



E-MRS Spring Meeting 2001
June 5 - 8, 2001

SYMPOSIUM F

**Amorphous and Crystalline Silicon Carbide:
Material & Applications**

Symposium Organizers:

Lucia Calcagno, University of Catania, Italy
Anders Hallén, KTH Electrum, Kista, Sweden
Rodrigo Martins, CEMOP/UNINOVA, Lisbon, Portugal
Wolfgang Skorupa, FZ Rossendorf, Dresden, Germany

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Papers will be published in Applied Surface Science

E-MRS 2001 SPRING MEETING

SYMPOSIUM F

Tuesday, June 5, 2001
Mardi 5 juin 2001

Morning
Matin

09.00

OPENING REMARKS

L. Calcagno, Univ. Catania, Italy

Session I: GROWTH

Session Chair: J. Robertson, Univ. Cambridge, UK

- F-I.1** 09:10 -Invited- AMORPHOUS SILICON-CARBON ALLOYS: A PROMISING BUT COMPLEX AND VERY DIVERSIFIED SERIES OF MATERIALS, **I. Solomon**, Ecole Polytechnique, Laboratoire P.M.C., UMR 7643-CNRS, 91128 Palaiseau cedex, France
- F-I.2** 09:40 -Invited- SILICON CARBIDE ALLOYS AND CARBIDE FILMS PRODUCED BY HOT WIRE, HOT WIRE PLASMA ASSISTED AND PLASMA ENHANCED CVD TECHNIQUES, **I. Ferreira**, V. Silva, E. Fortunato and R. Martins CENIMAT, Departamento de Ciencias dos Materiais da Faculdade de Ciencias e Tecnologia da Universidade Nova de Lisboa and CEMOP-UNINOVA, Quinta da Torre, 2825-114 Caparica, Portugal
- F-I.3** 10:10 MBE GROWTH AND PROPERTIES OF SiC MULTI QUANTUM WELL STRUCTURES, A. Fissel(a), U. Kaiser(a), B. Schröter(a), W. Richter(a), F. Bechstedt(b), (a)Institut für Festkörperphysik, Max-Wien-Platz 1, (b)Institut für Festkörpertheorie und Theoretische Optik, Fröbelstieg 1, Friedrich-Schiller-
- F-I.4** 10:25 GROWTH OF MICROPIPE-FREE EPITAXIAL LAYERS OF SILICON CARBIDE USING CHEMICAL VAPOR DEPOSITION, A.O. Konstantinov, ACREO AB, Electrum-236, 16440 Kista, Sweden
- 10:40 **BREAK**

Session Chair: R. Martins, New University Lisbona, Portugal

- F-I.5** 11:00 -Invited- SILICON CARBIDE: FROM AMORPHOUS TO CRYSTALLINE MATERIAL, **G. Foti**, Dipartimento di Fisica, Universita di Catania, Corso Italia 57, 95129 Catania, Italy
- F-I.6** 11:30 -Invited- GROWTH OF SILICON CARBIDE: PROCESS RELATED DEFECTS, **R. Yakimova**, M. Syväjärvi, T. Iakimov, H. Jacobsson, A. Kakanakova-Georgieva and E. Janzén, Department of Physics and Measurement Technology, Linköping University, 58183
- F-I.7** 12:00 HETERO-EPITAXY OF 3C-SiC BY ELECTRON CYCLOTRON RESONANCE CVD TECHNIQUE, **P. Mandracci**, A. Chiodoni, G. Cicero, S. Ferrero, F. Giorgis, C.F. Pirri, INFN and Physics Dept., Polytechnic of Torino, C.so Duca degli Abruzzi 24, 10129 Torino, Italy, G. Barucca, INFN and Materials Science Dept., University of Ancona, Via Breccie Bianche, 60131 Ancona, Italy, L. Calcagno, G. Foti, P. Musumeci, R. Reitano, INFN and Physics Dept., University of Catania, C.so Italia 57, 95129 Catania, Italy
- F-I.8** 12:15 SiC BULK CRYSTAL GROWTH TECHNOLOGY: ISSUES OF SUBSTRATE QUALITY AND PROCESS SIMULATION, **D. Hofmann**, M. Bickermann, B. Epelbaum, T. Straubinger, R. Weingaertner, P. Wellmann, A. Winnacker, Department of Materials Science 6, University of Erlangen-Nuernberg, Martensstr. 7, 91058 Erlangen, Germany and L. Kadinski, M. Selder, Institute of Fluid Mechanics, University of Erlangen-Nuernberg, cauerstr. 4, 91058 Erlangen, Germany
- F-I.9** 12:30 HOW TO GROW HIGH QUALITY CUBIC SiC BY APCVD USING HMDS AS PRECURSOR SOURCE, **P. Aboughé-Nzé**(a), G. Ferro(a), Y. Monteil(a), J. Camasel(b), Y. Stoemenos(c) and L. Smith(d), (a)Laboratoire des Multimatériaux et Interfaces, Université Claude Bernard, 43 boulevard du 11 Novembre, 69622 Villeurbanne cedex, France, (b)Groupe d'Etude des Semiconducteurs (CNRS), cc074, Université Montpellier 2, 34095 Montpellier cedex 5, France, (c)EPICHEM Ltd, Power Road, Bromborough, Wirral, Merseyside L62 3QF, UK, (d)Physics Department, Aristote University of Thessaloniki, 54006 Thessaloniki, Greece
- 12:45 **LUNCH**

Tuesday, June 5, 2001
Mardi 5 juin 2001

Afternoon
Après-Midi

Session II: CHARACTERIZATION
Session Chair: G. Foti, Univ. Catania, Italy

- F-II.1** 14:30 -Invited- ELECTRONIC PROPERTIES OF AMORPHOUS SILICON CARBIDE, **J. Robertson**, Engineering Dept, Cambridge University, Cambridge CB2 1PZ, UK
- F-II.2** 15:00 EFFECTS OF SHORT-RANG DISORDER UPON ELECTRONIC PROPERTIES OF a-SiC ALLOYS, V.I. Ivashchenko and V.I. Shevchenko, IPMS, NAS of Ukraine, Krzhyzhanovsky str. 3, 03680 Kyiv, Ukraine
- F-II.3** 15:15 TRANSPORT MECHANISM IN HIGH RESISTIVE SILICON CARBIDE HETEROSTRUCTURES, P. Louro, R. Schwarz, Yu. Vygranenko, M. Fernandes and M. Vieira, ISEL, Lisbon, Portugal; M. Schubert, IPE, Universitat Stuttgart, Germany
- F-II.4** 15:30 ELLIPSOMETRIC SPECTROSCOPY ANALYSIS OF NANOCRYSTALLINE SILICON CARBIDE DEPOSITED AT LOW TEMPERATURE, S. Kerdiles, R. Madelon, R. Rizk, LERMAT, Unité CNRS 6004, 6 Bd Maréchal Juin, 14050 Caen cedex, France
- F-II.5** 15:45 LUMINESCENCE INVESTIGATIONS AT THIN SiO₂ LAYERS AFTER Si- AND C-COIMPLANTATION, L. Rebohle, T. Gebel, J. Zhao, W. Skorupa, Institute of Ion Beam Physics and Material Research, Forschungszentrum Rossendorf, POB 510119, 01314 Dresden, Germany, H. Fröb, Institute of Applied Photophysics, Technical University Dresden, Germany
- 16:00 **BREAK**

Session Chair: F. Pirri, Politecnico Torino, Italy

- F-II.6** 16:30 STRUCTURAL AND ELECTRICAL CHARACTERISATION OF NICKEL CONTACTS ON N-TYPE 6H-SiC, F. Roccaforte, L. Calcagno and P. Musumeci, INFN and Dipartimento di Fisica e Astronomia, corso Italia 57, 95129 Catania, Italy, F. La Via, CNR-IMETEM, Stradale Primosole 50, 95121 Catania, Italy
- F-II.7** 16:45 COMPOSITION ANALYSIS OF SiO₂/SiC INTERFACES BY ELECTRON SPECTROSCOPIC MEASUREMENTS USING SLOPE SHAPED OXIDE FILMS, Y. Hijikata, H. Yaguchi, M. Yoshikawa* and S. Yoshida, Dept. Electric & Electronic Systems Engineering, Saitama Univ., 255 Shimo-okubo, Urawa-shi, Saitama 338-8570, Japan, *JAERI, Takasaki, Japan
- F-II.8** 17:00 CHARACTERIZATION OF SINGLE-CRYSTAL SiC POLYTYPES USING X-RAY PHOTOELECTRON AND AUGER ELECTRON SPECTROSCOPY, J.T. Wolan(a), A. Gopalkrishna(a), B.A. Grayson(a), M.K. Graves(b) and S.E. Saddow(c), (a)Department of Chemical Engineering and Center for Microelectronics Research, University of South Florida, Tampa FL, USA, (b)Dave C. Swalm School of Chemical Engineering, Mississippi State University, Mississippi State MS, USA, (c)Emerging Materials Laboratory, Mississippi State University, Mississippi State, MS, USA
- F-II.9** 17:15 DEFECTIVE STATES ANALYSIS IN SILICON CARBIDE, A. Castaldini(a), A. Cavallini(a), L. Polenta(a), F. Nava(b), C. Canali(c) and C. Lanzieri(d), (a)INFN and Dipartimento di Fisica, Bologna, Italy, (b)INFN and Dipartimento di Fisica, Modena, Italy, (c)INFN and Dipartimento di Scienze dell'Ingegneria, Modena, Italy, (d)ALLENIA-MARCONI System, Roma, Italy
- F-II.10** 17:30 LOW-TEMPERATURE PHOTOLUMINESCENCE AND RAMAN SPECTRA OF BULK p-TYPE 6H-SiC, T. Maurice(a,b), J. Camassel(b), H.W. Kunert(a), L.C. Prinsloo(c), D.J. Brink(a), and J.B. Malherbe(a), (a)Department of Physics, University of Pretoria, Pretoria 0002, South Africa, (b)GES, cc074 UM2-CNRS, 34095 Montpellier cedex 5, France, (c)Department of Chemistry, University of Pretoria, Pretoria 0002, South Africa
- F-II.11** 17:45 A MONTE CARLO STUDY OF THE LOW FIELD TRANSPORT IN Al DOPED 4H-SiC SAMPLES, A. Martinez, Royal Institute of Technology (KTH), Dept of Solid State Electronics, Electrum 229, 16440 Stockholm, Sweden, M. Hjelm, Mid-Sweden University, 85170 Sundsvall, Sweden, U. Lindefelt, ABB Corporate Research, 72178 Västerås, Sweden. Royal Institute of Technology (KTH), Dept of Solid State Electronics, Electrum 229, 16440 Stockholm, Sweden, H.-E. Nilsson, Mid-Sweden University, 85170 Sundsvall, Sweden.

Wednesday, June 6, 2001
Mercredi 6 juin 2001

Afternoon
Après-Midi

Session III: DEVICES

Session Chair: A. Hallén, KTH Kista, Sweden

- F-III.1** 14:00 -Invited- PROGRESS TOWARDS SiC PRODUCTS, **C.I. Harris**, S. Savage, A. Konstantinov, M. Bakowski, P.Ericsson, ACREO AB, Sweden
- F-III.2** 14:30 INTERFACE STATE DENSITY AND CHANNEL MOBILITY FOR 4H SiC MOSFETs WITH NITROGEN PASSIVATION, **G.Y. Chung(a)**, C.C. Tin(b), J.R. Williams(b), K. McDonald(c), R.K. Chanana(c), R.A. Weller(d), S.T. Pantelides(c,e), L.C. Feldman(c,e) and O.W. Holland(f), (a)Sterling Semiconductor Inc., Sterling VA 20166, USA, (b)Physics Department, Auburn University, AL 36849,USA, (c)Department of Physics and Astronomy, Vanderbilt University, Nashville TN 37235,USA, (d)Department of Electrical Engineering and Computer Science, Vanderbilt University, Nashville TN 37235,USA, (e)Also at Oak Ridge National Laboratory, Oak Ridge TN 37831,USA, (f)Solid State Division, Oak Ridge National Laboratory, Oak Ridge TN 37831, USA
- F-III.3** 14:45 EXPERIMENTAL CHARACTERIZATION OF A 4H-SiC HIGH VOLTAGE CURRENT LIMITING DEVICE, **F. Nallet(a)**, D. Planson(a), P. Godignon(b), M.L. Locatelli(a), M. Lazar(a), J.P. Chante(a), (a)Centre de Génie Electrique de Lyon (CEGELY), UMR N° 5005, Insa de Lyon, bât. Léonard de Vinci, 20 av. A. Einstein, 69621 Villeurbanne Cedex, France, (b)CNM, Campus Universidade Autonoma de Barcelona, 08193 Bellaterra, Barcelona, Spain
- F-III.4** 15:00 READOUT IMPROVEMENT IN LARGE AREA a-SiC:H BASED IMAGE SENSORS, **M. Fernandes**, Yu. Vygranenko, N. Leite and M. Vieira. Electronics and Communication Dept., ISEL, R. Cons. Emídio Navarro, 1949-014 Lisbon, Portugal
- F-III.5** 15:15 W AND MO SCHOTTKY DIODES WITH DIFFERENT EDGE TERMINATIONS, **R.Weiß**, L. Frey and H.Ryssel, IIS-B Fraunhofer Institute Integrated Circuits, Device Technology, Schottkystr 10, 91054 Erlangen, Germany
- F-III.6** 15:30 ELECTRICAL CHARACTERISTICS OF N-3C-SiC/P-6H-SiC HETEROJUNCTIONS, GROWN BY SUBLIMATION EPITAXY ON 6H-SiC SUBSTRATES, **A.A. Lebedev**, A.M. Strelchuk, D.V. Davydov, N.S. Savkina, E.V. Bogdanova, A.N. Kuznetsov, A.F.Ioffe Physico-Tekhnical Inst., Polytekhnichaskaja 26, 194021 St.-Petersburg, Russia
- F-III.7** 15:45 HIGH QUALITY CRYSTALLINE SiC APPLICATIONS IN RADIATION DOSIMETRY AND UV PHOTODETECTION, **S. Sciortino(a)**, E. Borchi(a), M. Bruzzi (a), F. Nava(b), S. Pini(a), S. Russo(c), P. Vanni(b), (a)Dipartimento di Energetica, Via S. Marta 3, 50139 Firenze, Italy and INFN Firenze, Italy, (b)Dipartimento di Fisica, Via Campi 213/A, 41100 Modena, Italy and INFN Bologna, Italy, (c)Azienda Ospedaliera Careggi, Sezione di Fisica Medica, Viale Morgagni 84, Firenze, Italy and INFN Firenze, Italy
- 16:00 **BREAK**
- 16:30 – 18:30 **Poster Session**

Poster Session 1 Growth and Characterisation

Chairpersons: L. Calcagno and R. Martins

- F/P1.01** SiC(100) ORDERED FILMS GROWTH BY C60 DECOMPOSITION ON Si(100) SURFACES, M. Pedio, A. Pesci, P. Moras, L. Ferrari, M. Capozzi, ISM-CNR Sede Distaccata di Trieste, Basovizza (Trieste), Italy, S.N. Jha, Spectroscopy Division, BARC, Mumbai-400 085, India, R. Verucchi, L. Aversa, CeFSA-CNR, Povo (Trento), Italy
- F/P1.02** SURFACE PREPARATION OF 4H-SiC (0001) SUBSTRATES FOR HOT-WALL CVD OF SiC-LAYERS, G. Wagner, J. Doerschel Institute of Crystal Growth, Max-Born-Str. 2, 12489 Berlin, Germany
- F/P1.03** MASS SPECTROSCOPY DIAGNOSTIC DURING THE DEPOSITION OF a-SiC:H AND a-C:H FILMS PRODUCED BY HOT WIRE AND HOT WIRE PLASMA ASSISTED TECHNIQUES, L. Ferreira, V. Silva, E. Fortunato and R. Martins CENIMAT, Departamento de Ciencias dos Materiais da Faculdade de Ciencias e Tecnologia da Universidade Nova de Lisboa and CEMOP-UNINOVA, Quinta da Torre, 2825-114 Campus de Caparica, Portugal
- F/P1.04** GROWTH CHEMISTRY OF SiC ALLOYS FROM SiF₄-CH₄ PLASMAS, G. Cicala, P. Capezzuto and G. Bruno, Centro di Studio per la Chimica dei Plasmi, Dipartimento di Chimica, Università di Bari, Via Orabona 4, 70126 Bari, Italy
- F/P1.05** GROWTH OF SiC EPITAXIAL LAYERS ON POROUS SURFACES WITH DIFFERENT POROUS PROCESSING, M.C.D. Smith(a), M. Mynbaeva(b), V. Dmitriev(c), C.E.C. Wood(d) and S.E. Saddow(a),(a)Emerging Materials Research Laboratory, Dept. of ECE, Mississippi State MS 39762, USA, (b)Ioffe Institute and Crystal Growth Research Center, St. Petersburg 194021, Russia (c)TDI, Inc., Gaithersburg MD 20877, USA, (d)Office of Naval Research, 800 N. Quincy St., Arlington VA 22217, USA
- F/P1.06** ELECTRICAL CHARACTERIZATION OF SiC/Si HETEROSTRUCTURES WITH Ge MODIFIED INTERFACES, J. Pezoldt, Ch. Förster, TU Ilmenau, Institut fuer Festkoerperelektronik, Postfach 100565, 98684 Ilmenau, Germany, P. Masri, Université Montpellier II, Groupe d'Etude des Semiconducteurs, 12 Place Eugène Bataillon, 34095 Montpellier Cedex 05, France
- F/P1.07** PVT GROWING AND DOPING BULK SiC CRYSTALS, S.F. Avramenko(a), V.Ya. Bratus'(b), V.S. Kiselev(a), B.N. Romanyuk(b), M.Ya. Skorokhod(a), M.Ya. Valakh(b), V.A. Yukhymchuk(b), (a)Special Design-and Engineering Bureau of the Institute of Semiconductor Physics, NAS of Ukraine, (b)Institute of Semiconductor Physics, NAS of Ukraine, Prospect Nauky 45, 03028 Kyiv, Ukraine
- F/P1.08** ON THE PREPARATION OF SEMIINSULATING SiC BULK CRYSTALS BY THE PVT TECHNIQUE, M. Bickermann, D. Hofmann, T.L. Straubinger, R. Weingärtner, P.J. Wellmann, A. Winnacker, Department of Materials Science 6, University of Erlangen-Nürnberg, Martensstr. 7, 91058 Erlangen, Germany
- F/P1.09** SiC AMORPHOUS FILMS ON AlN CERAMICS BY VACUUM, SUBLIMATION, V.A. Krasnov, Inst. of Semicond. Phys., Ukrainian Acad. Sci., Kherson Depart., PO Box 76, 73008 Kherson, Ukraine
- F/P1.10** HREELS AND UPS STUDY OF C₂H₂ ADSORPTION AND REACTION ON Si(111)-(7x7) AS A FUNCTION OF TEMPERATURE, V. De Renzi, R. Biagi and U. del Pennino, Istituto Nazionale per la Fisica della Materia, Dipartimento di Fisica and Università di Modena e Reggio Emilia, via G. Campi 213/A, 41100 Modena, Italy

- F/P1.11** NOVEL HOT-WALL PLANETARY REACTOR® FOR THE CVD GROWTH OF LARGE AREA SiC, F. Wischmeyer(a), J. Käppeler(b), R. Berge(a), J.-O. Fornell(a), H. Juergensen(b), (a)EPIGRESS AB, Ideon Science & Technology Park, 22370 Lund, Sweden, (b) AIXTRON AG, Kackerstr. 15-17, 52072 Aachen, Germany
- F/P1.12** THE FORMATION OF INTERMEDIATE SiC AND SiCN LAYERS AT THE INTERFACE BETWEEN a-Si:H, a-SiC:H and a-C:H, CN_x THIN FILMS, B. Mitu(a), G. Dinescu(a), E. Budianu(b), A. Ferrari(c), M. Balucani(c), G. Lamedica(c), M. Dinescu(a), (a)National Institute for Laser, Plasma and Radiation Physics, PO Box MG-16 Magurele, Bucharest 76900, Romania, (b)Institute for Microtechnologies, Bucharest, Romania, (c) INFN, Unit E6, University "La Sapienza", Rome, Italy
- F/P1.13** CORRELATION BETWEEN THE CARBON AND HYDROGEN CONTENTS WITH THE GAS SPECIES AND THE PLASMA IMPEDANCE OF a-Si_x:C_{1-x}:H FILMS PRODUCED BY PECVD TECHNIQUE, R. Martins, H. Aguas, A. Cabrita, V. Silva, I. Ferreira and E. Fortunato, Materials Science Department, Faculty of Science and Technology, New University of Lisbon and CEMOP-UNINOVA, Quinta da Torre, 2825-114 Caparica, Portugal
- F/P1.14** GROWTH MODEL OF SILICON CARBIDE FILMS PRODUCED BY HOT-WIRE AND HOT-WIRE PLASMA ASSISTED TECHNIQUES, R. Martins, I. Ferreira and E. Fortunato, Materials Science Department, Faculty of Science and Technology, New University of Lisbon and CEMOP-UNINOVA, Quinta da Torre, 2825-114 Monte de Caparica, Portugal
- F/P1.15** CORRELATIONS BETWEEN PROPERTIES AND APPLICATIONS OF THE CVD AMORPHOUS SILICON CARBIDE FILMS, I. Kleps and A. Angelescu, National Institute for Research and Development in Microtechnologies (IMT-Bucharest) P.O.Box 38-160, Bucharest, Romania
- F/P1.16** INITIAL STAGES OF SiC GROWTH ON Si(001) FROM FIRST PRINCIPLES, G. Cicero, INFN and Polytecnico of Torino, Corso Duca degli Abruzzi 24, 10129 Torino, Italy, A. Catellani, CNR-MASPEC, Parco Area delle Scienze, 43010 Parma, Italy
- F/P1.17** LASER CVD OF CUBIC β-SiC NANOCRYSTALS, Y. Kamlag(a,b), I. Colbeck(b), A. Goossens(a), and J. Schoonman(a), (a)University of Essex, Aerosol Science, Wivenhoe Park, Colchester CO43SQ, UK, (b)Delft University of Technology, Inorganic Chemistry, Julianalaan 136, 2628 BL Delft, The Netherlands
- F/P1.18** STRUCTURAL RELATION BETWEEN Si AND SiC FORMED BY CARBON ION IMPLANTATION, F. Eichhorn, R. Kögler, A. Mücklich, N. Schell, W. Matz, Forschungszentrum Rossendorf, Institute of Ion Beam Physics and Materials Research, P.O.B. 510119, 01314 Dresden, Germany
- F/P1.19** CRYSTALLISATION MECHANISM OF AMORPHOUS SILICON CARBIDE, P. Musumeci, L. Calcagno, F. Roccaforte, C. Bongiorno*, INFN and Dipartimento di Fisica, Corso Itali 57, Catania, *CNR-IMETEM, Stradale Primosole 50, 95121 Catania, Italy
- F/P1.20** PECULARITIES OF PREPARING a-SiC: H FILMS FROM METHYLTRICHLOROSILANE, G.V. Rusakov, L.A. Ivashchenko, V.I. Ivashchenko and O.K. Porada, IPMS, NAS of Ukraine, Krzhyzhanovsky str. 3, 03680 Kyiv, Ukraine
- F/P1.21** CHARACTERIZATION OF HOMOEPITAXIAL 4H-SiC LAYERS BY X-RAY DIFFRACTION TECHNIQUES, W. Leitenberger, G. Wagner, Institute for Crystal Growth, Max-Born-Str. 2, 12489 Berlin, Germany
- F/P1.22** NON-RUTHERFORD BACKSCATTERING STUDIES OF SiC/SIMOX STRUCTURES, K.W. Chen(a), Y.H. Yu(a,b), Y.M. Lei(a), L.L. Cheng(a), B. Sundaraval(b), E.Z. Luo(b), S.P. Wong(b), I.H. Wilson(b), (a)Ion Beam Laboratory, Shanghai Institute of Metallurgy, Chinese Academy of Sciences, 865 Changning Road, Shanghai 200050, China, (b)Department of Electronic Engineering, the Chinese University of Hong Kong, Shatin NT, Hong Kong

- F/P1.23** DOPANT PROFILE MEASUREMENTS IN ION IMPLANTED 6H-SiC BY SCANNING CAPACITANCE MICROSCOPY, V. Raineri and F. Giannazzo, CNR-IMETEM, Stradale Primosole 50, 95121 Catania, Italy, F. Roccaforte, L. Calcagno and P. Musumeci, INFM and Dipartimento di Fisica e Astronomia, corso Italia 57, 95129 Catania, Italy.
- F/P1.24** LUMINESCENCE PROPERTIES OF AMORPHOUS SILICON CARBIDE FILMS, F. Giorgis, S. Ferrero, P. Mandracci, C.F. Pirri, INFM and Physics Department, Polytechnic of Torino, C.so Duca degli Abruzzi 24, 10129 Torino, Italy
- F/P1.25** REVERSIBLE EFFECTS IN ELECTRICAL CONDUCTIVITY OF a-SiC:H, R. Murri, N. Pinto, C. Pasquali, INFM-Dipartimento di Matematica e Fisica, Università di Camerino, Via Madonna delle Carceri, 62032 Camerino, Italy, G. Ambrosone, U. Coscia, INFM-Dipartimento di Scienze Fisiche, Università di Napoli, Via Cintia, 80125 Napoli, Italy and P. Musto, CNR, Arco Felice, Italy
- F/P1.26** PARTICLE AND LIGHT INDUCED LUMINESCENCE DEGRADATION IN a-SiC:H, R. Reitano, A. Baeri, G. Foti Dipartimento di Fisica, Università di Catania and INFM, Italy
- F/P1.27** VISIBLE PHOTOLUMINESCENCE FROM a-SiC:H THIN FILMS DOPED WITH Tb, M. Nikolaeva(a), M. Sendova-Vassileva(a), D. Dimova-Malinovska(a), J.C. Pivin(b), (a)Central Laboratory for Solar Energy, Bulgarian Academy of Sciences, 72 Tzarigradsko Chaussee, 1784 Sofia, Bulgaria, (b)CSNSM, IN2P3-CNRS, Batiment 108, 91405 Orsay Campus, France
- F/P1.28** A NEW APPROACH TO THERMAL ADMITTANCE SPECTROSCOPY DATA ANALYSIS, A.V. Los and M.S. Mazzola, Department of Electrical and Computer Engineering, Mississippi State University, USA
- F/P1.29** FULL BAND MONTE CARLO STUDY OF BULK AND SURFACE TRANSPORT PROPERTIES IN 4H- AND 6H-SiC, M. Hjelm, K. Bertilsson, H.-E. Nilsson, Department of Information Technology and Media, Mid-Sweden Univ., Sundsvall, Sweden
- F/P1.30** NUMERICAL STUDY OF BLOCH ELECTRON DYNAMICS IN WIDE BAND-GAP SEMICONDUCTORS, H.-E. Nilsson, Department of Information Technology and Media, Mid-Sweden Univ., Sundsvall, Sweden; A. Martinez, Department of Electronics, Kungl. Tekniska Högskolan, Kista, Sweden; U. Sannemo, Dept. of Science and Technology, Linköping University, Norrköping, Sweden
- F/P1.31** NON-DESTRUCTIVE QUANTITATIVE DETERMINATION OF DOPING LEVELS IN SiC USING OPTICAL ABSORPTION MEASUREMENTS, P.J. Wellmann, R. Weingärtner, M. Bickermann, D. Hofmann, T.L. Straubinger and A. Winnacker; Materials Department 6, University of Erlangen, Martensstr. 7, 91058 Erlangen, Germany
- F/P1.32** STRUCTURAL AND OPTICAL PROPERTIES OF a-Si_{1-x}C_x:H GROWN BY PLASMA ENHANCED-CVD, S. Ferrero, F. Giorgis, P. Mandracci, C.F. Pirri Dipartimento di Fisica ed Unita INFM del Politecnico di Torino, C.so Duca degli Abruzzi 24, 10129 Torino, Italy, G. Ambrosone, U. Coscia Dipartimento di Scienze Fisiche ed Unita INFM dell' Università Federico II di Napoli Via Cinzia, 80125 Napoli, Italy
- F/P1.33** ISOTOPIC DISORDER IN RAMAN LINEWIDTH OF 3C-SiC, A. Debernardi, INFM, Strada Costiera 11, Trieste, Italy; IPCMS-GEMM, 23, rue du Loess, Strasbourg, France
- F/P1.34** GROWTH AND CHARACTERIZATION OF THREE-DIMENSIONAL SiC NANOSTRUCTURES ON SILICON, V. Cimalla, K. Zekentes, FO.R.T.H. - MRG, P.O. Box 1527, Heraklion 71110, Crete, Greece
- F/P1.35** PECULIARITIES OF THE FUNDAMENTAL BAND EDGE ABSORPTION IN 4H-SiC DETERMINED BY INJECTED FREE-CARRIER PROFILES, P. Grivickas, A. Galeckas, J. Linnros, Solid State Electronics, Royal Institute of Technology, Electrum 229, 64 140 Sweden, V. Grivickas, V. Bikbajevs, Institute of Materials Science and Applied Research, Vilnius University, Sauletekio 10, 2054 Vilnius, Lithuania

- F/P1.36** PHOTOLUMINESCENCE OF DIAMOND-LIKE CARBON AND WIDE BAND-GAP SILICON-CARBON ALLOYS, C. Summonte, E. Centurioni, R. Rizzoli, CNR-LAMEL, via Gobetti 101, 40129 Bologna, Italy, G. Ruani, CNR-ISM, via Gobetti, 101, 40129 Bologna, Italy, A. Desalvo, DICASM, Bologna University, Italy
- F/P1.37** PECULIARITIES OF ELECTRICAL CHARGE TRANSPORT IN (a)SiC-Si HETEROSTRUCTURES AND PLASMA TREATMENT, A.N. Nazarov, Ya.N. Vovk, A.S. Tkachenko, Inst. of Semiconductor Physics, NASU, Kyiv, Ukraine, T.N. Nazarova, Technical University "KPI", Kyiv, Ukraine, S. Ashok, Department of Engineering Science, The Pennsylvania State University, University Park, USA
- F/P1.38** OPTICAL AND TRANSPORT PROPERTIES OF LASER TREATED a-SiC:H THIN FILMS, G. Ambrosone, U. Coscia, P. Maddalena, INFN - Dipartimento di Scienze Fisiche, Complesso Universitario Monte S. Angelo, Via Cintia, 80125 Napoli, Italy and G. Conte, INFN - Dipartimento di Ingegneria Elettronica, Università degli Studi "Roma Tre", Via Vasca Navale, 84, 00146 Roma, Italy
- F/P1.39** SPREADING RESISTANCE MEASUREMENTS AT NANO-CRYSTALLINE SiC PRODUCED BY ION BEAM INDUCED CRYSTALLIZATION, K.N. Madhusoodanan, V. Heera, D. Panknin and W. Skorupa, Forschungszentrum Rossendorf, 01314 Dresden, POB 510119, Germany
- F/P1.40** MINISPARK METHOD OF SILICON CARBIDE CHARACTERISATION, A.V.Shturbin, I.E. Titkov, St.Petersburg State Technical University, 195251 St.Petersburg, Russia Department of Semiconductor Physics and Nanoelectronics, and R.F.Witman, A.F.Ioffe Physico-Technical Institute RAS, 194021 St.Petersburg, Russia
- F/P1.41** CHARACTERIZATION OF UNIAXIAL OPTICAL PROPERTIES OF 6H, 8H, 15R AND 21R SILICON CARBIDE USING FTIR AND UV-VISIBLE ELLIPSOMETRY, M. Kildemo, F. Hansteen and O. Hunderi, Applied Optics/Surface Physics, Department of Physics, NTNU, 7394 Nordheim, Norway
- F/P1.42** PLAUSIBLE INTERPRETATION OF OPTICAL ABSORPTION SPECTRA OF a-SiC:H THIN FILMS, V.I. Ivashchenko, G.V. Rusakov, V.I. Shevchenko, A.S. Klymenko, L.A. Ivashchenko and V.M. Popov, IPMS, NAS of Ukraine, Krzhyzhanovsky str. 3, 03680 Kyiv, Ukraine
- F/P1.43** CHARACTERIZATION OF CRYSTALLINE-AMORPHOUS TRANSITION BY HEAVY C DOPING OF POLY-Si (Si:C), Y. Yamamoto, O. Fursenko, K. Köpke, J. Bauer, E. Bugiel, D. Krüger, P. Zaumseil and B. Tillack, IHP, Im Technologiepark 25, 15236 Frankfurt (Oder), Germany
- F/P1.44** TIGHT BINDING MODELING OF BAND OFFSETS OF AlN/SiC, GaN/SiC HETEROJUNCTIONS, Hilmi Ünlü, Istanbul Technical University, Department of Physics Maslak 80626 Istanbul, Turkey

Thursday, June 7, 2001
Jeudi 7 juin 2001

Morning
Matin

Session IV: DEFECTS

Session Chair: V. Heera, FZ Rossendorf, Germany

- F-IV.1** 09:00 -Invited- VACANCY-RELATED DEFECTS IN ION-BEAM AND ELECTRON IRRADIATED 6H-SiC, **V.Ya.Bratus'**, T.T. Petrenko, Institute of Semiconductor Physics, NASU, 45 Prospect Nauky, 03028 Kyiv, Ukraine, H.J. von Bardeleben, GPS, Universités Paris 6&7, 2 Place Jussieu, 75251 Paris, France, E.V. Kalinina, A.F.Ioffe Institute, RAS, Polytekhn. str. 26, St. Petersburg 194021, Russia and A. Hallén, KTH, Dept. of Sol. St. Electronics, Electrum 229, 164 40 Kista, Sweden
- F-IV.2** 09:30 ELECTRON IRRADIATION INDUCED DEFECTS IN MONOCRYSTALLINE 4H- and 6H-SiC: THE INFLUENCE OF THE ELECTRON ENERGY, H.J. von Bardeleben, J.L. Cantin, GPS, University Paris 6&7, 2 place Jussieu, 75005 Paris, France
- F-IV.3** 09:45 BEHAVIOR OF RESIDUAL IMPURITIES IN THICK 4H-SiC EPITAXIAL LAYERS, A. Kakanakova-Georgieva, R. Yakimova, M. Syväjärvi, E. Janzén, Department of Physics and Measurement Technology, Linköping University, 58183 Linköping, Sweden
- F-IV.4** 10:00 ION-BEAM-INDUCED DEFECT EVOLUTION IN SiC INVESTIGATED BY CHANNELING IMPLANTATION AT DIFFERENT TEMPERATURES, DOSES AND DOSE RATES, M. Posselt, L. Bischoff, and J. Teichert, Forschungszentrum Rossendorf, Institute of Ion Beam Physics and Materials Research, P.O.Box 510119, 01314 Dresden, Germany, A. Ster, Research Institute for Technical Physics and Materials Science, P.O.Box 49, 1525 Budapest, Hungary
- F-IV.5** 10:15 HYDROGENATION OF Si-SiC(001) FROM FIRST-PRINCIPLES, L. Pizzagalli, Laboratoire de Metallurgie Physique, Univ. Poitiers, 86960 Futuroscope Cedex, France and A. Catellani, CNR-MASPEC, Parco Area delle Scienze, 43010 Parma, Italy
- 10:30 **BREAK**

Session V: PROCESSING (deposition, oxidation, contacts)

Session Chair: M. Capano, Univ. Purdue, USA

- F-V.1** 11:00 -Invited- CONTACT FORMATION IN SiC DEVICES, **B. Pecz**, Research Institute for Technical Physics and Materials Science, 1525 Budapest, P.O. Box 49, Hungary
- F-V.2** 11:30 OXIDE GROWTH ON SiC (0001) SURFACES, **D. Schmeißer**, R. Mikalo, P. Hoffmann, Brandenburg Technical University of Cottbus, E.-W.-Str. 1, 03044 Cottbus, Germany, Th. Seyller, L. Ley, Institute for Technical physics, University of Erlangen-Nürnberg, E.-Rommel-Str. 1, 91058 Erlangen, Germany, A. Lloyd-Spetz, S-Science and Division of Applied physics, Linköping University, 58183 Linköping, Sweden
- F-V.3** 11:45 SYNTHESIS AND CHARACTERIZATION OF SiC ON Si(111) BY SUPERSONIC C60 BEAMS, L. Aversa(a), R. Verucchi(a), C. Corradi(a), L. Ferrari(b), M. Mazzola(a), P. Moras(b), M. Pedio(b), A. Pesci() and **S. Iannotta**(a), (a)CeFSA Centro CNR-ITC per la Fisica degli Stati Aggregati, Via Sommarive 18, 38050 Povo di Trento, Italy, (b)ISM-CNR, Sede di Trieste, Area Science Park, Basovizza, 34012 Trieste, Italy
- F-V.4** 12:00 LASER CRYSTALLIZATION OF AMORPHOUS SiC THIN FILMS ON GLASS, **S. Urban**, F. Falk, Institut für Physikalische Hochtechnologie e.V., Fröbelstieg 3, 07743 Jena, Germany
- F-V.5** 12:15 NUMERICAL AND EXPERIMENTAL ANALYSIS OF PULSED EXCIMER LASER DOPING OF SILICON CARBIDE, **C. Dutto**, E. Fogarassy and D. Mathiot, Laboratoire CNRS-PHASE (UPR 292), BP 20, 67037 Strasbourg Cedex 2, France
- 12:30 **LUNCH**

Thursday, June 7, 2001
Jeudi 7 juin 2001

Afternoon
Après-Midi

Session VI: PROCESSING (ION IMPLANTATION)
Session Chair: B. Pecz, R.I.T. Budapest, Hungary

- F-VL1** 14:00 -Invited- P-TYPE DOPING OF SiC BY HIGH DOSE Al IMPLANTATION - PROBLEMS AND PROGRESS, **V. Heera**, D. Panknin and W. Skorupa, Forschungszentrum Rossendorf, 01314 Dresden, POB 510119, Germany
- F-VL2** 14:30 INFLUENCE OF ION IMPLANTATION ON THE QUALITY OF 4H-SiC CVD EPITAXIAL LAYERS. **E. Kalinina**, G. Kholujanov, V. Solov'ev, Ioffe Institute, St. Petersburg, 194021 Russia; V. Kossov, R. Yafaev, Electron Optronics, St. Petersburg, 194223, Russia; A. Kovarskii, A. Shchukarev, "Mekhanobr-Analyt" Centre, St. Petersburg, 199026, Russia; S. Obyden, G. Saparin, P. Ivannikov, Department of Physics, Moscow State University, 119899 Moscow; A. Hallén, Royal Inst. of Techn., Dept. of Electronics, Electrum 229, 164 40 Kista, Sweden, A. Konstantinov, Acreo, Electrum 233, 164 40 Kista, Sweden
- F-VL3** 14:40 INVESTIGATION OF Al-IMPLANTED 6H- AND 4H-SiC LAYERS AFTER FAST HEATING RATE ANNEALINGS, **L. Ottaviani**, UMR TECSER, University of Marseille, France, M. Lazar and M.L. Locatelli, UMR CEGELY, INSA de Lyon, France, V. Heera, M. Voelskow and W. Skorupa, FZR, Dresden, Germany
- F-VL4** 15:00 STRUCTURE OF NANOCRYSTALS IN HEXAGONAL SiC AFTER Ge AND Er IMPLANTATION, **U. Kaiser**, Friedrich-Schiller Universität Jena, Institut für Festkörperphysik, Max-Wien-Platz 1, 07743 Jena, Germany, A. Chuvilin, Institut of Catalysis, Lavrentjeva 5, Novosibirsk 90630090, Russia, W.J. Choyke, Dept. of Physics and Astronomy, University of Pittsburgh, Pittsburgh PA 15260, USA
- F-VL5** 15:15 FORMATION OF METAL DISILICIDE LAYERS CONTACTING ION BEAM SYNTHESIZED BURIED 3C-SiC LAYERS IN SILICON, **J.K.N. Lindner**, S. Wenzel, and B. Stritzker, Universität Augsburg, Institut für Physik, 86135 Augsburg, Germany
- F-VL6** 15:30 -Invited- LOW-TEMPERATURE, ION IMPLANTATION PROCESSING FOR SILICON CARBIDE ELECTRONIC DEVICES, **M.A. Capano**, Purdue University, West Lafayette, USA
- 16:00 **CLOSING REMARKS**, W. Skorupa, FZ Rossendorf, Dresden, Germany
- 16:10 **BREAK**
- 16:30 – 18:30 **Poster Session**

Poster Session 2 Defects, Processing and Devices

Chairpersons: W. Skorupa and A. Hallén

- F/P2.01** EVOLUTION OF ION IMPLANTATION CAUSED VACANCY-TYPE DEFECTS IN 6H-SiC PROBED BY SLOW POSITRON IMPLANTATION SPECTROSCOPY, W. Anwand, G. Brauer, P.G. Coleman*, W. Skorupa Inst. für Ionenstrahlphysik und Materialforschung, Forschungszentrum Rossendorf e.V., PF 510119, 01314 Dresden, Germany, *University of Bath Claverton Down, Department of Physics, Bath BA2 7AY, UK
- F/P2.02** THE ROLE OF THE DEFECTS UNDER POROUS SILICON CARBIDE FORMATION, N.S. Savkina, V.B. Shuman, V.V. Ratnikov, Ioffe Phys-Technical Institute, St. Petersburg, Russia
- F/P2.03** HYDROGEN INTERACTION WITH DEFECTS IN SiC: PHOTOLUMINESCENCE INVESTIGATION, Y. Koshka and M.S. Mazzola Mississippi Center for Advanced Semiconductor Prototyping, Mississippi State University MS 39762, USA
- F/P2.04** HYDROGEN-BORON COMPLEX FORMATION AND DISSOCIATION IN 4H SILICON CARBIDE, M.S. Janson, A. Hallén, M.K. Linnarsson, and B.G. Svensson Royal Institute of Technology, Department of Electronics, P.O. Box E229, 164 40 Kista-Stockholm, Sweden
- F/P2.05** NITROGEN PASSIVATION BY IMPLANTATION INDUCED POINT DEFECTS IN 4H-SiC EPITAXIAL LAYERS, D. Aberg, P. Pellegrino, A. Hallén and B.G. Svensson, Dept. of Electronics, Royal Institute of Technology, P.O. Box Electrum 229, 16440 Stockholm, Sweden
- F/P2.06** COMPARATIVE STABILITY OF Si AND C SELF-INTERSTITIALS IN Si⁺ ION IMPLANTED 4H-SiC MEASURED BY CHANNELING RBS, A.Yu. Kuznetsov, A. Hallén, Solid State Electronic, Department of Electronics, Royal Institute of Technology (KTH), Electrum 229, Stockholm-Kista, Sweden, B.G. Svensson, University of Oslo, Physics Department, P.B. 1048 Blindern, 0316 Oslo, Norway, J. Won-Leung and C. Jagadish, Electronic Material Engineering, Research School of Physical Sciences and Engineering, Canberra ACT 0200, Australia
- F/P2.07** LOCATION OF GE INSIDE SiC AFTER ION IMPLANTATION, U. Kaiser(a), K. Scheerschmidt(b), (a)FSU Jena, IFK, Max-Wien-Platz 1, 07743 Jena, Germany, (b)MPI fuer Mikrostrukturphysik Halle, Weinberg 2, 06120 Halle, Germany
- F/P2.08** HIGH-DOSE IMPLANTATION OF B⁺, N⁺ AND C⁺ IN SILICON, L. Barbadillo, M. Cervera, P. Rodriguez, and J. Piqueras Lab. de Microelectronica, Dpto. de Fisica Aplicada, Universidad Autonoma de Madrid, Cantoblanco, 28049 Madrid, Spain S.I. Molina, A. Ponce, F.M. Morales and D. Araujo, Dpto. de Ciencia de los Materiales e Ingenieria Metalirgica y Quimica Inorganica, Universidad de Cadiz, Apdo. 40, 11510 Puerto Real (Cadiz), Spain, M. Avella and J. Jiménez, Dpto. Fisica de la Materia Condensada, ETSII, 47011 Valladolid, Spain
- F/P2.09** DEFECTS FORMATION IN SiC INGOTS INVESTIGATED BY SYNCHROTRON TOPOGRAPHY, E. Pernot(a), P. Pernot-Rejmankova (b), M. Anikin(a), B. Pelissier(a), C. Moulin(c) and R. Madar(a), (a)LMGP, UMR 5628 INPG/CNRS, BP 46, 38402 St Martin D'Hères, France, (b)ESRF, BP 220, 38043 Grenoble, France, (c)LETI-CEA, 38054 Grenoble Cedex 9, France
- F/P2.10** COMPARATIVE EPR STUDY OF HYDROGENATED AND NON-HYDROGENATED AMORPHOUS SILICON CARBIDE THIN FILMS, T. Christidis, M. Tabbal, S. Isber and W. Chmayssani, Dept. of Physics, American University of Beirut, Beirut, Lebanon; M.A. El-Khakani and M. Chaker, INRS-Énergie et Matériaux, Varennes, PQ, Canada
- F/P2.11** SYMMETRY, SPIN STATE AND HYPERFINE PARAMETERS OF THE VACANCIES IN CUBIC SiC, T.T. Petrenko, T.L. Petrenko, V.Ya. Bratus', Institute of Semiconductor Physics NASU, 45 Prospect Nauky, 03028 Kyiv, Ukraine

- F/P2.12** HYDROGEN PASSIVATION OF HEXAGONAL 6H-SiC SURFACES, Th. Seyller, N. Sieber, B. Mantel, J. Ristein, L. Ley, Institut f. Techn. Physik II, Universität Erlangen-Nürnberg, Germany, R. Mikalo, P. Hoffmann, D. Batchelor, D. Schmeißer, Angewandte Physik - Sensorik, BTU Cottbus, Germany
- F/P2.13** ION BEAM SYNTHESIS OF N-TYPE DOPED SiC LAYERS, C. Serre(a), D. Panknin (b), A. Pérez-Rodríguez(a), A. Romano-Rodríguez(a), J.R. Morante(a), R. Kögler(b), W. Skorupa(b), J. Esteve(c) and M.C. Acero(c), (a)Dept.Electronica, Universitat de Barcelona, Spain, (b)Forschungszentrum Rossendorf, Dresden, Germany, (c)Centre Nacional de Microelectronica, CNM-CSIC, Bellaterra, Spain
- F/P2.14** PREPARATION AND CHARACTERIZATION OF SiO₂/6H-SiC MIS STRUCTURE USING TEOS AS SOURCE MATERIAL, D. Kobayashi, S. Okada, Y. Liu, M. Nakao, Y. Onuma and K. Kamimura, Department of Electric and Electronic Engineering, Shinshu University, 4-17-1 Wakasato, Nagano 380-8553, Japan
- F/P2.15** HIGH TEMPERATURE STABLE CONTACTS TO SiC BASED ON TUNGSTEN COMPOUNDS, H. Romanus(a), L. Spieß(a), Ch. Knedlik(a), V. Cimalla(b), D. Panknin(c), W. Skorupa(c), G. Ecke(d), K. Gottfried(e), (a)TU Ilmenau, Institut für Werkstofftechnik, Germany (b)Foundation for Research and Technology Hellas, Greece, (c)Forschungszentrum Rossendorf e.V. – FWIM, Germany (d)TU Ilmenau, Institut für Festkörperelektronik, Germany (e)TU Chemnitz, Zentrum für Mikrotechnologien, Germany
- F/P2.16** WRITING COBALT FIB IMPLANTATION INTO 6H:SiC, L. Bischoff, J. Teichert, Research Center Rossendorf Inc., Institute of Ion Beam Physics and Materials Research, PO Box 510119, 01314 Dresden, Germany
- F/P2.17** FOCUSED ION BEAM SPUTTERING INVESTIGATIONS ON 6H:SiC, L. Bischoff, J. Teichert, V. Heera, Research Center Rossendorf Inc., Institute of Ion Beam Physics and Materials Research, PO Box 510119, 01314 Dresden, Germany
- F/P2.18** p-DOPING OF EPITAXIAL 6H-SiC BY BORON IMPLANTATION: ELECTRICAL AND STRUCTURAL PROPERTIES, D. Panknin, W. Skorupa, Forschungszentrum Rossendorf, Institut für Ionenstrahlphysik und Materialforschung, PO Box 510 119; 01314 Dresden, Germany
- F/P2.19** THE BENEFICIAL ROLE OF FLASH LAMP ANNEALING ON THE EPITAXIAL GROWTH OF 3C-SiC ON Si, D. Panknin(a), J. Stoemenos(b) M. Eickhoff(c), V. Heera(a) and W. Skorupa(a), (a)Forschungszentrum Rossendorf, P.O.B. 510119, 01314 Dresden, Germany, (b)Aristotle University of Thessaloniki, Physics Department, 54006 Thessaloniki, Greece, (c)Daimler Chrysler AG, Department FT2/M, Postfach 800465,81663 München, Germany
- F/P2.20** (AlN)_x(SiC)_{1-x} BURIED LAYERS IMPLANTED IN 6H-SiC: A THEORETICAL STUDY OF THEIR OPTIMIZED COMPOSITION, P. Masri, M. Rouhani Laridjani, M. Averous, Groupe d'Etude des Semiconducteurs, CNRS-UMR 5650, Université Montpellier II, 12 Place E. Bataillon, 34095 Montpellier cedex 5, France and J. Pezoldt, TU Ilmenau, Institut für Festkörperelektronik, Postfach 100565, 98684 Ilmenau, Germany and R.A. Yankov, CCR GmbH, Maarweg 30, 53619 Rheinbreitbach, Germany and W. Skorupa, Forschungszentrum Rossendorf e.V, Institut für Ionenstrahlphysik und Materialforschung, Postfach 510119, 01314 Dresden, Germany
- F/P2.21** CHEMICAL SPUTTERING OF AMORPHOUS SILICON CARBIDE UNDER HYDROGEN BOMBARDMENT, E. Salonen, M. Sirviö, K. Nordlund, J. Keinonen, Accelerator Laboratory, University of Helsinki, Finland, C.H. Wu, MPI für Plasmaphysik, 85748 Garching bei München, Germany
- F/P2.22** RADIATION HARDNESS OF SiC BASED IONS DETECTORS FOR INFLUENCE OF THE RELATIVE PROTONS, A.M. Ivanov, N.B. Strokan, D.V. Davydov, N.S. Savkina, A.A. Lebedev A.F.Ioffe Physico-Tekhnical Inst., Polytekhnichaskaja 26, 194021 St.-Petersburg, Russia, Yu.T. Mironov, G.A. Riabov, E.M. Ivanov, B.P. Konstantinov, St.-Petersburg Institute of Nuclear Physics 188350, Gatchina, Orlova Roscha, Russia

- F/P2.23** MICROWAVE PERFORMANCE OF SiC IMPATT DIODES, K. Vassilevski, A. Lebedev, Ioffe Institute, St.Petersburg 194021, Russian Federation, A. Zorenko, A. Lapchuk, A. Bludov State Enterprise Research Institute "ORION", Kiev 03057, Ukraine
- F/P2.24** ROLE OF THE DENSITY OF STATES IN THE COLOUR SELECTION OF THE COLLECTION SPECTRUM OF AMORPHOUS SILICON BASED SCHOTTKY PHOTODIODES, A. Cabrita, V. Silva, L. Pereira, D. Brida, I. Ferreira, E. Fortunato and R. Martins, University of Lisbon, Portugal
- F/P2.25** PERFORMANCES OF A-Si_x-C_{1-x}:H SCHOTTKY BARRIER AND P.I.N DIODES USED AS POSITION SENSITIVE DETECTORS, A. Cabrita, H. Aguas, I. Ferreira, E. Fortunato, V. Silva and R. Martins, University of Lisbon, Portugal
- F/P2.26** INVESTIGATION OF 4H SiC SCHOTTKY DIODES BY ION BEAM INDUCED CHARGE (IBIC)TECHNIQUE, C. Manfredotti, F. Fizzotti, A. Lo Giudice, C. Paolini and E. Vittone, Experimental Physics Dept., University of Torino, Italy and INFN, National Institute for Matter Physics, UdR Uni-Torino, Italy
- F/P2.27** TRIODE STRUCTURE OF ION DETECTOR, BASED ON 6H-SiC EPITAXIAL FILMS, N.B. Stokan, A.M. Ivanov, D.V. Davydov, N.S. Savkina, E.V. Bogdanova, A.N. Kuznetsov, A.A. Lebedev, A.F. Ioffe Physico-Tekhnical Inst., Polytekhnichaskaja 26, 194021 St-Petersburg, Russia
- F/P2.28** ELECTROPHYSICAL AND PHOTOELECTRICAL PROPERTIES OF UV-RANGE INJECTION STRUCTURES MADE OF SILICON CARBIDE, H.V. Asriyan, F.V. Gasparyan, V.M. Aroutiounian, Department of Physics of Semiconductors, Yerevan State University, 1 Alex Manoukian St., 375049 Yerevan, Armenia, and P.Soukiassian Commissariat à l'Energie Atomique, DSM-DRECAM-SPCSI-SIMA, Bâtiment 462, Centre d'Etudes de Saclay, 91191 Gif-sur-Yvette Cedex, France and Département de Physique, Université de Paris-Sud, 91405 Orsay Cedex, France
- F/P2.29** PHOTOSENSITIVITY OF P-N JUNCTION BASED ON SiC, DOPED WITH DEEP IMPURITY ACCEPTOR LEVELS, V.V. Buniatyan, Dept. of Computer Systems and Informatics, State Engineering University of Armenia, 105 Teryan St., 375009 Yerevan, Armenia, F.V. Gasparyan, V.M. Aroutiounian, Department of Physics of Semiconductors, Yerevan State University, 1 Alex Manoukian St., 375049 Yerevan, Armenia, and P. Soukiassian, Commissariat à l'Energie Atomique, DSM-DRECAM-SPCSI-SIMA, Bâtiment 462, Centre d'Etudes de Saclay, 91191 Gif-sur-Yvette Cedex, France and Département de Physique, Université de Paris-Sud, 91405 Orsay Cedex, France
- F/P2.30** LSP IMAGE SENSORS BASED ON SiC HETEROSTRUCTURES M. Vieira(a), M. Fernandes(a), P. Louro(a), R. Schwarz(a) and M. Schubert(b), (a)Electronics and Communications Dept., ISEL, R. Cons. Emídio Navarro, 1949-014 Lisboa, Portugal, (b)IPE, Universität Stuttgart, Pfaffenwaldring 47, 70569 Stuttgart, Germany
- F/P2.31** SOLAR CELLS ON THE BASE OF NON – UNIFORM DOPED 6H-SiC P-N JUNCTION, F.V.Gasparyan(a), Department of Physics of Semiconductors, Yerevan State University, 1 Alex Manoukian St., 375049 Yerevan, Armenia, V.V. Buniatyan, Dept. of Computer Systems and Informatics, State Engineering University of Armenia, 105 Teryan St., 375009 Yerevan, Armenia, V.M.Aroutiounian(a), and P.Soukiassian, Commissariat à l'Energie Atomique, DSM-DRECAM-SPCSI-SIMA, Bâtiment 462, Centre d'Etudes de Saclay, 91191 Gif-sur-Yvette Cedex, France and Département de Physique, Université de Paris-Sud, 91405 Orsay Cedex, France
- F/P2.32** CALCULATION OF CUTOFF FREQUENCY f_T FOR A MODEL 6H-SiC/3C-SiC FIELD-EFFECT TRANSISTOR, V.M. Polyakov and F. Schwier, Institut für Festkörperelektronik, Technische Universität Ilmenau, 98684 Ilmenau, Germany
- F/P2.33** STUDY OF 6H-SiC HIGH VOLTAGE BIPOLAR DIODES UNDER REVERSE BIASES, K. Isoird, M. Lazar, L. Ottaviani, M.L. Locatelli, C. Raynaud, D. Planson, J.P. Chante, CEGELY (UMR n°5005), INSA de Lyon, 20 Av. A. Einstein, 69621 Villeurbanne cedex, France

F/P2.34 ELECTRICAL CHARACTERIZATION OF SCHOTTKY DIODES FABRICATED ON SiC EPITAXIAL LAYERS GROWN ON POROUS SiC SUBSTRATES, N. Kuznetsov(a), G. Melnychuk(b), S. Sadow(b), M. Mynbaeva(a) and V. Dmitriev(c), (a) Ioffe Physico-Technical Institute and Crystal Growth Research Center, St.-Petersburg 194021, Russia, (b)EMRL, Dept. Of ECE, Mississippi State University, Mississippi 39672-9571, USA, (c)TDI Inc., Gaithersburg Maryland 20877, USA