURCE, **T.P. Smirnova**, L.V. Yakovkina, V.N. Kitchay, Institute of Inorganic Chemistry, Siberian Department, Lavrentiev ave. 3, 630090 Novosibirsk, Russia
- O/P3** PARTICULARITIES OF OBTAINING a-SiC:H FILMS IN CF-PECVD PROCESS BY EMPLOYING METHYLTRICHLOROSILANE AS A PRECURSOR, **V.I. Ivashchenko**, G.V. Rusakov, L.A. Ivashchenko, V.M. Popov and A.S. Klimenko, Institute of Problems of Material Science, NAS of Ukraine, Krzhyzhanovsky Str. 3, 252680 Kyiv, Ukraine
- O/P4** PHOTOINDUCED EFFECTS IN RF AND VHF a-Si:H FILMS DEPOSITED WITH DIFFERENT ION BOMBARDMENT, A.S. Abramov, **A.I. Kosarev**, M.V. Shutov, A.J. Vinogradov, A.F. Ioffe PTI, St. Petersburg 194021, Russia and P. Roca i Cabarrocas, LPICM (UMR 7647 CNRS), Ecole Polytechnique, 91128 Palaiseau Cedex, France
- O/P5** MODELING OF KINETICS OF GAS-PHASE REACTIONS OF SILANE DECOMPOSITION INITIATED BY ELECTRON IMPACT, **A.F. Stekolnikov**, D.V. Feshchenko, Univ. of Inform. and Radioelectron., 6 P.Brovka str., 220027 Minsk, Belarus

- O/P6** LARGE AREA MICROCRYSTALLINE SILICON FILMS GROWN BY ECR-CVD, S. Ferrero, P. Mandracci, G. Cicero, F. Giorgis, C.F. Pirri, INFM and Phys. Dep., Polytechnic of Torino, G. Barucca, INFM UdR University of Ancona, Italy
- O/P7** CORRELATION BETWEEN SURFACE STATES AND THE SURFACE MORPHOLOGY OF AMORPHOUS SILICON FILMS, H. Aguas⁽¹⁾, Y. Nunes⁽²⁾, E. Fortunato⁽¹⁾, F. Giuliani⁽¹⁾, P. Gordo⁽²⁾, M. Maneira⁽²⁾ and R. Martins⁽¹⁾, ⁽¹⁾Departamento de Ciencias dos Materiais and CENIMAT, ⁽²⁾Departamento de Engenharia Fisica, Faculdade de Ciencias e Tecnologia, Universidade Nova de Lisboa, Portugal
- O/P8** OPTICAL AND ELECTRICAL INVESTIGATION OF THE STRUCTURAL PROPERTIES OF AMORPHOUS HYDROGENATED SILICON DEPOSITED AT HIGH RATE BY DC-MAGNETRON SPUTTERING, G. Farhi⁽¹⁾, R. Cherfi⁽¹⁾, M. Aoucher⁽¹⁾, A. Zeinert⁽²⁾ and K. Zellama⁽²⁾, ⁽¹⁾Laboratoire des Couches Minces et des Semiconducteurs, Institut de Physique, USTHB, BP 32, 16111 Bab-Ezzouar, El Alia, Alger, Algeria, ⁽²⁾Laboratoire de Physique de la Matière Condensée, Faculté des Sciences, Université de Picardie Jules Verne, 33 rue Saint-Leu, 80039 Amiens Cedex, France
- O/P9** THIN SILICON FILMS RANGING FROM AMORPHOUS TO NANOCRYSTALLINE OBTAINED BY HOT-WIRE CVD, D. Soler, M. Fonrodona, C. Voz, J. Bertomeu and J. Andreu, Universitat de Barcelona, Departament de Fisica Aplicada i Optica, Av. Diagonal 647, 08028 Barcelona, Spain
- O/P10** HYDROGENATED AMORPHOUS SILICON DEPOSITED BY DC MAGNETRON SPUTTERING AT HIGH TEMPERATURE, R. Cherfi⁽¹⁾, G. Farhi⁽¹⁾, M. Aoucher⁽¹⁾ and K. Zellama⁽²⁾, ⁽¹⁾Laboratoire des Couches Minces et des Semiconducteurs, Institut de Physique/USTHB, BP 32 El Alia, 16111 Bab-Ezzouar, Alger, Algeria; ⁽²⁾L.P.M.C., Faculté des Sciences d'Amiens, 33 rue Saint-Leu, 80039 Amiens, France
- O/P11** INFLUENCE OF THE PROCESS PARAMETERS ON THE PROPERTIES OF HYDROGENATED TETRAHEDRAL AMORPHOUS CARBON THIN FILMS DEPOSITED USING ECR PLASMA, F. Piazza⁽¹⁾, Y. Arnal⁽²⁾, M. Dupuy⁽³⁾, D. Grambole⁽⁴⁾, F. Herrmann⁽⁴⁾, M. Kildemo⁽⁵⁾, A. Lacoste⁽²⁾, G. Relihan⁽⁵⁾ and A. Golanski⁽⁵⁾; ⁽¹⁾Centre National de Recherche Scientifique (CNRS), Laboratoire PHASE, BP20, 67037 Strasbourg, France; ⁽²⁾Centre National de Recherche Scientifique (CNRS), Laboratoire LEMD, BP166, 38042, Grenoble, France; ⁽³⁾LETI-CEA, 38054, Grenoble, France; ⁽⁴⁾Forschungszentrum Rossendorf e.V., Institut fuer Ionenstrahlphysik und Materialforschung, Postfach 510119, 01314 Dresden, Germany; ⁽⁵⁾National Microelectronics Research Centre (NMRC), University College, Lee Maltings, Prospect Row, Cork, Ireland
- O/P12** OPTICAL ABSORPTION AND ELECTRICAL CONDUCTIVITY OF MICROCRYSTALLINE SILICON LAYERS GROWN BY SiF₄:H₂ PLASMA ON GLASS SUBSTRATES, M. Ambrico⁽¹⁾, L.Schiavulli⁽²⁾, T. Ligonzo⁽²⁾, G. Cicala⁽¹⁾, P. Capezzuto⁽¹⁾, G. Bruno⁽¹⁾, ⁽¹⁾C.N.R. -C.S.C.P., Via Amendola, 70125 Bari, Italy, ⁽²⁾Dipartimento di Fisica and Unita INFM, Via Amendola, 70125 Bari, Italy
- O/P13** FROM AMORPHOUS TO MICROCRYSTALLINE SILICON DEPOSITION IN SiF₄-H₂-He PLASMAS IN SITU CONTROL BY OPTICAL EMISSION SPECTROSCOPY, G. Cicala, P. Capezzuto, and G. Bruno, Centro di Studio per la Chimica dei Plasmi, Dipartimento di Chimica-Universita di Bari, Via Orabona 4, 70126 Bari, Italy
- O/P14** CLOSED-CHAMBER CVD - A NEW METHOD FOR PREPARATION OF GROUP-IV THIN FILMS FOR APPLICATION IN LARGE AREA ELECTRONICS, S. Koynov^(1,2), M. Tzolov⁽²⁾, R. Schwarz⁽¹⁾; ⁽¹⁾Departamento de Fisica, Instituto Superior Técnico, Av. Rovisco Pais 1, 1096 Lisboa, Portugal; ⁽²⁾CL SENES-Bulgarian Academy of Sciences, Boul. Tzarigradsko Shousee 72, 1784 Sofia, Bulgaria
- O/P15** LPE GROWTH OF PYRAMIDAL sc-Si THIN FILM FOR PV APPLICATIONS, A. Fave, S. Berger, A. Laugier, LPM UMR 5511, INSA de Lyon, 69621 Villeurbanne, France
- O/P16** PHYSICAL PROPERTIES OF POLYCRYSTALLINE SILICON FILMS RELATED TO LPCVD CONDITIONS, M. Modreanu⁽¹⁾, M. Bercu⁽²⁾ and C. Cobianu⁽¹⁾; ⁽¹⁾National Institute for R&D in Microtechnologies PO Box 38-160, Bucharest 72225, Romania; ⁽²⁾Faculty of Physics, University of Bucharest, PO Box 11 Mg, 5600 Bucharest, Romania
- O/P17** PLASMA DEPOSITION OF CARBON FILMS AT ROOM TEMPERATURE FROM C₂H₂-Ar MIXTURES: ANODIC VERSUS CATHODIC FILMS, T. Seth, P. Roca i Cabarrocas, LPICM, Ecole Polytechnique, 91128 Palaiseau Cedex, France

- O/P18** SURFACE ELECTRONIC STRUCTURE OF TETRAHEDRAL AMORPHOUS CARBON, C.W. Chen, J. Robertson, Engineering Dept, Cambridge University, Cambridge CB2 1PZ, UK
- O/P19** LOW TEMPERATURE PLASMA OXIDATION OF SILICON, D.F. Lai, J. Robertson, Engineering Dept, Cambridge University, Cambridge CB2 1PZ, UK, M. Weiler, N. Hatzopoulos, CCR GmbH, Maarweg 30, Rheinbreitbach, Germany
- O/P20** DEPOSITION OF SiC COATINGS BY SPRAYING A POWDER ACCELERATED ELECTRODYNAMICALLY IN A COAXIAL PULSE PLASMA GENERATOR, A.R. Olszyna, Faculty of Materials Science & Engineering, Warsaw University of Technology, Wolowska 141, 02-507 Warsaw, Poland and J. Bodzenta, Institute of Physics, Silesian Technical University, Krzywoustego 2, 44-100 Gliwice, Poland
- O/P21** ENHANCEMENT OF POLYCRYSTALLINE SILICON THIN FILM PROPERTIES BY COMBINED THERMAL AND LASER ANNEALING, P. delli Veneri, M.L. Addonizio, A. Imparato, C. Privato, ENEA-CR Portici, Via Vecchio Macello, 80055 Portici, Italy
- O/P22** VACUUM ARC DEPOSITION OF PROTECTIVE LAYERS ON GLASS AND POLYMER SUBSTRATES, B.B. Strauma^(1,2), N.F. Vershinin⁽²⁾, A. Cantarero Saez⁽³⁾, M. Friesel⁽⁴⁾, P. Carrion⁽⁵⁾, W. Gust⁽¹⁾; ⁽¹⁾Institut fuer Metallkunde, Seestr. 92, 70174 Stuttgart, Germany, ⁽²⁾I.V.T. Ltd. (Institute for Vacuum Technology), P.O.Box 47, 109180 Moscow, Russia; ⁽³⁾Institut de Ciència de Materials, Universitat de Valencia, P.O.Box 22085, 46071 Valencia, Spain, ⁽⁴⁾SIMS Laboratory, Chalmers University of Technology, Fysikgraend 3, 41296 Gothenburg, Sweden, ⁽⁵⁾EAE (European Associates for Environment), via don Minzoni 17, Gradisca d'Is. (GO) 34072, Italy
- O/P23** TWO - STAGE VACUUM THERMAL PROCESS OF POLY-Si FILMS ON GLASS DEPOSITION, V.A. Krasnov, Inst. of Semicond. Phys., Ukrainian Acad. Sci., Kherson Depart., POBox 76, 73008 Kherson, Ukraine
- O/P24** EFFECTIVE DOPING OF a-Si:H AND a-Si:H:P FILMS USING EXCIMER LASER TREATMENTS, M.D. Efremov, V.A. Volodin, L.I. Fedina, S.A. Kochubei, O.K. Shabanova, Institute of Semiconductor Physics SB RAS, pr.Lavrentjeva 13, Novosibirsk 630090, Russia, V.V. Bolotov, Institute of Sensor Microelectronics SB RAS, pr.Mira 55a, Omsk 644077, Russia
- O/P25** METASTABLE CRYSTALLINE STATE INDUCED IN AMORPHOUS SiGe LAYERS UNDER cw VISIBLE LASER ILLUMINATION, E. Martín⁽¹⁾, P. Martín⁽¹⁾, J. Olivares⁽²⁾, A. Rodríguez⁽²⁾, J. Sangrador⁽²⁾, J. Jimenez⁽¹⁾, T. Rodríguez⁽²⁾, ⁽¹⁾E.T.S.I.I. U. Valladolid, Valladolid, Spain.; ⁽²⁾E.T.S.I.T.-U.P.M., Madrid, Spain
- O/P26** NUCLEATION IN a-Si:H FILMS DURING PULSE EXCIMER LASER TREATMENTS: NUMERICAL SIMULATION AND EXPERIMENT, M.D. Efremov, D.I. Bragin, V.A. Volodin, L.I. Fedina, S.A. Kochubei, Institute of Semiconductor Physics SB RAS, pr.Lavrentjeva 13, Novosibirsk 630090, Russia, V.V. Bolotov, Institute of Sensor Microelectronics SB RAS, pr.Mira 55a, Omsk 644077, Russia
- O/P27** MULTILAYER STRUCTURES INDUCED BY PLASMA AND LASER BEAM TREATMENTS ON a-Si-H AND a-SiC:H THIN FILMS, M. Dinescu⁽¹⁾, A. Ferrari⁽²⁾, M. Balucani⁽²⁾, G. Lamedica⁽²⁾, G. Dinescu⁽¹⁾, R. Dinu⁽¹⁾, B. Mitu⁽¹⁾, ⁽¹⁾IFA, NILPRP, Bucharest, Romania, ⁽²⁾INFN, Unit E6, University "La Sapienza", Rome, Italy,
- O/P28** IN SITU MEASUREMENT OF THE CRYSTALLIZATION OF AMORPHOUS SILICON IN A VERTICAL FURNACE USING SPECTROSCOPIC ELLIPSOMETRY, P. Petrik, T. Lohner, M. Fried, J. Gyulai, Research Institute for Technical Physics and Materials Science, 1525 Budapest, P.O.B. 49, Hungary, W. Lehnert, C. Schneider, Fraunhofer-Institut für Integrierte Schaltungen, Schottkystrasse 10, 91058 Erlangen, Germany, H. Ryssel, Lehrstuhl fuer Elektronische Bauelemente, Friedrich-Alexander Universitt Erlangen-Nuernberg, Cauerstrasse 6, 91058 Erlangen, Germany and Fraunhofer-Institut für Integrierte Schaltungen, Schottkystrasse 10, 91058 Erlangen, Germany
- O/P29** UV-ASSISTED NICKEL-INDUCED CRYSTALLIZATION OF AMORPHOUS SILICON, A. Khakifirooz, S. Mohajezadeh and S. Haji, Electrical and Computer Eng. Dept., University of Tehran, Iran

- O/P30** INFLUENCE OF THE PROCESS PARAMETERS ON STRUCTURAL AND ELECTRICAL PROPERTIES OF RF MAGNETRON SPUTTERING ITO FILMS, I. Baia, CEMOP-UNINOVA, B. Fernandes, M. Quintela and R. Martins, FCT-UNL, Quinta da Torre, 2825-114 Monte de Caparica, Portugal
- O/P31** PHOTOLUMINESCENCE STUDY OF AMORPHOUS SILICON DEPOSITED FROM $\text{SiF}_4\text{-SiH}_4$ R.F. PLASMAS, G. Perna⁽¹⁾, L. Schiavulli⁽¹⁾, V. Capozzi⁽¹⁾, G. Cicala⁽²⁾, P. Capezzuto⁽²⁾ and G. Bruno⁽²⁾; ⁽¹⁾Dipartimento di Fisica dell'Universita di Bari and Istituto Nazionale di Fisica della Materia, Via Amendola 173, 70126 Bari, Italy; ⁽²⁾Centro di Studi per la Chimica dei Plasmi del CNR, Dipartimento di Chimica Universita di Bari, Via Orabona 4, 70126 Bari, Italy
- O/P32** FREE CARRIER OPTICAL ABSORPTION USED TO ANALYZE ELECTRICAL PROPERTIES OF POLYCRYSTALLINE SILICON FILMS FORMED BY PLASMA ENHANCED CHEMICAL VAPOR DEPOSITION, T. Watanabe⁽¹⁾, T. Sameshima⁽¹⁾, K. Nakahata⁽²⁾, T. Kamiya⁽²⁾ and I. Shimizu⁽²⁾, ⁽¹⁾Tokyo University of Agriculture and Technology 2-24-16 Naka-machi, Koganei-city, Tokyo 184-8588, Japan; ⁽²⁾Tokyo Institute of Technology, 4259 Nagatsuta, Midori-ku, Yokohama, Japan
- O/P33** PHOTOELECTRICAL PROPERTIES OF MICROCRYSTALLINE SILICON FILMS, P.A. Forsh, A.G. Kazanskii, Moscow State University, Faculty of Physics, Vorobyevy gory, 119899 Moscow, Russia, H. Mell, Philipps Universitet Marburg, Renthof 5, 3500 Marburg, Germany and E.I. Terukov, A.F.Ioffe Institute, Politechnicheskaya 26, 194021 St.Petersburg, Russia
- O/P34** MICROSTRUCTURAL AND OPTICAL PROPERTIES OF AS-DEPOSITED LPCVD SILICON FILMS, M. Modreanu⁽¹⁾, N. Tomozeiu⁽²⁾, M. Gartner⁽³⁾ and P. Cosmin⁽⁴⁾; ⁽¹⁾National Institute for R&D in Microtechnologies, PO Box 38-160, Bucharest, Romania; ⁽²⁾Faculty of Physics, University of Bucharest, PO Box 11 Mg, 5600, Bucharest, Romania; ⁽³⁾Institute of Physical Chemistry "I.G.Murgulescu", Spl.Independentei 202, 77208 Bucharest, Romania; ⁽⁴⁾Catalyst Semiconductor, 2231 Calle de Luna, Santa Clara CA 95054, USA
- O/P35** OPTOELECTRONIC STUDIES IN NANOCRYSTALLINE SILICON SCHOTTKY DIODES OBTAINED BY HOT-WIRE CHEMICAL VAPOUR DEPOSITION, C. Vož, D. Soler, M. Fonrodona, J. Bertomeu, J.M. Asensi and J. Andreu, Universitat de Barcelona, Departament de Fisica Aplicada i Optica, Av. Diagonal 647, 08028 Barcelona, Spain
- O/P36** NEW FEATURE OF THE PHOTOCONDUCTIVITY IN P-TYPE a-Si:H: INDEPENDENCE ON DOPING LEVEL AND DEFECT CONCENTRATION, S.V. Kuznetsov, Moscow State University, Faculty of Physics, Vorobyevy gory, 119899 Moscow, Russia
- O/P37** HYDROGEN INTERACTION ON METAL/HYDROGENATED AMORPHOUS SILICON SCHOTTKY STRUCTURES ADSORPTION / DESORPTION EFFECTS, K. Laihem, R. Cherfi and M. Aoucher, Laboratoire des Couches Minces et des Semiconducteurs, Institut de Physique USTHB, BP 32 El Alia, 16111 Bab-Ezzouar, Alger, Algeria
- O/P38** IR AND UV-VIS SPECTROMETRY INVESTIGATION ON OXYNITRIDE THIN FILMS AND $\text{SiO}_2/\text{Si}_3\text{N}_4$ MULTILAYER STRUCTURE, M. Modreanu and M. Bercu, National Institute for Research and Development in Microtechnologies P.O.Box 38-160, Bucharest, Romania, Faculty of Physics, University of Bucharest, P.O.Box MG- 11, Bucharest, Romania
- O/P39** OPTICAL AND ELECTRICAL PROPERTIES OF SILICON NANOCRYSTALS FORMED BY CW LASER IRRADIATION OF AMORPHOUS SILICON OXIDES, M.C. Rossi, S. Salvatori, G. Conte, Dip. Ingegneria Elettronica, Universita di Roma Tre, V. Vasca Navale 84, 00146 Roma, Italy
- O/P40** DETECTION OF BOTTOM DEPLETION LAYER AND ITS INFLUENCE ON SURFACE PHOTOVOLTAGE MEASUREMENT IN $\mu\text{c-Si:H}$, V. Svrcek, I. Pelant, J. Kocka Institute of Physics, Academy of Sciences of the Czech Republic, Cukrovarnicka 10, 162 53 Praha 6, Czech Republic
- O/P41** FAST AND CHEAP METHOD TO QUALITATIVELY MEASURE THE THICKNESS AND UNIFORMITY OF THIN FILMS, H. Aguas, R. Martins, L. Mendes and E. Fortunato, Departamento de Ciencias dos Materiais, and CEMOP /UNINOVA, Faculdade de Ciencias e Tecnologia, Universidade Nova de Lisboa, Portugal

- O/P42** THE INTERFACE STATES EFFECT ON THE METAL/POLYSILICON/OXIDE/SILICON STRUCTURE, H. Dib⁽¹⁾, Z. Benamara⁽¹⁾, B. Zebentout⁽¹⁾, F. Raoult⁽²⁾, ⁽¹⁾Laboratoire de Micro-Electronique Appliquée, N°8 rue Saad Ibn Ravie Ceté Beni Ammeur, Sidi Bel Abbès 22000, Algeria, ⁽²⁾Groupe de Microélectronique et de Visualisation, CCMO URA CNRS 1648, Université de Rennes 1, Campus de Beaulieu, 35042 Rennes Cedex, France
- O/P43** TRANSPORT PROPERTIES OF UNDOPED MICROCRYSTALLINE SILICON THIN FILMS, F. Liu, Y. Fong, M. Zhu, Y. Cao, Y. Han and J. Liu, Graduate School, University. Of Science and Technology of China and Laboratory of Semiconductors Materials Science, Chinese Academy of Science, PO Box 3908, 100039 Beijing, China, F. Finger, Forschungszentrum Julich, ISI-PV, 52425 Julich, Germany
- O/P44** RECOMBINATION AT HIGH CHARGE CARRIER CONCENTRATIONS IN a-Si:H FILMS, F. Wunsch, S. von Aichberger and M. Kunst, Hahn Meitner Institut, Glienicker Strasse 100, 14109 Berlin, Germany
- O/P45** AMORPHOUS SI ON HIGHLY STRUCTURED COLUMNAR ZNO SUBSTRATES, R. Könenkamp, M. Poschenrieder and M. Lux-Steiner, HMI Berlin, Glienicker Str. 100, 14109 Berlin, Germany; F. Zenia and C. Levy-Clement, LCMTR/CNRS, Rue Henri Dunant, 94320 Thiais, France; A. Payne and S. Wagner, Princeton University, Princeton, USA
- O/P46** INFLUENCE OF THE POST TREATMENT ON THE PROPERTIES OF ZnO THIN FILMS, P. Nunes⁽¹⁾, E. Fortunato⁽¹⁾, P.Vilarinho⁽²⁾, R. Martins⁽¹⁾, ⁽¹⁾CENIMAT, Department of Materials Science, Faculty of Sciences and Technology, New University of Lisbon and CEMOP-UNINOVA, 2825-114 Caparica, Portugal, ⁽²⁾Department of Ceramics and Glass Engineering/ UIMC, University of Aveiro, 3810-193 Aveiro, Portugal
- O/P47** DRY ETCHING CHARACTERISTICS OF ITO THIN FILMS DEPOSITED ON PET(POLYETHYLENE-TEREPHTALATE), Y.J. Lee, J.W. Bae, J.S. Kim, H.R. Han, and G.Y. Yeom, Dept. of Materials Engineering, Sungkyunkwan University, Suwon 440-746, Korea, K.H. Oh, Agency for Technology and Standards, Kwachon 427-010, Korea
- O/P48** ZnO THIN FILMS ON SEMICONDUCTOR SUBSTRATES FOR LARGE AREA PHOTODETECTION APPLICATIONS, M. Purica⁽¹⁾, E. Budianu⁽¹⁾, E. Rusu⁽²⁾, ⁽¹⁾National Institute for Research and Development in Microtechnologies , PO Box. 38-160, 72225 Bucharest, Romania, ⁽²⁾Institute of Applied Physics, 2028 Chisinau, Republic of Moldova
- O/P49** Mo-CAPPED Al-Nd ALLOY FOR BOTH GATE AND DATA BUS LINES OF LIQUID CRYSTAL DISPLAYS, Toshiaki Arai, Atsuya Makita, Yasunobu Hiromasu, and Hiroshi Takatsuji, IBM Yamato Laboratory, 1623-14 Shimo-tsuruma, Yamato-shi, Kanagawa 242-8502, Japan
- O/P50** THIN-FILM MICROFABRICATION OF GOLD MICROELECTRODES TRANSDUCERS FUNCTIONALISED WITH THIACLIX[4]ARENE LAYER: APPLICATIONS OF COPPER ION SENSOR, M. Ben Ali^(1,2), M.Lemiti⁽³⁾, N.Jaffrezic-Renault⁽¹⁾, C.Martelet⁽¹⁾, D.Barbier⁽³⁾, H.Ben Ouada⁽¹⁾, ⁽¹⁾Ingénierie et Fonctionnalisation des Surfaces, UMR CNRS 5621, Ecole Centrale de Lyon, BP 163, 69131 Ecully Cedex, France, ⁽²⁾Laboratoire de Physique des Interfaces, Faculté des Sciences de Monastir, Monastir 5000, Tunisia, ⁽³⁾Laboratoire de Physique de la Matière, INSA de Lyon, 20 avenue Albert Einstein, 69621 Villeurbanne Cedex, France
- O/P51** SILICIDATION IN CHROMIUM-AMORPHOUS SILICON MULTILAYER FILMS, A. Bouabellou, R. Halimi, K. Mirouh, R. Labbani, R. Djebien, Département et Unité de Recherche de Physique, Université Mentouri, 25000 Constantine, Algérie and A. Mosser, IPCMS-GSI, 23 rue du Loess, 67037 Strasbourg, France
- O/P52** INVESTIGATION OF CHARGE STATE MODIFICATION OF MOS STRUCTURE AFTER ARC PLASMA JET TREATMENT BY CONTROLLED CURRENT STRESS TECHNIQUE, V.V.Andreev, Bauman Moscow State Technical University, Kaluga Branch 4, Bazhenov St., Kaluga 248600, Russia; V.M. Maslovsky, Zelenograd Research Physical Problems Institute, Moscow 103460, Russia; A.A. Stolyarov, Bauman Moscow State Technical University, Kaluga Branch 4, Bazhenov St., Kaluga 248600, Russia

- O/P53** ELECTRICAL PROPERTIES OF GRAINS AND GRAIN BOUNDARIES IN LARGE GRAIN POLYSILICON THIN-FILM TRANSISTORS (TFTs), F.V. Farmakis, J. Brini, G. Kamarinos, LPCS/ENSERG, 23 rue des Martyrs, BP 257, 38016 Grenoble Cedex 1, France, C.T. Angelis, C.A. Dimitriadis, Department of Physics, University of Thessaloniki, 54006 Thessaloniki, Greece and M. Miyasaka, Seiko Epson Corporation, Base Technology Research Center, Owa 3-3-5, Suwa, Nagano 392, Japan
- O/P54** STABILITY OF UNHYDROGENATED POLYSILICON TFT'S AND STRUCTURAL QUALITY OF THE CHANNEL MATERIAL, A. Rahal⁽¹⁾, K. Mourgues⁽¹⁾, Y. Helen⁽¹⁾, B. Tala-Ighil⁽²⁾, A. Toutah⁽²⁾, J.F. Llibre⁽²⁾, T. Mohammed-Brahim^(1,2); ⁽¹⁾GMV, UPRESA au CNRS 6076, Université Rennes I, Campus de Beaulieu, 35042 Rennes Cedex, France; ⁽²⁾Site Universitaire, LUSAC, BP78, 50130 Octeville, France
- O/P55** GRAIN BOUNDARY TRAP PASSIVATION IN POLYSILICON THIN FILM TRANSISTOR INVESTIGATED BY LOW FREQUENCY NOISE, A. Mercha⁽¹⁾, L. Pichon⁽¹⁾, R. Carin⁽¹⁾, K. Mourgues⁽²⁾, O. Bonnaud⁽²⁾, ⁽¹⁾GREYC UPRESA 6072, ISMRA-Université de Caen, France, ⁽²⁾GMV, UPRESA 6076, Université de Rennes I, France
- O/P56** ANALYSIS OF BIAS STRESS ON THIN-FILM TRANSISTORS OBTAINED BY HOT-WIRE CHEMICAL VAPOUR DEPOSITION, J. Puigdollers, A. Orpella, C. Voz, R. Alcubilla, Dept. Enginyeria Electronica, UPC-Barcelona, Spain, D. Dosev, L.F. Marsal, J. Pallares, Dept. Enginyeria Electronica, URV-Tarragona, Spain, D. Soler, M. Fonrodona, J. Bertomeu, J. Andreu, Dept. Fisica Aplicada i Optica, UB-Barcelona, Spain
- O/P57** A STUDY ON THE ETCHING CHARACTERISTICS OF Al-Nd GATE ELECTRODE FOR TFT-LCD USING MAGNETISED INDUCTIVELY COUPLED PLASMAS (MICP), Y.J. Lee, H.R. Han and G.Y. Yeom, Dept. of Materials Engineering, Sungkyunkwan University, Suwon 440-746, Korea
- O/P59** STRUCTURAL AND ELECTRICAL PROPERTIES OF THE THIN METAL FILM USED AS TOP ELECTRODE IN MIS GAS SENSORS, T. Gorbanyuk, A.A. Evtukh, V. Litovchenko, R. Marchenko, Institute of Semiconductor Physics, 45 Prospekt Nauki, Kiev 03028, Ukraine
- O/P60** PRODUCTION AND CHARACTERIZATION OF LARGE AREA FLEXIBLE THIN FILM POSITION SENSITIVE DETECTORS, E. Fortunato, D. Brida, I. Ferreira, F. Giuliani, R. Martins, Materials Science Department, CENIMAT, Faculty of Sciences and Technology of New University of Lisbon, Quinta da Torre, 2825-114 Caparica, Portugal
- O/P61** ELECTRONIC DEFECTS IN FLEXIBLE POSITION SENSORS, F. Giuliani, D. Brida, E. Fortunato, I. Ferreira, R. Martins, Material Science Department, CENIMAT, Faculty of Science and Technology of the New University of Lisbon, Quinta da Torre, 2825-114 Caparica, Portugal
- O/P62** EXTRACTION OF SOLAR CELL PARAMETERS FROM THE EBIC SIMULATION, M. Derras^(1,2), A. Kadoun⁽²⁾, ⁽¹⁾Institut d'Electronique, USTHB, BP 32, El Alia, 16111 Bab Ezzouar, G.G. Alger, Algeria, ⁽²⁾Laboratoire de Microscopie Electronique, Université Djillali Liabès de Sidi Bel Abbès, BP 89, Larbi Ben M'Hidi, 22000 Sidi Bel Abbès, Algeria
- O/P63** STUDY AND OPTIMISATION OF OUT-PUT PARAMETERS IN POLY-Si(N⁺)/C-Si(P) SOLAR CELL: A COMPUTER SIMULATION ANALYSIS, B. Zebentout⁽¹⁾, H. Schil⁽¹⁾, Z. Benamara⁽¹⁾, H. Dib⁽¹⁾, T.M. Brahim⁽²⁾, A. Messaoud⁽³⁾ and O. Bonnaud⁽²⁾, ⁽¹⁾AMEL, Djillali Liabès University, Sidi Bel Abbès 22000, Algeria, ⁽²⁾GMV, University of Rennes 1, 35042 Rennes Cedex, France, ⁽³⁾UDTS, 2 b F. Fanon, BP 399, Alger Gare, Algeria
- O/P64** INFLUENCE OF THE BAND OFFSET ON THE PERFORMANCE OF PHOTODEVICE BASED ON THE c-Si/a-Si:H HETEROSTRUCTURE, A. Fantoni^(1,2), Yu. Vygramenko⁽²⁾, M. Vieira⁽¹⁾, ⁽¹⁾ISEL, Rua Conselheiro Emidio Navarro, 1900 Lisboa, Portugal, ⁽²⁾FCT-UNL, Quinta da Torre, 2825 Monte de Caparica, Portugal
- O/P65** DESIGN OF AND PHOTOELECTRON TRANSMISSION THROUGH CASCADE-LIKE HYBRID ORGANIC/INORGANIC FILMS CONTAINING CdS QUANTUM PARTICLES, M. Berfeld⁽¹⁾, A. Samokhvalov⁽²⁾, R. Naaman⁽²⁾ and M. Lahav⁽¹⁾, ⁽¹⁾Department of Material and Interfaces, ⁽²⁾Department of Chemical Physics, Weizmann Institute of Science, Rehovot 76100, Israel

- O/P66** ELECTRONIC PROPERTIES OF THIN CUPROUS OXIDE SHEET PREPARED BY INFRARED LIGHT IRRADIATION, Teruo Suehiro, Tomomi Sasaki and Yukio Hiratate, Tohoku Institute of Technology, Sendai, Japan
- O/P67** THE GREEN PHOSPHOR FOR ELECTROLUMINESCENT AND FIELD EMISSION DISPLAYS, V. Bondar, S. Popovich, V. Davydov, Yu. Dubov, Lviv National University, Department of Physics, 50 Dragomanov Str., 79005 Lviv, Ukraine, J. Wager, Department of Electrical and Computer Engineering, Oregon State University, Corvallis OR 97331-3211, USA
- O/P68** MANUFACTURING OF SURFACE MICROMACHINED STRUCTURES FOR CHEMICAL SENSORS, C. Moldovan⁽¹⁾, Byong-Hak Kim⁽²⁾, S. Raible⁽²⁾; ⁽¹⁾National Institute for Research and Development in Microtechnologies, Bucharest, Romania; ⁽²⁾Institute of Applied Physics, Tuebingen, Germany
- O/P69** APPLICATION OF Pd ELECTROLESS PLATING FOR LARGE AREA METAL-INDUCED CRYSTALLIZATION OF AMORPHOUS SILICON THIN FILMS, Chin-Hung Lin, Jin-Hua Hwang, Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu 300, Taiwan, R.O.C., Ying-Chia Chen, Chi-Wei Chao, Yew-Chung Sermon Wu, I-Chung Tung and Ming-Shiann Feng, Department of Materials Science and Engineering, National Chiao Tung University, Hsinchu 300, Taiwan, R.O.C.
- O/P70** OBTAINING OF LARGE AREA THIN-FILM MONOCRYSTALLINE $Al_xGa_{1-x}As$ -GaAs HETEROSTRUCTURES ON NOT ORIENTING SUBSTRATES, A. Kucheruk, V. Kurak, Y. Danilets, A. Maronchuk, Department of Physical Electronics, Kherson State Technical University, 24 Berislavskoye Shosse, 73008 Kherson, Ukraine
- O/P71** POROUS SILICON A TRANSDUCER MATERIAL FOR HIGH SENSITIVE (BIO)CHEMICAL SENSOR: EFFECT OF A POROSITY, PORES MORPHOLOGIES AND A LARGE SURFACE AREA ON SENSITIVITY OF THE SENSOR, S. Zairi, N.Jaffrezic-Renault, Ecole Centrale de Lyon, France
- O/P72** TRANSFER OF A THIN POROUS SILICON LAYER ON FOREIGN SUBSTRATE, C.S. Solanki, R.Bilyalov and J.Poortmans, IMEC vzw, Kapeldreef 75, 3001 Leuven, Belgium
- O/P73** A TEM INVESTIGATION INTO THE EXCIMER-LASER CRYSTALLIZATION OF AMORPHOUS Si FILMS, F.C. Voogt, P.Ch. van der Wilt, R. Ishihara, DIMES/ECTM, Delft University of Technology, The Netherlands and F.D. Tichelaar, Dept. of Materials Science, Delft University of Technology, The Netherlands
- O/P74** MAGNETOIMPEDANCE EFFECT AND MAGNETIC PROPERTIES IN MUMETAL THIN FILMS, Wan-Shik Cho, Tae-Sick Yoon, Heebok Lee*, Chong-Oh Kim, Division of Material Eng., Chungnam Natl. Univ., Taejon 305-764, Korea, *Department of Physics Education, Kongju Natl. Univ., Korea

Thursday June 1, 2000

Jeudi 1er juin 2000

Morning

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Session VI - Amorphous and microcrystalline silicon devices

Chairperson: B. Equer

- O-VI.1** 8:30 **Invited** STABILITY OF PLASMA DEPOSITED THIN FILM TRANSISTORS - COMPARISON OF AMORPHOUS AND MICROCRYSTALLINE SILICON, **R.B. Wehrspohn**, S.C. Deane, I.D. French and M.J. Powell, Philips Research Laboratories, Redhill, Surrey RH1 5HA, UK
- O-VI.2** 9:00 DYNAMICS OF METASTABLE DEFECTS IN a-Si:H THIN FILM TRANSISTORS, **A.R. Meticaru**, A.J. Mouthaan, Twente University EL, Postbus 217, 7500 AE Enschede, The Netherlands
- O-VI.3** 9:20 HOT-WIRE AMORPHOUS SILICON FOR HIGH QUALITY THIN-FILM TRANSISTORS, **B. Stannowski** and R. E. I. Schropp, Utrecht University, Debye Institute, Interface Physics, P.O.Box 80000, 3508 TA Utrecht, The Netherlands
- O-VI.4** 9:40 SILICON THIN FILM SOLAR CELLS DEPOSITED BELOW 80°C, **M. Ito**^(1,2), C. Koch⁽¹⁾, M. B. Schubert⁽¹⁾ and J. H. Werner⁽¹⁾, ⁽¹⁾Institut für Physikalische Elektronik, Universität Stuttgart, Pfaffenwaldring 47, 70569 Stuttgart, Germany, ⁽²⁾Toppan Printing Co., Ltd. 4-2-3 Takanodai-Minami Sugito Kitakatsushika, Saitama, Japan
- O-VI.5** 10:00 **Invited** REQUIREMENTS ON AMORPHOUS SEMICONDUCTORS FOR MEDICAL X-RAY DETECTORS, **M. Hoheisel**, L. Bätz, Siemens AG, Medical Engineering Group, Basic Research and Development, Henkestr. 127, 91052 Erlangen, Germany
- 10-30 **BREAK**

Session VII - PolySilicon TFTs

Chairperson: D. Pribat

- O-VII.1** 11:00 **Invited** LASER PROCESSING OF AMORPHOUS SILICON FOR LARGE AREA POLYSILICON ELECTRONICS, **J.B. Boyce**, R. Fulks, J. Ho, J.P. Lu, P. Mei, R.A. Street and Y. Wang, Xerox Palo Alto Research Center, Palo Alto CA 94304, USA
- O-VII.2** 11:30 HIGH MOBILITY THIN FILM TRANSISTORS BY Nd:YVO4-LASER CRYSTALLIZATION, **Y. Helen**⁽¹⁾, R. Dassow⁽²⁾, K. Mourgues⁽¹⁾, F. Raoult⁽¹⁾, J. R. Köhler⁽²⁾, T. Mohammed-Brahim⁽¹⁾, R. Rogel⁽¹⁾, O. Bonnaud⁽¹⁾, J.H. Werner⁽²⁾; ⁽¹⁾GMV Université Rennes I, Campus de Beaulieu, 35042 Rennes Cedex, France; ⁽²⁾Institut für Physikalische Elektronik, Universität Stuttgart, 70569 Stuttgart, Germany
- O-VII.3** 11:50 LOW-FREQUENCY EXCESS NOISE INDUCED BY HOT CARRIER INJECTION IN POLYSILICON THIN-FILM TRANSISTORS, A. Bove, S. Giovannini, A. Valletta, **L. Mariucci**, A. Pecora and G. Fortunato, IESS-CNR, Via Cineto Romano 42, 00156 Rome, Italy
- O-VII.4** 12:10 HYDROGENATION IN LASER ANNEALED POLYSILICON THIN-FILM TRANSISTORS (TFTs), **F.V. Farmakis**, J. Brini, G. Kamarinos, LPCS/ENSERG, 23 rue des Martyrs, BP 257, 38016 Grenoble Cedex 1 France, C.A. Dimitriadis, Department of Physics, University of Thessaloniki, 54006 Thessaloniki, Greece and M. Miyasaka, Seiko Epson Corporation, Base Technology Research Center, Owa 3-3-5, Suwa, Nagano 392, Japan
- 12:30 **LUNCH**

Thursday June 1, 2000

Jeudi 1er juin 2000

Afternoon

Après-Midi

Session VIII - Amorphous silicon and alloy deposition

Chairperson: I. Shimizu

- O-VIII.1** 14:00 **Invited** PLASMA AND a-Si:H FILM GROWTH PROCESSES STUDIED IN A REMOTE SiH₄ PLASMA, **W.M.M. Kessels**, D.C. Schram and M.C.M. van de Sanden, Dept. of Applied Physics, Eindhoven University of Technology, P.O. Box 513, 5600 MB Eindhoven, The Netherlands
- O-VIII.2** 14:30 SEEDING LIGHT ON THE GROWTH OF POLYMORPHOUS, PROTOCRYSTALLINE AND MICROCRYSTALLINE SILICON THIN FILMS, **A.Fontcuberta i Morral**, P. Roca i Cabarocas, LPICM Ecole Polytechnique, 91128 Palaiseau Cedex, France
- O-VIII.3** 14:50 ROLE OF ION BOMBARDMENT AND PLASMA IMPEDANCE IN THE INCORPORATION OF NANOPARTICLES IN a-Si:H FILMS, **R. Martins**, I. Ferreira, V. Silva, H. Aguas, E. Fortunato, CEMOP-UNINOVA and CENIMAT, FCTUNL, Quinta da Torre, 2825-114 Caparica, Portugal
- O-VIII.4** 15:10 GROWTH AND CHARACTERIZATION OF SiC LAYERS OBTAINED BY MICROWAVE CVD TECHNIQUE, **P. Mandracci**, G. Cicero, S. Ferrero, F. Giorgis, C. F. Pirri, INFN UdR Politecnico di Torino; R. Reitano, P. Musumeci, L. Calcagno, G. Foti, INFN UdR Università di Catania; G. Barucca, INFN UdR Università di Ancona, L. Meda, Istituto Donegani Eni Ricerche Novara, Italy
- O-VIII.5** 15:30 **Invited** LOW TEMPERATURE GROWTH OF SILICON NITRIDE BY ELECTRON CYCLOTRON RESONANCE PLASMA ENHANCED CHEMICAL VAPOUR DEPOSITION, **A.J. Flewitt**, A.P. Dyson, J. Robertson and W.I. Milne, Engineering Department, Cambridge University, Trumpington Street, Cambridge CB2 1PZ, UK
- 16:00 **BREAK**

Session IX - Materials for field emission and other thin-films

Chairperson: J. Robertson

- O-IX.1** 16:30 DLC DOPED FILMS FOR FIELD EMISSION DISPLAYS (OPTIMIZED TECHNOLOGY), **V.G. Litovchenko**, A.A. Evtukh, N.I. Klyui, Yu. M. Litvin, Institute of Semiconductor Physics, 45 Prospekt Nauki, Kiev 252650, Ukraine
- O-IX.2** 16:50 FIELD EMISSION FROM CARBON NANOTUBES GROWN BY LAYER-BY-LAYER DEPOSITION METHOD USING PLASMA CHEMICAL VAPOR DEPOSITION, **Suk Jae Chung**, **Sung Hoon Lim** and **Jing Jang**, Department of Physics, Kyung Hee Univ., Dongdaemoon-ku, Seoul 130-701, Korea
- O-IX.3** 17:10 CARBON NANO- AND μM- STRUCTURES IN FIELD EMISSION: ENVIRONMENTAL STABILITY AND FIELD ENHANCEMENT DISTRIBUTION, **L. O. Nilsson**, O. Groening, P. Groening, L. Schlapbach, Institute of Physics Pérolles, 1700 Fribourg, Switzerland
- O-IX.4** 17:30 REQUIREMENTS OF CARBON COATINGS FOR MAGNETIC STORAGE TECHNOLOGY, **J. Robertson**, NA Morrison, Engineering Dept, Cambridge University, Cambridge CB2 1PZ, UK
- O-IX.5** 17:50 LOW VOLTAGE ELECTRON BEAM EXCITEMENT LUMINESCENCE OF OXIDE THIN FILMS WITH MULTILAYERED STRUCTURE, **Hiroshi Yamamoto**, Hidekazu Isogai, and Yukio Yoshida, College of Sci. & Technol., Nihon University, Chiba, Japan

- O-IX.6** 18:10 STRUCTURAL AND ELECTRICAL PROPERTIES OF ZnO FILMS PREPARED BY SCREEN PRINTING TECHNIQUE, B. Ismail, M. Abaab and B. Rezig, Photovoltaic and Semiconductor Materials Laboratory, ENIT, BP 37, Le Bélvédère 1002, Tunisia
- O-IX.7** 18:30 NANOSCALE MATRIX FIELD EMISSION STRUCTURES BASED ON ALUMINIUM AND NIOBIUM ANODIC OXIDES, G.G. Gorokh, V.F. Surganov, Laboratory Of Nanotechnology, Belorussian State University of Informatics and Radioelectronics, Brovka str. 6, 220600 Minsk, Belarus

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