

XXIX Panhellenic Conference of Solid State Physics and Materials Science  
22-25 September, 2013  
National Center for Scientific Research “Demokritos”

PROGRAM

(Assignments for each poster session can be found at the end of the program)

Sunday, September 22, 2013

17:00-18:20 Registration

18:20-18:30 E. Liarokapis (Chairman of XXIX-PCSSP): Opening remarks

Session S00: Plenary talks	
Session chair: L. Tsetseris	
18:30	(Invited) <b>Two-Dimensional Materials</b> , <i>Socrates T. Pantelides</i> , Department of Physics and Astronomy and Department of Electrical Engineering and Computer Science, Vanderbilt University, Nashville, TN 37235 USA
19:15	(Invited) <b>High-pressure phase transitions of transition metal compounds probed by diffraction and spectroscopy</b> , <i>Karl Syassen</i> , Max-Planck-Institut für Festkörperforschung, 70569 Stuttgart

20:00 General Assembly and Election of Board Members for HSSTCM  
(Hellenic Society for the Science and Technology of Condensed Matter, EETSY)

20:30 Welcome Reception

Monday, September 23, 2013

Session S01: Structural-dynamical and mechanical properties of condensed matter	
Session chairs: K. Syassen, S. Ves	
08:30	<b>(Invited) Dynamic Ramp Compression of Solids to Ultrahigh Pressures</b> , <i>Thomas S. Duffy</i> <sup>1</sup> , <sup>1</sup> Department of Geosciences, Princeton University, Princeton NJ 08544, USA)
9:00	<b>Nanomechanical Response of Silver Doped Amorphous Carbon Films</b> , <i>M. Constantinou</i> <sup>1</sup> , <i>M. Pervolaraki</i> <sup>2</sup> , <i>L. Koutsokeras</i> <sup>1</sup> , <i>P. Patsalas</i> <sup>3</sup> , <i>J. Giapintzakis</i> <sup>2</sup> , <i>G. Constantinides</i> <sup>1</sup> , <sup>1</sup> Research Unit for Nanostructured Materials Systems and Department of Mechanical Engineering and Materials Science and Engineering, Cyprus University of Technology, Limassol, Cyprus, <sup>2</sup> Nanotechnology Research Center and Department of Mechanical and Manufacturing Engineering, University of Cyprus, Nicosia, Cyprus, <sup>3</sup> Department of Physics, Aristotle University of Thessaloniki, Thessaloniki, Greece
9:15	<b>On the role of Icosahedral-like clusters in the solidification and mechanical response of Cu-Zr metallic glasses by Density Functional Theory</b> , <i>G. B. Bokas</i> <sup>1</sup> , <i>G. A. Almyras</i> <sup>2</sup> , <i>A. E. Lagogiannou</i> <sup>2</sup> , <i>Ch. E. Lekka</i> <sup>1</sup> , <i>D. G. Papageorgiou</i> <sup>1</sup> , <i>G. A. Evangelakis</i> <sup>2</sup> , <sup>1</sup> University of Ioannina, Department of Materials Science and Engineering, Ioannina 45100, Greece, <sup>2</sup> University of Ioannina, Department of Physics, Ioannina 45110, Greece
9:30	<b>Mg Based Nanocomposite for Efficient Hydrogen Storage</b> , <i>M. Gjoka</i> <sup>1</sup> , <i>E. Gkanas</i> <sup>1,2</sup> <i>Ioannidou</i> <sup>1</sup> , <i>S. S. Makridis</i> <sup>2</sup> , <i>N. Lupu</i> <sup>3</sup> , <i>G. Ababei</i> <sup>3</sup> , <i>D. Niarchos</i> <sup>1</sup> , <sup>1</sup> National Centre for Scientific Research 'Demokritos', Agia Paraskevi, Athens, 15310, GREECE, <sup>2</sup> Department of Mechanical Engineering, University of Western Macedonia, Kozani, 50100, GREECE, <sup>3</sup> National Institute of Research and Development for Technical Physics, Iasi, 700050, ROMANIA
9:45	<b>Resistivity Recovery Stages in Proton Irradiated Fe-Cr Alloys</b> , <i>Z. Kotsina</i> <sup>1</sup> , <i>G. Apostolopoulos</i> <sup>1</sup> , <i>K. Mergia</i> <sup>1</sup> , <i>S. Messoloras</i> <sup>1</sup> , <i>A. Lagogiannis</i> <sup>2</sup> and <i>S. Harissopoulos</i> <sup>2</sup> , <sup>1</sup> Institute of Nuclear and Radiological Science and Technology, Energy, and Safety, National Centre for Scientific Research 'Demokritos', 15310 Aghia Paraskevi Attikis, Greece, <sup>2</sup> Institute of Nuclear and Particle Physics, National Centre for Scientific Research 'Demokritos', 15310 Aghia Paraskevi Attikis, Greece
10:00	<b>Steel Health Monitoring Using Magnetic Techniques</b> , <i>X. Vourna</i> , <i>A. Ktena</i> , <i>A. Mpalliou</i> , <i>E. Hristoforou</i> , Laboratory of Physical Metallurgy, National TU of Athens, Zografou Campus, Athens 15780
10:15	<b>Mechanical Properties of Graphene, Graphene Nanoribbons, and Planar Allotropes: A Theoretical Study</b> , <i>N. N. Lathiotakis</i> <sup>1</sup> , <i>G. Kalosakas</i> <sup>2,3</sup> , <i>Z. G. Fthenakis</i> <sup>4</sup> , <i>C. Galiotis</i> <sup>2,3</sup> and <i>K. Papagelis</i> <sup>2,3</sup> , <sup>1</sup> Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Vass. Constantinou 48, GR-11635 Athens, Greece, <sup>2</sup> University of Patras, Materials Science Department, Rio GR-26504, Greece, <sup>3</sup> ICEHT/FORTH, P.O. Box 1414, Rio GR-26504, Greece, <sup>4</sup> Dept. of Physics and Astronomy, Michigan State University, 567 Wilson Rd, East Lansing MI-48824, USA

Coffee Break

Session S02: Physics of surfaces, the nanoscale and low-dimensional systems	
Session chairs: S. T. Pantelides, T. Duffy	
11:00	<b>(Invited) Quantum tricks in the shadows of strong correlations: teaching magnetic devices how to think ultra-fast</b> , <i>Ilias Perakis</i> , Department of Physics, University of Crete, Greece
11:30	<b>Manipulating the properties of thin ferromagnetic films with an externally applied electric field in ferromagnetic-piezoelectric-ferromagnetic hybrids</b> , <i>D. Stamopoulos</i> <sup>1</sup> , <i>S. Zhang</i> <sup>2</sup> , <sup>1</sup> Institute of Advanced Materials, Physicochemical Processes, Nanotechnology and Microsystems, NCSR Demokritos, 153-10, Aghia Paraskevi, Athens, Greece, <sup>2</sup> Materials Research Institute, Pennsylvania State University, University Park, PA, 16802, US
11:45	<b>Ordering in Epitaxial SiGe Quantum Dots</b> , <i>G. Vantarakis</i> <sup>1,2</sup> , <i>I. Remediakis</i> <sup>2</sup> , and <i>P. C. Kelires</i> <sup>1</sup> , <sup>1</sup> Research Unit for Nanostructured Materials Systems, Department of Mechanical and Materials Science Engineering, Cyprus University of Technology, P.O. Box 50329, 3603 Lemesos, Cyprus, <sup>2</sup> Department of Materials Science and Technology, University of Crete, P.O. Box 2208, 710 03 Heraclion, Crete, Greece
12:00	<b>Structure and Optoelectronic Properties of Carbon Nanofoams</b> , <i>C. Mathioudakis</i> and <i>P. C. Kelires</i> , Research Unit for Nanostructured Materials Systems, Department of Mechanical and Materials Science Engineering, Cyprus University of Technology, P.O. Box 50329, 3603 Lemesos, Cyprus

12:15	<b>Optoelectronic properties of single-layer, double-layer and bulk tin sulfide</b> , <i>G. A. Tritsaris<sup>1</sup>, B. D. Malone<sup>1</sup>, E. Kaziras<sup>1,2</sup></i> , <sup>1</sup> School of Engineering and Applied Sciences, Harvard University, Massachusetts 02138, United States, <sup>2</sup> Department of Physics, Harvard University, Massachusetts 02138, United States
12:30	<b>Characterization of CVD grown graphene on polycrystalline and single crystal copper</b> , <i>J. Marquez-Velasco<sup>1,2</sup>, N. Kelaidis<sup>1</sup>, P. Tsipas<sup>1</sup>, E. Xenogiannopoulou<sup>1</sup>, D. Tsoutsou<sup>1</sup>, E. Golias<sup>1</sup>, Y. S. Raptis<sup>2</sup>, Th. Speliotis<sup>1</sup>, G. Pilatos<sup>1</sup>, A. Chatzipavlidis<sup>1</sup>, G. S. Pappas<sup>1</sup>, G. Kordas<sup>1</sup> and A. Dimoulas<sup>1</sup></i> , <sup>1</sup> NCSR DEMOKRITOS, Patriarchou Grigoriou and Neapoleos, GR- 15310, Athens, Greece, <sup>2</sup> NTUA, School of Appl. Math. & Phys. Sci, National Technical University of Athens, GR-15780 Athens, Greece
12:45	<b>Capabilities of Nanotechnology &amp; Microsystems Laboratory and MiNaSys-CoE: A Greek Nanotechnology Initiative at NCSR-Demokritos</b> , <i>P. Dimitrakis, A. Olziersky</i> , Department of Microelectronics, Institute of Advanced Materials, Physicochemical Processes, Nanotechnology and Microsystems, NCSR-Demokritos

**13:00-15:00 Poster Session P01/Light Lunch**

<b>Session S03: Polymer, organic materials, biomaterials</b>	
<b>Session chairs: C. Papadakis, G. Malliaras</b>	
15:00	<b>(Invited) Organic Bioelectronics</b> , <i>George Malliaras</i> , Department of Bioelectronics, Ecole Nationale Supérieure des Mines, France
15:30	<b>Nanomechanical Properties of Tissue Engineering Scaffolds</b> , <i>A. Skarmoutsou and C. A. Charitidis</i> , School of Chemical Engineering, National Technical University of Athens, Greece
15:45	<b>UV Solid State Laser Ablation of Biocompatible Polymers</b> , <i>A. Apostolopoulos, Ch. Evangelatos, D. P. Lagiou, E. Spyratou, C. Bacharis, M. Makropoulou, and A. A. Serafetinides.</i> , National Technical University of Athens, School of Applied Mathematical and Physical Sciences, Department of Physics, Zografou Campus, Athens, Gr-15772, Greece
16:00	<b>High Pressure Raman Study of Collagen</b> , <i>A. M. Paschou<sup>1</sup>, M. Katsikini<sup>1</sup>, D. Christofilos<sup>2</sup>, J. Arvanitidis<sup>1</sup>, G. A. Kourouklis<sup>2</sup> and S. Ves<sup>1</sup></i> , <sup>1</sup> Physics Department, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece, <sup>2</sup> Physics Division, School of Technology, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece
16:15	<b>Biocompatible nickel dithiolene complexes/amphiphilic diblock copolymers hybrid nanosystems</b> , <i>E. Vlassi<sup>1</sup>, G. A. Mousdis<sup>1</sup> and S. Pispas<sup>1</sup></i> , <sup>1</sup> Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, 48 Vassileos Constantinou Avenue, 11635 Athens, Greece
16:30	<b>Fe and Zn Bonding in Human Nails</b> , <i>M. Katsikini<sup>1</sup>, E. Mavromati<sup>1</sup>, F. Pinakidou<sup>1</sup>, E. C. Paloura<sup>1</sup>, K. Manika<sup>2</sup>, D. Papakosta<sup>2</sup></i> , <sup>1</sup> School of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece, <sup>2</sup> Pulmonary Department, Aristotle University of Thessaloniki, G. Papanicolaou Hospital, Exochi 57010, Thessaloniki, Greece
16:45	<b>Diamondoid-DNA complexes as biosensors: a quantum-mechanical study</b> , <i>G. Sivaraman, M. Fyta<sup>1</sup></i> , <sup>1</sup> Institute for Computational Physics, University of Stuttgart, Allmandring 3, 70569 Stuttgart, Germany

**Coffee Break**

<b>Session S04: Physics of surfaces, the nanoscale and low-dimensional systems</b>	
<b>Session chairs: I. Perakis, P. Kelires</b>	
17:30	<b>(Invited) Nanomagnetism: Superparamagnetism in Iron - Doped CeO<sub>2-y</sub> Nanocrystals</b> , <i>Zoran V. Popović</i> , Center for Solid State Physics and New Materials, Institute of Physics, University of Belgrade, Pregrevica 118, 11080 Belgrade, Serbia
18:00	<b>Structural and Mössbauer Spectroscopy Studies of Heterometallic Enneanuclear Fe<sub>x</sub>Ni<sub>9-x</sub> Complexes</b> , <i>C. P. Raptopoulou, Y. Sanakis, A. N. Georgopoulou, A. K. Boudalis, M. Pissas and V. Psycharis</i> , <sup>1</sup> NCSR Demokritos, IAMPPNM, Department of Materials Science, 15310 Aghia Paraskevi, Attikis, Athens, Greece
18:15	<b>Finite element micromagnetic simulation of a ferromagnetic particle</b> , <i>N. Ntallis and K. G. Efthimiadis</i> , Department of Physics, Aristotle University, 54124 Thessaloniki, Greece

<b>18:30</b>	<b>Fe<sup>+</sup> Irradiation Effects on the Structural and Magnetic Properties of Thin Iron Films</b> , <i>K. Papamihail<sup>1</sup>, K. Mergia<sup>1</sup>, Yves Serruys<sup>2</sup>, Th. Speliotis<sup>3</sup>, G. Apostolopoulos<sup>1</sup> and F. Ott<sup>4</sup></i> , <sup>1</sup> Institute of Nuclear and Radiological Science, Energy, Technology and, Safety, National Center for Scientific Research 'Demokritos', 15310 Athens, Greece, <sup>2</sup> CEA-Saclay - DEN/DMN/SRMP - Laboratoire JANNUS, France, <sup>3</sup> Institute of Advanced Materials, Physicochemical Processes, Nanotechnology, and Microsystems, National Center for Scientific Research 'Demokritos', 15310 Athens, Greece, <sup>4</sup> Lab. Léon Brillouin CEA/CNRS, Centre d'Etudes de Saclay, 91191 Gif sur Yvette Cedex, France
<b>18:45</b>	<b>Early Stages of Ti-O clusters growth on SWCNTs by Density Functional Theory Calculations</b> , <i>M. A. Gialampouki, Ch. E. Lekka</i> , Department of Materials Science and Engineering, University of Ioannina, Ioannina 45110, Greece
<b>19:00</b>	<b>Novel Applications in Surface Science. In-situ sample analysis in extreme environments</b> , <i>M. Meyer</i> , SPECS Surface Nano Analysis GmbH, Voltastrasse 5, 13355 Berlin, Germany

**20:45 Conference Dinner, Aegli Zappiou**

**Please bring your conference badge and the registration card for the conference dinner**

**Tuesday, September 24, 2013**

<b>Session S05: Electronics, photonics, and optoelectronics</b>	
Session chairs: <b>Z. V. Popović, D. Niarchos</b>	
<b>08:30</b>	<b>(Invited) LiCoO<sub>2</sub> Thin Films: Towards New Rewritable Media</b> , <i>J. Giapintzakis<sup>1</sup>, E. Svoukis<sup>1</sup>, C. N. Mihailescu<sup>1</sup>, V. H. Mai<sup>2</sup>, G. I. Athanasopoulos<sup>1</sup>, A. Breza<sup>3</sup>, C. Lioutas<sup>3</sup>, A. Moradpour<sup>2</sup>, and O. Schneegans<sup>4</sup></i> , <sup>1</sup> Nanotechnology Research Center & Department of Mechanical and Manufacturing Engineering, University of Cyprus, <sup>2</sup> Laboratoire de Génie Electrique de Paris, UMR 8507 of CNRS, Paris VI and Paris-Sud Universities, <sup>3</sup> Department of Physics, Aristotle University of Thessaloniki, <sup>4</sup> Laboratoire de Physique des Solides, UMR C8502 of CNRS, University Paris-Sud 11
<b>9:00</b>	<b>Combined electrochromic-transparent conducting coatings consisting of noble metal and WO<sub>3</sub> multilayers</b> , <i>E. Koubli, G. Leftheriotis and P. Yianoulis</i> , Energy and Environment Lab, Physics Department, University of Patras, Rion, 29500, Greece
<b>9:15</b>	<b>Nonreciprocal Plasmonic Nanoarchitectures</b> , <i>A. Christofi and N. Stefanou</i> , Department of Solid State Physics, University of Athens, Panepistimioupolis, GR-157 84 Athens, Greece
<b>9:30</b>	<b>Efficient light absorption from surfaces with metallic and dielectric particle arrays</b> , <i>E. Almpanis and N. Papanikolaou</i> , Department of Microelectronics, IAMPPNM, NCSR Demokritos, GR-153 10 Athens, Greece
<b>9:45</b>	<b>Breathers Driven by Gain in PT-Symmetric Metamaterials</b> , <i>N. Lazarides<sup>1,2</sup>, G. P. Tsironis<sup>1,2</sup></i> , <sup>1</sup> Department of Physics, University of Crete, P. O. Box 2208, 71003 Heraklion, Greece, <sup>2</sup> Institute of Electronic Structure and Laser, FORTH, P.O. Box 1527, 71110 Heraklion, Greece
<b>10:00</b>	<b>Optical properties of Au-Ag nanoparticle aggregates with subnanometric gaps</b> , <i>C. Tserkezis and J. Aizpurua</i> , Donostia International Physics Center (DIPC) and Center for Materials Physics (CFM) CSIC-UPV/EHU, Paseo Manuel de Lardizabal 5, Donostia-San Sebastián, 20018, Spain
<b>10:15</b>	<b>The L adsorption edges as index for the doped zirconia stabilization process</b> , <i>D. Vlachos<sup>1,2</sup>, S. Ostanin<sup>1,2</sup>, A. J. Craven<sup>1</sup> and D. W. McComb<sup>2</sup></i> , <sup>1</sup> Department of Physics and Astronomy, University of Glasgow, Glasgow G12 8QQ, UK, <sup>2</sup> Department of Chemistry, University of Glasgow, Glasgow G12 8QQ, UK

**Coffee Break**

<b>Session S06: Polymer, organic materials, biomaterials</b>	
Session chairs: <b>E. Gogolides, S. Pispas</b>	
<b>11:00</b>	<b>(Invited) What happens during solvent vapor treatment of block copolymer thin films - in-situ, real-time studies with grazing-incidence small-angle X-ray scattering</b> , <i>C. M. Papadakis<sup>1</sup>, A. Sepe<sup>1</sup>, J. Zhang<sup>1</sup>, I. I. Potemkin<sup>2</sup>, D.-M. Smilgies<sup>3</sup> and D. Posselt<sup>4</sup></i> , <sup>1</sup> Technische Universität München, Physik-Department, Physik weicher Materie, James-Franck-Str. 1, 85748 Garching, Germany, <sup>2</sup> Physics Department, Lomonosov Moscow State University, Moscow 119991, Russian Federation, <sup>3</sup> Cornell High Energy Synchrotron Source (CHESS), Wilson Laboratory, Cornell University, Ithaca, NY 14853, USA, <sup>4</sup> IMFUFU, Department of Science, Systems and Models, Roskilde University, P.O. Box 260, 4000 Roskilde, Denmark
<b>11:30</b>	<b>Proton Transport in Acid Doped Polymer Matrices by Time Domain Dielectric Spectroscopy using Metal/Electrolyte/Oxide/Semiconductor Device Structures</b> , <i>P. Goupidenis<sup>1,2</sup>, A. M. Douvas<sup>1</sup>, P. Dimitrakis<sup>1</sup>, P. Argitis<sup>1</sup>, K. Beltsios<sup>2</sup>, E. Kapetanakis<sup>3</sup>, V. Saltas<sup>4</sup>, C. Pandis<sup>5</sup>, A. Kyritsis<sup>5</sup>, P. Pissis<sup>5</sup>, P. Normand<sup>1</sup></i> , <sup>1</sup> Institute of Advanced Materials, Physicochemical Processes, Nanotechnology & Microsystems, National Center for Scientific Research Demokritos, 15310 Aghia Paraskevi, Athens, Greece, <sup>2</sup> Dept of Materials Science and Engineering, University of Ioannina, 45110 Ioannina, Greece, <sup>3</sup> Dept of Electronics, Technological Educational Institute of Crete, 73133 Chania, Greece, <sup>4</sup> Dept of Natural Resources & Environment, Technological Educational Institute of Crete, 73133 Chania, Greece, <sup>5</sup> Dept of Physics, National Technical University of Athens, Zografou Campus, 15780 Athens, Greece
<b>11:45</b>	<b>Thermoresponsive Transition of a PEO-b-PNIPAM block copolymer: from Hierarchical Aggregates to Well Defined Ellipsoidal Vesicles</b> , <i>A. Papagiannopoulos<sup>1</sup>, J. Zhao<sup>2</sup>, G. Zhang<sup>2</sup>, S. Pispas<sup>1</sup> and A. Radulescu<sup>3</sup></i> , <sup>1</sup> Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, 48 Vassileos Constantinou Avenue, 11635 Athens, Greece, <sup>2</sup> Hefei National Laboratory for Physical Sciences at Microscale, University of Science and Technology of China, Anhui, 230026 Hefei, P. R. China, <sup>3</sup> Institute for Solid State Research, Research Centre Jülich, 52425 Jülich, Germany

12:00	<b>Thermal Transitions and Segmental Dynamics in Polymer Nanocomposites</b> , <i>A. Kyritsis<sup>1</sup>, P. Klonos<sup>1</sup>, S. Kripotou<sup>1</sup> and P. Pissis<sup>1</sup></i> , <sup>1</sup> National Technical University of Athens, Department of Physics, Athens, Greece
12:15	<b>Polymer nanocomposites produced by carbon nanotubes prepregs</b> , <i>G. Trakakis<sup>1</sup>, D. Tasis<sup>1</sup>, J. Parthenios<sup>1</sup>, C. Galiotis<sup>1,2</sup> and K. Papagelis<sup>1,2</sup></i> , <sup>1</sup> Institute of Chemical Engineering Sciences (ICE-HT), Foundation of Research and Technology Hellas, 26504 Patras, Greece, <sup>2</sup> Department of Materials Science, University of Patras, 26504 Patras, Greece
12:30	<b>Rheological Properties of Short Oil Alkyd Resins and Alkyd Paints</b> , <i>A. F. Trompeta, C. A. Charitidis</i> , School of Chemical Engineering, National Technical University of Athens, 9 Heroon Polytechniou St, Zografos, Athens, Greece 157 80
12:45	<b>Atomistic Simulations of Dipole Substituted peri-Hexabenzocoronene Molecular Crystals</b> , <i>O. G. Ziogos<sup>1</sup>, L. Tsetseris<sup>2</sup> and D. N. Theodorou<sup>1</sup></i> , <sup>1</sup> Department of Chemical Engineering, National Technical University of Athens, Zografou Campus, GR-15780 Athens, Greece, <sup>2</sup> Department of Physics, National Technical University of Athens, Zografou Campus, GR-15780 Athens, Greece

**13:00-15:00 Poster Session P02/Light Lunch**

<b>Session S07: Electronics, photonics, and optoelectronics</b>	
<b>Session chairs: J. Giapintzakis, C. Londos</b>	
15:00	<b>(Invited) Iron Pnictides: DFT calculations and superconductivity</b> , <i>Lilia Boeri</i> , Technical University Graz, Austria
15:30	<b>Manipulating the properties of thin superconducting films with an externally applied electric field in superconductor-piezoelectric-superconductor hybrids</b> , <i>D. Stamopoulos<sup>1</sup>, M. Zeibekis<sup>1</sup> and H. Luo<sup>2</sup></i> , <sup>1</sup> Institute of Advanced Materials, Physicochemical Processes, Nanotechnology and Microsystems, NCSR Demokritos, 153-10, Aghia Paraskevi, Athens, Greece, <sup>2</sup> Key Laboratory of Inorganic Functional Material and Device, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 201800, China
15:45	<b>Topological and conventional ordering from correlations in Chern bands</b> , <i>S. Kourtis and M. Daghofer</i> , Institute for Theoretical Solid State Physics, IFW Dresden, 01171 Dresden, Germany
16:00	<b>Applications of a Thermodynamic, Non-Linear Quantum Master Equation to a Three-Level and a Harmonic Oscillator System Coupled with Two Heat Baths</b> , <i>P. V. Alatas<sup>1</sup>, V. G. Mavrantzas<sup>1,2</sup></i> , <sup>1</sup> Department of Chemical Engineering, University of Patras, <sup>2</sup> FORTH/ICE-HT
16:15	<b>Mesoscopic physics in polycrystalline Bi and [Co/Bi]<sub>n</sub> thin films</b> , <i>C. Christides<sup>1</sup>, P. Athanasopoulos<sup>1</sup> and Th. Speliotis<sup>2</sup></i> , <sup>1</sup> School of Engineering, University of Patras, 26504 Rion Patras, Greece, <sup>2</sup> National Center for Scientific Research Demokritos, 15310 Athens, Greece
16:30	<b>Influence of Thermal Treatment on the Electrical Characteristics of Metal/Alumina/Nitride/Oxide/Silicon Memory Capacitors</b> , <i>N. Nikolaou<sup>1,2</sup>, P. Dimitrakis<sup>1</sup>, P. Normand<sup>1</sup>, D. Skarlatos<sup>2</sup>, K. Giannakopoulos<sup>1</sup>, K. Kukli<sup>3,4</sup>, J. Niinistö<sup>3</sup>, M. Ritala<sup>3</sup>, M. Leskelä<sup>3</sup>, V. Ioannou-Sougleridis<sup>1</sup></i> , <sup>1</sup> Department of Microelectronics, IAMPPNM, NCSR Demokritos, 153 10 Athens, Greece, <sup>2</sup> Department of Physics, University of Patras, 265 04 Patras, Greece, <sup>3</sup> Department of Chemistry, University of Helsinki, FI-00014 Helsinki, Finland, <sup>4</sup> Institute of Physics, University of Tartu, Riia 142, EE-51014 Tartu, Estonia
16:45	<b>Polarization Dependent Raman Study of InN</b> , <i>K. Filintoglou<sup>1</sup>, M. Katsikini<sup>1</sup>, J. Arvanitidis<sup>1</sup>, D. Christofilos<sup>2</sup>, G. P. Dimitrakopoulos<sup>1</sup>, S. Ves<sup>1</sup>, G. A. Kourouklis<sup>2</sup>, A. Georgakilas<sup>3</sup>, N. Zoumakis<sup>4</sup></i> , <sup>1</sup> Physics Department, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece, <sup>2</sup> Physics Division, School of Technology, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece, <sup>3</sup> Department of Physics, Microelectronics Research Group, University of Crete, P.O. Box 2208, GR 71003, Greece and IESL, FORTH, P.O. Box 1527, GR 71110 Heraklion, Greece, <sup>4</sup> Department of Applied Sciences, Technological Educational Institute of Thessaloniki, 57400 Sindos, Greece

**Coffee Break**

<b>Session S08: Ceramic, composites, minerals, metallic and novel materials</b>	
<b>Session chairs: L. Boeri, P. Falaras</b>	

<b>17:30</b>	<b>(Invited) Equilibrium and flow of cluster-forming complex fluids</b> , <i>Christos N. Likos</i> , Faculty of Physics, University of Vienna, Boltzmanngasse 5, A-1090 Vienna, Austria
<b>18:00</b>	<b>Vibrational study of thermally ion-exchanged sodium borosilicate glasses</b> , <i>E. Stavrou<sup>1</sup>, D. Palles<sup>1</sup>, E. I. Kamitsos<sup>1</sup>, A. Lipovskii<sup>2</sup>, D. Taganzev<sup>2</sup>, Y. Svirko<sup>3</sup>, S. Honkanen<sup>3</sup></i> , <sup>1</sup> Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Greece, <sup>2</sup> St. Petersburg State Polytechnic University, Russia, <sup>3</sup> University of Eastern Finland, Finland
<b>18:15</b>	<b>Effect of substitution in A cation site on the magnetic and magnetocaloric properties of (La,Ba,Y)MnO<sub>3</sub> perovskite</b> , <i>G. Tonozis and G. Litsardakis</i> , Department of Electrical and Computer Engineering, Aristotle University, Thessaloniki, GR-54124, Greece
<b>18:30</b>	<b>Optical Absorption of Carbon-Metal Nanocomposites</b> , <i>G. Hadjisavvas<sup>1</sup>, G. Tritsaris<sup>2</sup>, E. Kaviras<sup>2</sup>, C. Mathioudakis<sup>1</sup>, and P. C. Kelires<sup>1</sup></i> , <sup>1</sup> Research Unit for Nanostructured Materials Systems, Department of Mechanical and Materials Science Engineering, Cyprus University of Technology, P.O. Box 50329, 3603 Lemesos, Cyprus, <sup>2</sup> Department of Physics, Harvard University, Cambridge, Massachusetts 02138, USA
<b>18:45</b>	<b>Structure and Physical Properties of Strontium Borophosphate Glasses with High Chemical Durability</b> , <i>M. D. Anastasopoulou, K. C. Vasilopoulos, D. K. Papayannis and M. A. Karakassides</i> , Department of Materials Science and Engineering, University of Ioannina, GR-45110 Ioannina, Greece

<b>Session S09: Electronics, photonics, and optoelectronics</b>	
Session chairs: C. N. Likos, D. Tsoukalas	
<b>08:30</b>	<b>(Invited) Photoinduced processes involving nanostructured titania materials for energy and environmental applications</b> , <i>P. Falaras</i> , <sup>1</sup> National Center for Scientific Research Demokritos, Greece
<b>9:00</b>	<b>Effect of acidic additives on the structure and performance of TiO<sub>2</sub> films prepared by chemical methods for dye-sensitized solar cells</b> , <i>G. Syrokostas<sup>1</sup>, G. Leftheriotis<sup>1</sup> and P. Yianoulis<sup>1</sup></i> , <sup>1</sup> Energy and Environment Lab, Physics Department, University of Patras, Rion, 26500, Greece
<b>9:15</b>	<b>Study of Laser Annealed a-Si Thin Layers for Solar Cell Applications, Raman-characterization and Comparison with Numerical Simulations</b> , <i>Y. Theodorakos<sup>1</sup>, V. Vamvakas<sup>2</sup>, D. Tsoukalas<sup>1</sup>, Y. S. Raptis<sup>1</sup>, I. Zergioti<sup>1</sup></i> , <sup>1</sup> School of Appl. Math. and Physical Sciences, National Technical University of Athens, Heroon Polytechniou 9, 15780 Zographou, Athens, Greece, <sup>2</sup> Heliosphera, Industrial Area of Tripolis, 8th Building Block, 5th Road, GR-221 00 Tripolis, Greece
<b>9:30</b>	<b>Molecular Beam Epitaxy of Single Phase InGa<sub>N</sub> Films for Photovoltaic Applications in the Entire Alloy Composition Range</b> , <i>E. Papadomanolaki<sup>1</sup>, M. Androulidaki<sup>2</sup>, K. Tsagaraki<sup>2</sup>, C. Bazioti<sup>3</sup>, Th. Kehagias<sup>3</sup>, G. Dimitrakopoulos<sup>3</sup> and E. Iliopoulos<sup>1,2</sup></i> , <sup>1</sup> Physics Dept, University of Crete, P.O.Box 2208, 71003 Heraklion, Greece, <sup>2</sup> Micro/Nano Electronics Research Group, IESL-FORTH, P.O.Box 1385, 71110 Heraklion, Greece, <sup>3</sup> Physics Dept, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece
<b>9:45</b>	<b>Use of silicon nanocrystals in third generation photovoltaic cells</b> , <i>S. Gardelis, P. Manousiadis and A. G. Nassiopoulou</i> , IMEL, National Center for Scientific Research DEMOKRITOS, Athens 15310, GREECE
<b>10:00</b>	<b>Self-Assembled Piezoelectric InAs/GaAs Quantum Dots for Single Photon Emitters at Room Temperature</b> , <i>S. Germanis<sup>1,4</sup>, A. Beveratos<sup>2</sup>, A. Stavriniadis<sup>4</sup>, G. Konstantinidis<sup>4</sup>, Z. Hatzopoulos<sup>3,4</sup> and N. T. Pelekanos<sup>1,4</sup></i> , <sup>1</sup> Department of Materials Science and Technology, University of Crete, Heraklion, Greece, <sup>2</sup> Laboratoire de Photonique et Nanostructures, LPN/CNRS, Marcoussis, France, <sup>3</sup> Department of Physics, University of Crete, Heraklion, Greece, <sup>4</sup> Microelectronics Research Group, IESL-FORTH, Heraklion, Greece
<b>10:15</b>	<b>Structure, Optical and Electrical Properties of Hydrogenated Si:H Thin Films Grown by Pulsed Laser deposition</b> , <i>A. Mellos<sup>1,3</sup>, P. Koralli<sup>1,2</sup>, M. Kandyla<sup>1</sup>, M. Kompitsas<sup>1</sup>, D. E. Manolakos<sup>2</sup></i> , <sup>1</sup> National Hellenic Research Foundation, Theoretical and Physical Chemistry Institute, 48 Vasileos Constantinou Avenue, 11635 Athens, GREECE, <sup>2</sup> School of Mechanical Engineering, National Technical University of Athens, Iroon Polytechniou 9 Zografos, 15780 Athens, GREECE, <sup>3</sup> School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Iroon Polytechniou 9 Zografos, 15780 Athens, GREECE

**Coffee Break**

<b>Session S10: Physics of surfaces, the nanoscale and low-dimensional systems</b>	
Session chairs: S. Kennou, M. Pissas	
<b>11:00</b>	<b>(Invited) Nanoparticle assemblies and their applications</b> , <i>Dimitrios Tsoukalas</i> , Department of Physics, National Technical University of Athens
<b>11:30</b>	<b>RF Sputtered NiO as p-type Gas Sensor</b> , <i>E. Gagaoudakis<sup>1,2</sup>, I. Kortidis<sup>2</sup>, G. Michael<sup>1</sup>, V. Kampylafka<sup>2</sup>, K. Tsagaraki<sup>2</sup>, E. Iliopoulos<sup>1</sup>, E. Aperathitis<sup>2</sup> and G. Kiriakidis<sup>1,2</sup></i> , <sup>1</sup> Physics Department, University of Crete, P.O. Box 2208, 71003 Heraklion, Crete, Greece, <sup>2</sup> Institute of Electronic Structure & Laser (IESL), Foundation for Research and Technology (FORTH) Hellas, P.O. Box 1385, Heraklion 70013, Crete, Greece
<b>11:45</b>	<b>Investigation of PEDOT:PSS/Oxide Nanoparticle Interfaces by Photoelectron Spectroscopy for Tandem Organic Solar Cells Intermediated Layers</b> , <i>K. Emmanouil<sup>1</sup>, B. Lechne<sup>2</sup> and S. Kennou<sup>1</sup></i> , <sup>1</sup> Department of Chemical Engineering, University of Patras, Karatheodori 1, 265 04 Patras, Greece, <sup>2</sup> CEA-INES, 50 avenue du Lac Léman, 73377 Le Bourget du Lac, Chambéry, France



12:00	<b>Dynamic Magnetic Behaviour of Assemblies of Nanoparticles with FM / AFM Interface</b> , <i>M. Vasilakaki<sup>1</sup>, K. N. Trohidou<sup>1</sup>, D. Peddis<sup>2</sup>, D. Fiorani<sup>2</sup>, R. Mathieu<sup>2</sup>, M. Hudl<sup>3</sup>, P. Nordblad<sup>3</sup>, C. Binns<sup>4</sup> and S. Baker<sup>4</sup></i> , <sup>1</sup> IAMPPNM, Department of Materials Science, NCSR Demokritos, Athens, Greece, <sup>2</sup> Instituto di Struttura della Materia-CNR, Monterotondo Stazione, Roma, Italy, <sup>3</sup> Department of Engineering Sciences, Uppsala University, Uppsala, Sweden, <sup>4</sup> Department of Physics and Astronomy, University of Leicester, Leicester UK
12:15	<b>Experimental and First Principle Characterization of Functionalized Magnetic Nanoparticles</b> , <i>E. Statharas, C. Giannouli, P. Tserotas, N. Papadopoulos, G. S. E. Antipas, and E. Hristoforou</i> , Laboratory of Physical Metallurgy, National Technical University of Athens, Zografou Campus, Athens 15780
12:30	<b>Stochastic effects at nanoscale: Metrological and modeling challenges in nanolithography</b> , <i>V. Constantoudis<sup>1</sup>, V. K. M. Kuppuswamy<sup>1,2</sup> and E. Gogolides<sup>1</sup></i> , <sup>1</sup> Department of Microelectronics, N.C.S.R. Demokritos, Aghia Paraskevi, Greece, <sup>2</sup> IMEC Kapeldreef 75, B-3001 Leuven, Belgium
12:45	<b>A Study on Low Temperature Graphene Growth on Nickel Substrates of Various Thicknesses</b> , <i>S. A. Giarnini<sup>1,2</sup>, N. Kelaidis<sup>1</sup>, A. Chatzipavlidis<sup>1</sup>, G. S. Pappas<sup>1</sup>, G. Kordas<sup>1</sup>, A. Dimoulas<sup>1</sup></i> , <sup>1</sup> NCSR DEMOKRITOS, Patriarchou Grigoriou and Neapoleos, GR-15310, Athens, Greece, <sup>2</sup> National and Kapodistrian University of Athens, Faculty of Physics

**13:00-15:00 Poster Session P03/Light Lunch**

<b>Session S11: Physics of surfaces, the nanoscale and low-dimensional systems</b>	
<b>Session chairs: C. Raptis, X. Zianni</b>	
15:00	<b>(Invited) Plasma processing and plasma nanotexturing as an enabling technology for smart polymeric surfaces, smart microfluidics and highly sensitive biomolecule microarrays</b> , <i>E. Gogolides<sup>1</sup>, A. Tserepi<sup>1</sup>, K. Tsougeni<sup>1</sup>, K. Ellinas<sup>1</sup>, P. Petrou<sup>2</sup>, and S. Kakabakos<sup>2</sup></i> , <sup>1</sup> IMEL, NCSR Demokritos, <sup>2</sup> IRRP, NCSR 'Demokritos'
15:30	<b>Can nanomechanical energy storage in twisting nanotube ropes surpass that of Li-ion batteries?</b> , <i>Z. G. Fthenakis<sup>1</sup>, D. Teich<sup>2</sup>, Z. Zhu<sup>1</sup>, G. Seifert<sup>2</sup> and D. Tománek<sup>1</sup></i> , <sup>1</sup> Physics and Astronomy Department, Michigan State University, East Lansing, Michigan 48824-2320, USA, <sup>2</sup> Physikalische Chemie, Technische Universität Dresden, D-01062 Dresden, Germany
15:45	<b>Focused Ion Beam Fabricated Magnetic Antidot Arrays: Magnetic Structure Dependence on Lattice Symmetry</b> , <i>A. Kaidatzis<sup>1</sup>, R. del Real<sup>2</sup>, F. Espinosa<sup>1</sup>, R. Alvaro<sup>1</sup>, J. Anguita<sup>1</sup>, M. Vazquez<sup>2</sup>, J. M. Garcia-Martin<sup>1</sup></i> , <sup>1</sup> IMM-Instituto de Microelectronica de Madrid, CSIC, Tres Cantos, Madrid, Spain, <sup>2</sup> ICMM-Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Spain
16:00	<b>Laser Induced Forward Transfer as a Tool for the Fabrication of Graphene-Based Organic Electronic Devices</b> , <i>S. Papazoglou<sup>1</sup>, M. Makrygianni<sup>1</sup>, S. Chatzandroulis<sup>2</sup>, Y. Raptis<sup>1</sup>, I. Zergioti<sup>1</sup></i> , <sup>1</sup> Physics Department, National Technical University of Athens, Heron Polytechniou 9, 15780 Zografou, Athens, Greece, <sup>2</sup> Institute of Microelectronics, NCSR Demokritos, Agia Paraskevi 15310, Athens, Greece
16:15	<b>Size-dependent gold nitride Schottky nanodiodes</b> , <i>N. Spyropoulos-Antonakakis<sup>1</sup>, E. Sarantopoulou<sup>1</sup>, Z. Kollia<sup>1</sup> and A. C. Cefalas<sup>1</sup></i> , <sup>1</sup> National Hellenic Research Foundation, Theoretical and Physical Chemistry Institute, 48 Vassileos Constantinou Avenue, Athens 11635, Greece
16:30	<b>Nearest-Neighbor Hopping in Planar Tungsten-Polyoxometalate Molecular Junctions</b> , <i>D. Velessiotis<sup>1</sup>, A. M. Douvas<sup>1</sup>, P. Dimitrakis<sup>1</sup>, P. Argitis<sup>1</sup>, N. Glezos<sup>1</sup></i> , <sup>1</sup> Institute of AMPPNM, Department of Microelectronics, NCSR Demokritos, Athens, 15310, Greece
16:45	<b>Grain Boundaries Effects on Boron and Phosphorus Dopants in poly-Si</b> , <i>A. Kanaki<sup>1</sup> and X. Zianni<sup>1,2</sup></i> , <sup>1</sup> Department of Applied Sciences, Technological Educational Institution of Chalkida 34 400 Psachna, Greece, <sup>2</sup> Dept. of Microelectronics, IAMPPNM, NCSR Demokritos, 153 10 Aghia Paraskevi, Attiki, Greece

**Coffee Break**

<b>Session S12: Electronics, photonics, and optoelectronics</b>	
<b>Session chairs: E. Syskakis, Y. Raptis</b>	

<b>17:30</b>	<b>Enhanced Energy Conversion Efficiency in Non-Uniform Nanowires by Energy Band Structure Engineering</b> , <i>X. Zianni</i> <sup>1,2</sup> , <sup>1</sup> Dept. of Applied Sciences, Technological Educational Institution of Chalkida, 34 400 Psachna, Greece, <sup>2</sup> Dept. of Microelectronics, IAMPPNM, NCSR Demokritos, 153 10 Athens, Greece
<b>17:45</b>	<b>Thermal conductivity of amorphous/crystalline silicon nanowires and superlattices</b> , <i>K. Termentzidis</i> <sup>1</sup> , <i>E. Blandre</i> <sup>1</sup> , <i>A. France-Lanord</i> <sup>1</sup> , and <i>D. Lacroix</i> <sup>1</sup> , <sup>1</sup> LEMETA, CNRS UMR-7563, Un. Lorraine, Vandoeuvre les Nancy, France
<b>18:00</b>	<b>Thermochromic Properties of VO<sub>2</sub> Films Grown by RF Sputtering and APCVD</b> , <i>E. Gagaoudakis</i> <sup>1,2</sup> , <i>V. Kampylafka</i> <sup>2</sup> , <i>E. Aperathitis</i> <sup>2</sup> , <i>I. Kortidis</i> <sup>2</sup> , <i>V. Binas</i> <sup>2</sup> , <i>D. Vernardou</i> <sup>3</sup> , <i>D. Louloudakis</i> <sup>1,3</sup> , <i>E. Spanakis</i> <sup>4</sup> , <i>N. Katsarakis</i> <sup>2,3</sup> , <i>E. Koudoumas</i> <sup>3,5</sup> , <i>G. Iliadis</i> <sup>6</sup> and <i>G. Kiriakidis</i> <sup>1,2</sup> , <sup>1</sup> Physics Department, University of Crete, P.O. Box 2208, 71003 Heraklion, Crete, Greece, <sup>2</sup> Institute of Electronic Structure & Laser (IESL), Foundation for Research and Technology (FORTH) Hellas, P.O. Box 1385, Heraklion 70013, Crete, Greece, <sup>3</sup> Center of Materials Technology and Photonics, School of Applied Technology, Technological Educational Institute of Crete, 710 04 Heraklion, Crete, Greece, <sup>4</sup> Materials Science and Technology Department, University of Crete, P.O. Box 2208, 71003 Heraklion, Crete, Greece, <sup>5</sup> Electrical Engineering Department, School of Applied Technology, Technological Educational Institute of Crete, 710 04 Heraklion, Crete, Greece, <sup>6</sup> G. Iliadis, Uniglass Ltd, 31st Vouliagmenis Avenue, 16675 Athens, Greece
<b>18:15</b>	<b>(Invited) Giant Thermoelectric Effect In Graded porous or nanocomposite micro-nanostructured thermoelectric materials</b> , <i>D. G. Niarchos</i> , <i>R. H. Tarkhanyan</i> and <i>A. Ioannidou</i> , NCSR Demokritos, Athens 15310, Greece

**18:45-19:00 Closing remarks**

# PROGRAM FOR POSTER PRESENTATIONS

Monday, September 23, 2013

13:00-15:00 Poster Session P01/Light Lunch

P01.01	<b>Synthesis of Cu<sub>2</sub>O/ZnO heterojunction</b> , <i>I. Sakellis<sup>1,2</sup>, S. Giamini<sup>1</sup>, I. Moschos<sup>1</sup>, C. Chandrinou<sup>1</sup>, A. Travlos<sup>1</sup> and N. Boukos<sup>1</sup></i> , <sup>1</sup> National Center for Scientific Research Demokritos, Institute of Materials Science, GR 15310 Agia Paraskevi Attikis, Athens, Greece, <sup>2</sup> University of Athens, Physics Department, Section of Solid State Physics, Panepistimiopolis, GR 15684 Zografos, Athens, Greece
P01.02	<b>Influence of Forming Gas Annealing on the Electrical Properties of Al/Al<sub>2</sub>O<sub>3</sub>/p-Ge MOS Structures</b> , <i>A. Karageorgiou<sup>1</sup>, V. Ioannou-Sougleridis<sup>2</sup>, S. Ladas<sup>3</sup>, S. Kennou<sup>3</sup>, N. Z. Vouroutzis<sup>4</sup> and D. Skarlatos<sup>1</sup></i> , <sup>1</sup> Department of Physics, University of Patras, GR 26500 Patras, Greece, <sup>2</sup> Department of Microelectronics, NCSR Demokritos, GR 15310 Aghia Paraskevi, Athens, Greece, <sup>3</sup> Department of Chemical Engineering, University of Patras, GR 26500 Patras, Greece, <sup>4</sup> Department of Physics, Aristotle University of Thessaloniki, GR 54006 Thessaloniki, Greece
P01.03	<b>Laser Scribing of Thin Films Relevant for the Second Generation, Large Scale Monolithic Photovoltaic Solar Cells</b> , <i>P. Koralli<sup>1,2</sup>, M. Kandyla<sup>1</sup>, M. Kompitsas<sup>1</sup>, G. Mousdis<sup>1</sup>, M. Girtan<sup>3</sup>, D. E. Manolakos<sup>2</sup></i> , <sup>1</sup> National Hellenic Research Foundation, Theoretical and Physical Chemistry Institute, 48 Vasileos Constantinou Avenue, 11635 Athens, Greece, <sup>2</sup> School of Mechanical Engineering, National Technical University of Athens, Iroon Polytechniou 9 Zografos, 15780 Athens, Greece, <sup>3</sup> Photonics Laboratory, Angers University, 2, Bd. Lavoisier, 49045 Angers, France
P01.04	<b>Photoluminescence and optical properties of Ni-doped ZnO thin films prepared by spray pyrolysis technique</b> , <i>M. Jlassi<sup>1</sup>, I. Sta<sup>1</sup>, M. Hajji<sup>1,2</sup>, M. Kompitsas<sup>3</sup> and H. Ezzaouia<sup>1</sup></i> , <sup>1</sup> Laboratoire de Photovoltaïque, Centre de Recherche et des Technologies de l'Énergie, Technopole de Borj-Cadria, BP 95, 2050 Hammam-Lif, Tunisie, <sup>2</sup> Institut Supérieur d'Électronique et de Communication de Sfax, Université de Sfax, BP 868, 3018 Sfax, Tunisie, <sup>3</sup> National Hellenic Research Foundation, Theoretical and Physical Chemistry Institute, 48, Vasileos, Konstantinou Ave, 11635 Athens, Greece
P01.05	<b>Theoretical and Experimental Study of Optical Trapping on a Micro-structured Substrate</b> , <i>D. K. Polyzos<sup>1</sup>, G. Tsigaridas<sup>1</sup>, A. A. Serafetinides<sup>1</sup>, M. Makropoulou<sup>1</sup>, D. Kotsifaki<sup>1</sup>, P. A. Atanasov<sup>2</sup>, N. Nedlyakov<sup>2</sup></i> , <sup>1</sup> Department of Physics, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Zografou Campus, GR 15780 Athens, Greece, <sup>2</sup> Institute of Electronics, Bulgarian Academy of Sciences, Charigradsko Shosse, Sofia, Bulgaria
P01.06	<b>Depth Profiling of High Energy Ion Implantation on Silicon by micro-Raman Spectroscopy</b> , <i>I. Kopsalis<sup>1</sup>, M. Kokkoris<sup>1</sup>, V. Paneta<sup>1</sup>, M. Erich<sup>2</sup>, S. Petrovic<sup>2</sup>, E. Liarokapis<sup>1</sup></i> , <sup>1</sup> School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Zografou Campus GR-15780 Zografou, Greece, <sup>2</sup> Laboratory of Physics, Vinča Institute of Nuclear Science, P. O. Box 522, 11001 Belgrade, Serbia
P01.07	<b>Prompt Isothermal Decay of Thermoluminescence in a Material Exhibiting Strong Anomalous Fading</b> , <i>I. K. Sfamba<sup>1</sup>, V. Pagonis<sup>2</sup>, G. S. Polymeris<sup>3</sup>, N. C. Tsiirliganis<sup>4</sup>, G. Kitis<sup>1</sup></i> , <sup>1</sup> Aristotle University of Thessaloniki, Nuclear Physics Laboratory, 54124-Thessaloniki, Greece, <sup>2</sup> McDaniel College, Physics Department, Westminster, MD 21157, USA, <sup>3</sup> Solid State Section, Department of Physics, 54124-Thessaloniki, Greece, <sup>4</sup> Laboratory of Radiation Applications and Archaeological Dating, Department of Archaeometry and Physicochemical Measurements, 'Athena' - Research and Innovation Center in Information, Communication and Knowledge Technologies, Kimmeria University Campus, 67100, Xanthi, Greece
P01.08	<b>Electrical and Optical Properties of Ag/Mg<sub>2</sub>Si composites</b> , <i>G. S. Polymeris<sup>1</sup>, A. Theodorakakos<sup>1</sup>, K. Mars<sup>2</sup>, E. Godlewska<sup>2</sup>, E. Hatzikraniotis<sup>1</sup> and K. M. Paraskevopoulos<sup>1</sup></i> , <sup>1</sup> Solid State Section, Physics Department, Aristotle University of Thessaloniki, GR- 54124, Thessaloniki, Greece, <sup>2</sup> AGH University of Science and Technology, Faculty of Materials Science and Ceramics, Krakow, Poland
P01.09	<b>Optical Properties of CVD a-Si, as a Function of Wavelength and Temperature for Solar Cell Applications</b> , <i>L. Agiotis<sup>1</sup>, I. Theodorakos<sup>1</sup>, V. Vambakas<sup>2</sup> and Y. S Raptis<sup>1</sup></i> , <sup>1</sup> School of Appl. Math. and Physical Sciences, National Technical University of Athens, Heron Polytechniou 9, 15780 Zographou, Athens, Greece, <sup>2</sup> Heliosphera, Industrial Area of Tripolis, 8th Building Block, 5th Road, GR-221 00 Tripolis, Greece
P01.10	<b>A simple method for the fabrication of WO<sub>3</sub> films with electrochromic properties</b> , <i>G. Leftheriotis<sup>1</sup>, M. Liveri<sup>1</sup> and P. Yianoulis<sup>1</sup></i> , <sup>1</sup> Energy and Environment Lab, Physics Department, University of Patras, Rion, 26500, Greece

P01.11	<b>Biocompatible Ti-xNb (14&lt;x&lt;40) alloys: Structural, electronic and mechanical properties</b> , <i>J. J. Gutierrez Moreno<sup>1</sup>, D. G. Papageorgiou<sup>1</sup>, G. A. Evangelakis<sup>2</sup>, Ch. E. Lekka<sup>1</sup>, M. Boenisch<sup>3</sup>, A. Helth<sup>3</sup>, A. Gebert<sup>3</sup>, M. Calin<sup>3</sup>, J. Eckert<sup>3</sup></i> , <sup>1</sup> Department of Materials Science & Engineering, University of Ioannina, Ioannina, 45110 Greece, <sup>2</sup> Department of Physics, University of Ioannina, Ioannina, 45110 Greece, <sup>3</sup> Institut fuer Komplexe Materialien, IFW Dresden, Dresden, 01069 Germany
P01.12	<b>Characterization of advanced materials by low voltage electron microscopy techniques</b> , <i>E. Mikmekova<sup>1</sup> and S. Mikmekova<sup>1</sup></i> , <sup>1</sup> Institute of Scientific Instruments of the ASCR, v.v.i, Kralovopolska 147, Brno 612 64, Czech Republic
P01.13	<b>Unexpected stable stoichiometries of sodium chlorides under pressure</b> , <i>W. Zhang<sup>1,2</sup>, A. R. Oganov<sup>2,3</sup>, A. F. Goncharov<sup>4</sup>, Q. Zhu<sup>2</sup>, S. E. Boulfelfel<sup>2</sup>, A. O. Lyakhov<sup>2</sup>, E. Stavrou<sup>4</sup>, M. Somayazulu<sup>4</sup>, V. B. Prakapenka<sup>5</sup></i> , <sup>1</sup> College of Science, China Agricultural University, Beijing, 100080, P.R.China, <sup>2</sup> Department of Geosciences, Department of Physics and Astronomy, State University of New York at Stony Brook, Stony Brook, NY 11794-2100, U.S.A, <sup>3</sup> Geology Department, Moscow State University, 119992 Moscow, Russia, <sup>4</sup> Geophysical Laboratory, Carnegie Institution of Washington, Washington, D.C. 20015, U.S.A, <sup>5</sup> Center for Advanced Radiation Sources, University of Chicago, Chicago, Illinois 60637, U.S.A
P01.14	<b>Nanostructure features of Mg<sub>2</sub>Si<sub>0.95-x</sub>Sn<sub>x</sub>Ge<sub>0.05</sub></b> , <i>A. Chatzieleftheriadou<sup>1</sup>, N. Vlachos<sup>2</sup>, C. B. Lioutas<sup>1</sup>, Th. Kyrats<sup>2</sup>, E. Hatzikraniotis<sup>1</sup>, K. M. Paraskevopoulos<sup>1</sup></i> , <sup>1</sup> Aristotle University of Thessaloniki, Solid State Physics Section, 54124 Thessaloniki, Greece, <sup>2</sup> Department of Mechanical and Manufacturing Engineering, University of Cyprus, 1678 Nicosia, Cyprus
P01.15	<b>Nanoindentation on Cohesive-Frictional Materials: A Computational Study</b> , <i>E. Sarris<sup>1</sup> and G. Constantinides<sup>2</sup></i> , <sup>1</sup> Department of Civil and Environmental Engineering, University of Cyprus, Nicosia, Cyprus, <sup>2</sup> Research Unit for Nanostructured Materials Systems and Department of Mechanical Engineering and Materials Science and Engineering, Cyprus University of Technology, Limassol, Cyprus
P01.16	<b>Short-Range Order Kinetics in Fe-Cr Alloys Studied by means of Electrical Resistivity Measurements</b> , <i>V. Lukianova<sup>1,2</sup>, Z. Kotsina<sup>1</sup>, E. Syskakis<sup>2</sup>, G. Apostolopoulos<sup>1</sup></i> , <sup>1</sup> Institute of Nuclear and Radiological Science and Technology, Energy, and Safety National Centre for Scientific Research Demokritos, 15310 Aghia Paraskevi Attikis, Greece, <sup>2</sup> National and Kapodistrian University of Athens, Physics Department, Section of Solid State Physics, Panepistimiopolis, 15784 Athens, Greece
P01.17	<b>Structure and magnetic properties of Hf<sub>2</sub>(Co<sub>1-x</sub>Fe<sub>x</sub>)<sub>11</sub>B Melt-spun and their hydride</b> , <i>M. Gjoka<sup>1</sup>, C. Sarafidis<sup>2</sup>, G. Ababei<sup>3</sup>, N. Lupu<sup>3</sup>, T. Martinos<sup>4</sup>, S. Makridis<sup>4</sup>, O. Kalogirou<sup>2</sup>, D. Niarchos<sup>1</sup></i> , <sup>1</sup> IAMPNNM, N.C.S.R. 'Demokritos' Agia Paraskevi 15310 Athens, Greece, <sup>3</sup> Dept. of Physics, Aristotle University of Thessaloniki, 54 124 Thessaloniki, Greece, <sup>2</sup> National Institute of R&D for Technical Physics, 47 Mangeron Blvd, 700050 Iasi, Romania, <sup>4</sup> University of Western Macedonia, Kozani, 50100, Greece
P01.18	<b>High-pressure X-ray diffraction and Raman studies of MnF<sub>2</sub></b> , <i>E. Stavrou<sup>1,2</sup>, A. Goncharov<sup>1</sup>, Z. Konopkova<sup>3</sup>, C. Raptis<sup>4</sup></i> , <sup>1</sup> Geophysical Laboratory, Carnegie Institution of Washington, Washington, D.C, USA, <sup>2</sup> Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Athens, Greece, <sup>3</sup> Deutsches Elektronen-Synchrotron (HASYLAB), Hamburg, Germany, <sup>4</sup> Department of Physics, National Technical University of Athens, Greece
P01.19	<b>Single-Crystal Elastic Constants of Magnesium Difluoride (MgF<sub>2</sub>) to 7.4 GPa</b> , <i>I. S. Zouboulis<sup>1,2</sup>, F. Jiang<sup>1</sup>, J. Wang<sup>1</sup> and T. S. Duffy<sup>1</sup></i> , <sup>1</sup> Department of Geosciences, Princeton University, Princeton, NJ 08544, USA, <sup>2</sup> National Technical University, School of Applied Sciences, Department of Physics, Zografou 15780, Greece
P01.20	<b>ALD Deposited Al<sub>2</sub>O<sub>3</sub>/p-Ge MOS structures: Structural and Electrical Characterization</b> , <i>M. Botzakaki<sup>1</sup>, G. Skoulatakis<sup>2</sup>, V. Gianneta<sup>3</sup>, N. Xanthopoulos<sup>1</sup>, C. Tsamis<sup>3</sup>, E. Makarona<sup>3</sup>, S. Kennou<sup>2</sup>, S. Ladas<sup>2</sup>, S. N. Georga<sup>1</sup> and C. A. Krontiras<sup>1</sup></i> , <sup>1</sup> University of Patras, Department of Physics, 26504 Rion-Patras Greece, <sup>2</sup> University of Patras, Department of Chemical Engineering, 26504 Rion-Patras Greece, <sup>3</sup> NCSR Demokritos, Inst. of Advanced Materials, Physicochemical processes, Nanotechnology & Microsystems, GR 15310 Aghia Paraskevi, Athens, Greece
P01.21	<b>Surface Doping of Exfoliated Graphene Sheets</b> , <i>N. Delikoukos<sup>1</sup>, D. Tasis<sup>1</sup>, J. Parthenios<sup>1</sup>, C. Galiotis<sup>1,2</sup> and K. Papagelis<sup>1,2</sup></i> , <sup>1</sup> Institute of Chemical Engineering Sciences (ICE-HT), Foundation of Research and Technology Hellas, 26504 Patras, Greece, <sup>2</sup> Department of Materials Science, University of Patras, 26504 Rio Patras, Greece
P01.22	<b>Investigation of the magnetic domain structure of Co thin films: Magnetic Force Microscopy study in comparison with micromagnetic simulation</b> , <i>E. Aristomenopoulou</i> , Institute of Advanced Materials, Physicochemical Processes, Nanotechnology and Microsystems, NCSR Demokritos, Agia Paraskevi, Greece

P01.23	<b>Adsorption and diffusion of lithium in bulk and layered silicon</b> , <i>G. A. Tritsarlis<sup>1,2</sup>, S. Meng<sup>3</sup>, E. Wang<sup>2</sup>, E. Kaziras<sup>1,4</sup></i> , <sup>1</sup> School of Engineering and Applied Sciences, Harvard University, Massachusetts 02138, United States, <sup>2</sup> International Center for Quantum Materials, Peking University, Beijing 100871, China, <sup>3</sup> Institute of Physics, Chinese Academy of Sciences, Beijing 100190, China, <sup>4</sup> Department of Physics, Harvard University, Massachusetts 02138, United States
P01.24	<b>Two-Dimensional Silicon and Germanium-Based Materials</b> , <i>D. Kaltsas<sup>1</sup>, T. Tsatsoulis<sup>1</sup>, O. G. Ziogos<sup>2</sup> and L. Tsetseris<sup>1</sup></i> , <sup>1</sup> Department of Physics, National Technical University of Athens, Athens, Greece <sup>2</sup> Department of Chemical Engineering, National Technical University of Athens, Athens, Greece
P01.25	<b>In-vitro Evaluation of Cobalt and Manganese Ferrite Nanoparticles for Magnetic Particle Hyperthermia</b> , <i>A. Makridis<sup>1</sup>, M. Tziomaki<sup>1</sup>, K. Topouridou<sup>2</sup>, K. Simeonidis<sup>1</sup>, D. Sakellari<sup>1</sup>, M. P. Yavropoulou<sup>2</sup>, M. Angelakeris<sup>1</sup>, J. G. Yovos<sup>2</sup> and O. Kalogirou<sup>2</sup></i> , <sup>1</sup> Department of Physics, Aristotle University, 54124 Thessaloniki, Greece, <sup>2</sup> Division of Molecular Endocrinology, AHEPA University Hospital, Aristotle University of Thessaloniki, Thessaloniki, Greece
P01.26	<b>Graphene Oxide Combined with PEDOT as Pt-Free Electrocatalyst for Quasi-Solid State Dye-Sensitized Solar Cells. An XPS Study</b> , <i>L. Sygellou<sup>1</sup>, D. Tasis<sup>1</sup>, A. Nikolakopoulou<sup>1,2</sup>, V. Dracopoulos<sup>2</sup>, C. Galiotis<sup>1,3</sup>, P. Lianos<sup>1,2</sup></i> , <sup>1</sup> FORTH/ICE-HT, P.O. Box 1414, 26504 Patras, Greece, <sup>2</sup> Engineering Science Dept, University of Patras, 26504 Patras, Greece, <sup>3</sup> Dept. Materials Science, University of Patras, 26504 Patras, Greece
P01.27	<b>Surface Chemical Investigation of High-k Oxides Thin Films Grown by Atomic Layer Deposition on Ge (100)</b> , <i>G. Skoulatakis<sup>1</sup>, S. Kennou<sup>1</sup>, M. Botzakaki<sup>2</sup>, N. Xanthopoulos<sup>2</sup>, S. N. Georga<sup>2</sup> and C. A. Krontiras<sup>2</sup></i> , <sup>1</sup> Department of Chemical Engineering, University of Patras, Karatheodoris 1, University Campus GR 265 00 Patras, Greece, <sup>2</sup> Department of Physics, University of Patras, University Campus GR 265 00 Patras, Greece
P01.28	<b>A multi-level computational approach to the binding possibilities of carbon onions</b> , <i>B. Adhikari<sup>1</sup>, B. Muthuraman<sup>1</sup>, C. Mathioudakis<sup>2</sup>, M. Fyta<sup>1</sup></i> , <sup>1</sup> Institute for Computational Physics, University of Stuttgart, Allmandring 3, 70569 Stuttgart, Germany, <sup>2</sup> Research Unit for Nanostructured Materials Systems, Department of Mechanical and Materials Science Engineering, Cyprus University of Technology, P.O. Box 50329, 3603 Limassol, Cyprus
P01.29	<b>CO<sub>2</sub> adsorption on TiN/Graphene systems (N=1, 3, 13) by ab-initio Calculations</b> , <i>M. A. Gialampouki<sup>1</sup>, Ch. E. Lekka<sup>1</sup></i> , <sup>1</sup> Department of Materials Science and Engineering, University of Ioannina, Ioannina. 45110, Greece
P01.30	<b>Sol-Gel grown compound ZnO:Au Thin Films for optoelectronic and Gas Sensing Applications</b> , <i>P. Koralli<sup>1,2</sup>, G. Mousdis<sup>2</sup>, M. Kompitsas<sup>2</sup>, D. E. Manolakos<sup>1</sup></i> , <sup>1</sup> School of Mechanical Engineering, National Technical University of Athens, Iroon Polytechniou 9 Zografos, 15780 Athens, GREECE, <sup>2</sup> National Hellenic Research Foundation, Theoretical and Physical Chemistry Institute, 48 Vasileos Constantinou Avenue, 11635 Athens, GREECE
P01.31	<b>Broadband Dielectric Spectroscopy Study in PEDOT:PSS Films</b> , <i>A. N. Papathanassiou<sup>1</sup>, I. Sakellis<sup>1</sup>, J. Grammatikakis<sup>1</sup>, E. Vitoratos<sup>2</sup> and S. Sakkopoulos<sup>2</sup></i> , <sup>1</sup> University of Athens, Physics Department, Solid State Physics Section, Panepistimiopolis, GR 15784 Zografos, Athens, Greece, <sup>2</sup> University of Patras, Physics Department, Condensed Matter Physics Section, GR 265 00, Patras, Greece
P01.32	<b>Study of the Bioactivity and Biodegradability of a Ca, Mg, Si containing Bioceramic</b> , <i>E. K. Dimou<sup>1</sup>, G. Theodorou<sup>1</sup>, O. M. Goudouri<sup>2</sup>, L. Papadopoulou<sup>3</sup>, N. Kantiranis<sup>3</sup>, G. Zachariadis<sup>4</sup>, K. M. Paraskevopoulos<sup>1</sup></i> , <sup>1</sup> Department of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece, <sup>2</sup> Institute of Biomaterials, Department of Materials Science and Engineering, University of Erlangen-Nuremberg, 91058 Erlangen, Germany, <sup>3</sup> School of Geology, <sup>4</sup> Department of Chemistry, University of Thessaloniki, 54124 Thessaloniki, Greece
P01.33	<b>Raman and XRF spectroscopy study of companion animal nails</b> , <i>A. M. Paschou<sup>1</sup>, M. Katsikini<sup>1</sup>, D. Christofilos<sup>2</sup>, J. Arvanitidis<sup>1</sup>, S. Ves<sup>1</sup>, and G. Kazakos<sup>3</sup></i> , <sup>1</sup> School of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki, <sup>2</sup> Physics Division, School of Technology, Aristotle University of Thessaloniki, 54124 Thessaloniki, <sup>3</sup> School of Veterinary Medicine, Aristotle University of Thessaloniki, 54124 Thessaloniki
P01.34	<b>Scattering Study of Complexation of Lysozyme with Triblock Polyelectrolyte Micelles</b> , <i>A. Papagiannopoulos<sup>1</sup>, M. Karayianni<sup>1</sup>, G. Mountrichas<sup>1</sup>, S. Pispas<sup>1</sup> and A. Radulescu<sup>2</sup></i> , <sup>1</sup> Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, 48 Vassileos Constantinou Avenue, 11635 Athens, Greece, <sup>2</sup> Institute for Solid State Research, Research Centre Jülich, 52425 Jülich, Germany
P01.35	<b>Synthesis and Characterization of Silicate Glasses With the Sol-Gel Process Containing MgO and ZnO</b> , <i>G. Theodorou<sup>1</sup>, E. Kontonasaki<sup>2</sup>, O. M. Goudouri<sup>3</sup>, L. Papadopoulou<sup>4</sup>, N. Kantiranis<sup>4</sup>, K. Chrissafis<sup>1</sup>, A. R. Boccaccini<sup>3</sup>, K. M. Paraskevopoulos<sup>1</sup></i> , <sup>1</sup> Department of Physics, <sup>2</sup> School of Dentistry, <sup>4</sup> School of Geology, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece, <sup>3</sup> Department of Materials Science and Engineering, University of Erlangen-Nuremberg, Germany

<b>P01.36</b>	<b>Molecular simulation of polymer nanocomposites at multiple length scales</b> , <i>I. G. Mathioudakis<sup>1</sup>, G. G. Vogiatzis<sup>1</sup> and D. N. Theodorou<sup>1</sup></i> , <sup>1</sup> School of Chemical Engineering, National Technical University of Athens, Athens, Greece
<b>P01.37</b>	<b>Mechanics of Biological Nanocomposites: The Case of Nacre in Mediterranean Shells</b> , <i>M. Karyou<sup>1</sup>, M. Constantinou<sup>1</sup>, L. Koutsokeras<sup>1</sup> and G. Constantinides<sup>1</sup></i> , <sup>1</sup> Department of Mechanical Engineering and Materials Science and Engineering, Research Unit for Nanostructured Materials Systems, Cyprus University of Technology, Lemesos, Cyprus
<b>P01.38</b>	<b>Effects of Heat Treatment on Anti-Corrosion Behavior of Carburized Ni Plates</b> , <i>E. M Pechlivani<sup>1</sup>, G. Stergioudis<sup>1</sup>, E. Pavlidou<sup>2</sup>, D. Tsipas<sup>3</sup></i> , <sup>1</sup> Applied Physics Laboratory, Department of Physics, Aristotle University of Thessaloniki, Thessaloniki 54124 Greece, <sup>2</sup> Laboratory for Scanning Electron Microscope, Department of Physics, Aristotle University of Thessaloniki, Thessaloniki 54124 Greece, <sup>3</sup> Physical Metallurgy Laboratory, Department of Mechanical Engineering, Aristotle University of Thessaloniki, Thessaloniki 54124 Greece
<b>P01.39</b>	<b>On the compaction of commercial thermoelectric Mg<sub>2</sub>Si via cold pressing</b> , <i>V. Giannoulatou, G. S. Polymeris, E. Hatzikraniotis, K. M. Paraskevopoulos</i> , Solid State Section, Physics Department, Aristotle University of Thessaloniki, GR- 54124, Thessaloniki, Greece
<b>P01.40</b>	<b>Optical and Mechanical Properties of Silicone-based Nanocomposites</b> , <i>P. Nikolaou<sup>1</sup>, M. Constantinou<sup>1</sup>, G. Constantinides<sup>1</sup>, P. Patsalas<sup>2</sup> and L. E. Koutsokeras<sup>1</sup></i> , <sup>1</sup> Research Unit for Nanostructured Materials Systems, Department of Mechanical Engineering and Materials Science and Engineering, Cyprus University of Technology, Limassol, Cyprus, <sup>2</sup> Department of Physics, Aristotle University of Thessaloniki, Thessaloniki, Greece

P02.01	<b>Structural and electromagnetic characterization of ferrite magnetodielectric materials for microwave applications</b> , <i>E. Varouti</i> <sup>1</sup> , <i>E. Manios</i> <sup>1</sup> , <i>D. Stamopoulos</i> <sup>1</sup> , <i>M. Pissas</i> <sup>1</sup> , <i>A. Alexandridis</i> <sup>2</sup> , <i>T. Zervos</i> <sup>2</sup> , <sup>1</sup> Institute for Advanced Materials, Physicochemical Processes, Nanotechnology and Microsystems, NCSR Demokritos, 15310, Athens, Greece, <sup>2</sup> Institute of Informatics & Telecommunications, NCSR Demokritos, 15310 Athens, Greece
P02.02	<b>Magnetic Properties and Structure of Fe Doped Mn-Ni-Sn Ribbons</b> , <i>C. Sarafidis</i> <sup>1,2</sup> , <i>M. Gjoka</i> <sup>2</sup> , <i>O. Kalogirou</i> <sup>1</sup> and <i>D. Niarchos</i> <sup>2</sup> , <sup>1</sup> Third Lab. of Physics, Physics Dpt, Aristotle University of Thessaloniki, Greece, <sup>2</sup> Institute for Advanced Materials, Physicochemical Processes, Nanotechnology & Microsystems NCSR Demokritos, Agia Paraskevi, Greece
P02.03	<b>Aging effects in YBa<sub>2</sub>Cu<sub>3</sub>O<sub>6-x</sub> single crystal with critical temperatures near the spin glass-superconducting phase boundary (0 &lt; T<sub>c</sub> &lt; 30 K)</b> , <i>G. Papageorgiou</i> <sup>1,2</sup> and <i>M. Pissas</i> <sup>1</sup> , <sup>1</sup> Institute of Advanced Materials, Physicochemical Processes, Nanotechnology & Microsystems, NCSR Demokritos, <sup>2</sup> Physics Department, National and Kapodistrian University of Athens
P02.04	<b>Study of FePt-C/SiO<sub>2</sub> thin films for magnetic recording applications</b> , <i>G. Giannopoulos</i> , <i>Th. Speliotis</i> and <i>D. Niarchos</i> , IAMPPNM, NCSR Demokritos, Athens 15310, Greece
P02.05	<b>Orbital and spin order transitions in La<sub>1-x</sub>Nd<sub>x</sub>MnO<sub>3+δ</sub> (δ ≥ 0) perovskite compounds</b> , <i>K. Georgalas</i> , <i>E. Syskakis</i> , Section of Solid State Physics, Department of Physics, University of Athens, Panepistimiopolis, Gr-15784 Zografos, Athens
P02.06	<b>Engineering Hidden Order Parameters And Quartets In Correlated Nanostructures</b> , <i>G. Livanas</i> <sup>1</sup> , <i>G. Varelogiannis</i> <sup>1</sup> and <i>P. Christodoulou</i> <sup>1</sup> , <sup>1</sup> Department of Physics, National Technical University of Athens, GR-15780 Athens, Greece
P02.07	<b>Angular dependence of the peak effect in MgB<sub>2-x</sub>C<sub>x</sub></b> , <i>I. Amvrazi</i> <sup>1,2</sup> and <i>M. Pissas</i> <sup>1</sup> , <sup>1</sup> Institute of Advanced Materials, Physicochemical Processes, Nanotechnology & Microsystems, NCSR Demokritos, <sup>2</sup> Physics Department, National and Kapodistrian University of Athens
P02.08	<b>Magnetism in binary and encapsulated Co-O clusters</b> , <i>D. Tzeli</i> <sup>1</sup> , <i>A. Morphis</i> <sup>1</sup> , <i>J. A. Blackman</i> <sup>2</sup> , and <i>K. N. Trohidou</i> , <sup>1</sup> IAMPPNM, Department of Materials Science, NCSR Demokritos, Athens, Greece, <sup>2</sup> Department of Physics and Astronomy, University of Leicester, Leicester LE1 7RH, United Kingdom
P02.09	<b>Perpendicular magnetic anisotropy in W—CoFeB—MgO magnetic heterostructures</b> , <i>Th. Speliotis</i> , <i>V. Psycharis</i> , <i>A. Kaidatzis</i> and <i>D. Niarchos</i> , Institute of Advanced Materials, Physicochemical Processes, Nanotechnology and Microsystems, National Center for Scientific Research Demokritos, 15310 Athens, Greece, * <a href="mailto:tspeliotis@ims.demokritos.gr">tspeliotis@ims.demokritos.gr</a>
P02.10	<b>Theoretical and experimental study on the stray magnetic field produced from cracks on ferromagnetic material</b> , <i>I. Kaliakatsou-Papakosta</i> <sup>1,2</sup> , <i>E. Manios</i> <sup>1</sup> , and <i>M. Pissas</i> <sup>1</sup> , <sup>1</sup> Institute for Advanced Materials, Physicochemical Processes, Nanotechnology & Microsystems, NCSR Demokritos, <sup>2</sup> Department of Physics, National and Kapodistrian University of Athens
P02.11	<b>Suppression of the Jahn Teller distortion in LaMn<sub>1-x</sub>Fe<sub>x</sub>O<sub>3+δ</sub> (δ ≈ 0) compounds</b> , <i>G. Vertsioti</i> , <i>M. Calamiotou</i> , <i>E. Syskakis</i> , Section of Solid State Physics, Department of Physics, University of Athens, Panepistimiopolis, Gr-15784 Zografos, Athens
P02.12	<b>Confined 1,4 cis Polyisoprenes within Self-Ordered Anodic Aluminum Oxide Effect on the Segmental and Global Dynamics</b> , <i>S. Alexandris</i> <sup>1</sup> , <i>M. Steinhart</i> <sup>2</sup> , <i>G. Floudas</i> <sup>1</sup> , <sup>1</sup> Department of Physics, University of Ioannina, <sup>2</sup> Institut für Chemie neuer Materialien, Universität Osnabrück
P02.13	<b>β-Cyclodextrin Molecularly Imprinted Polymers (β-CyD MIPs) for dye binding</b> , <i>G. Z. Kyzas</i> , <i>N. K. Lazaridis</i> and <i>D. N. Bikiaris</i> , Division of Chemical Technology, Department of Chemistry, Aristotle University of Thessaloniki, Greece
P02.14	<b>HA Coatings Reinforced by La<sub>2</sub>O<sub>3</sub>, Sm Doped CeO<sub>2</sub> and Cu-Zr-Al-Ag Metallic Glass Addition on Metal Substrate: Bioactive Behavior Evaluation</b> , <i>G. Theodorou</i> <sup>1</sup> , <i>M. Perissi</i> <sup>1</sup> , <i>L. Papadopoulou</i> <sup>2</sup> , <i>N. Kantiranis</i> <sup>2</sup> , <i>S. Yugeswaran</i> <sup>3</sup> , <i>A. Kobayashi</i> <sup>3</sup> , <i>K. M. Paraskevopoulos</i> <sup>1</sup> , <sup>1</sup> Department of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece, <sup>2</sup> School of Geology, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece, <sup>3</sup> Joining & Welding Research Institute, Osaka University, Osaka 567-0047, Japan
P02.15	<b>Thermoresponsive Aggregation of PS-PNIPAM-PS triblock copolymer in aqueous solutions</b> , <i>A. Papagiannopoulos</i> <sup>1</sup> , <i>J. Zhao</i> <sup>1</sup> , <i>S. Pispas</i> <sup>1</sup> and <i>A. Radulescu</i> <sup>2</sup> , <sup>1</sup> Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, 48 Vassileos Constantinou Avenue, 11635 Athens, Greece, <sup>2</sup> Institute for Solid State Research, Research Centre Jülich, 52425 Jülich, Germany

<b>P02.16</b>	<b>Controlled Drug Release And Antibacterial Activity Of Composite P(MAA-co-MBAAm)/Fe<sub>3</sub>O<sub>4</sub>/Ag Microspheres</b> , <i>A. Chatzipavlidis</i> <sup>1,2</sup> , <i>L.-A. Tziveleka</i> <sup>2</sup> , <i>P. Bilalis</i> <sup>3</sup> , <i>A. Galeou</i> , <sup>4</sup> <i>G. Kordas</i> <sup>2</sup> , <i>C. A. Charitidis</i> <sup>1</sup> , <sup>1</sup> National Technical University of Athens, School of Chemical Engineering, 9 Heroon Polytechniou St, Zografos, Athens GR-15780, Greece, <sup>2</sup> NCSR Demokritos, Institute for Advanced Materials, Physicochemical processes, Nanotechnology & Microsystems, Aghia Paraskevi Attikis, Athens, GR-15310, Greece, <sup>3</sup> Industrial Chemistry Laboratory, Department of Chemistry, University of Athens, 15771 Athens, Greece, <sup>4</sup> NCSR Demokritos, Institute of Biosciences & Applications, Aghia Paraskevi Attikis, Athens, GR-15310, Greece
<b>P02.17</b>	<b>Neutron Scattering, Dielectric and Thermal Studies on Thermoresponsive Polymers of Complex Architecture</b> , <i>D. Aravopoulou</i> <sup>1</sup> , <i>M. Souli</i> <sup>1</sup> , <i>K. Kyriakos</i> <sup>2</sup> , <i>A. Miasnikova</i> <sup>3</sup> , <i>C. M. Papadakis</i> <sup>2</sup> and <i>A. Kyritsis</i> <sup>1</sup> , <sup>1</sup> National Technical University of Athens, Department of Physics, Athens, Greece, <sup>2</sup> Technische Universität München, Physikdepartment, Germany, <sup>3</sup> Universität Potsdam, Department of Chemistry, Potsdam, Germany
<b>P02.18</b>	<b>Biocompatible <math>\gamma</math>-Fe<sub>2</sub>O<sub>3</sub> nanoparticles/ amphiphilic diblock copolymers hybrid nanocolloids</b> , <i>E. Vlassi</i> <sup>1</sup> , <i>A. Bakandritsos</i> <sup>2</sup> and <i>S. Pispas</i> <sup>1</sup> , <sup>1</sup> Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, 48 Vassileos Constantinou Avenue, 11635 Athens, Greece, <sup>2</sup> Department of Materials Science, University of Patras, 26504 Rion, Greece
<b>P02.19</b>	<b>Dehydration kinetics of Sepiolites and Palygorskites</b> , <i>M. Tsampodimou</i> , <i>V. Gionis</i> and <i>G. D. Chrysikos</i> , Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, 48 Vassileos Constantinou Ave, Athens 11635, Greece
<b>P02.20</b>	<b>The Case of Portable Icons from Historical Saint Paul's Church of 'T.C.M.F'</b> , <i>A. Rousaki</i> <sup>1</sup> , <i>D. Lazidou</i> <sup>2</sup> , <i>T. Zorba</i> <sup>1</sup> , <i>T. Fardi</i> <sup>3</sup> , <i>D. Nikolis</i> <sup>3</sup> , <i>N. Bonovas</i> <sup>4</sup> , <i>I. Iazlis</i> <sup>5</sup> , <i>E. Pavlidou</i> <sup>6</sup> , <i>K. M. Paraskevopoulos</i> <sup>1</sup> , <sup>1</sup> FTIR and Thermal Analysis Laboratory, Solid State Physics Section, Physics Department, Aristotle University of Thessaloniki, GR-54214 Thessaloniki, Greece, <sup>2</sup> Head of conservation department, Museum of Byzantine Culture, 2 Stratou Avenue, GR-54640, Thessaloniki, Greece, <sup>3</sup> Painting Conservator, <sup>4</sup> Archaeologist, Museum of Byzantine Culture, 2 Stratou Avenue, GR-54640, Thessaloniki, Greece, <sup>5</sup> Archaeological Museum of Thessaloniki, <sup>6</sup> Manoli Andronikou Street. GR-54013, Thessaloniki, Greece, <sup>6</sup> Electron Microscopy Laboratory, Solid State Physics Section, Physics Department, Aristotle University of Thessaloniki, GR-54214 Thessaloniki, Greece
<b>P02.21</b>	<b>Separating the Contribution of Thermal Activation in the Predose-Effect of Quartz</b> , <i>S. K. Dimitriadis</i> <sup>1</sup> , <i>I. K. Sfamba</i> <sup>1</sup> , <i>G. S. Polymeris</i> <sup>2</sup> and <i>G. Kitis</i> <sup>1</sup> , <sup>1</sup> Aristotle University of Thessaloniki, Nuclear Physics Laboratory, 54124, Thessaloniki, Greece, <sup>2</sup> Aristotle University of Thessaloniki, Solid State Physics Section, 54124, Thessaloniki, Greece
<b>P02.22</b>	<b>Morphology, Dielectric Response and Energy Storage in Zinc Titanate/Epoxy Resin Nanodielectrics</b> , <i>G. C. Psarras</i> <sup>1</sup> , <i>A. Kanapitsas</i> <sup>2</sup> , <i>C. Tsonos</i> <sup>2</sup> , <sup>1</sup> Department of Materials Science, University of Patras, Patras 26504, Greece, <sup>2</sup> Department of Electronics, Technological Educational Institute of Lamia, Lamia, Greece
<b>P02.23</b>	<b>Microwave Reflection Reduction and Shielding Effectiveness of Carbon Black, Multiwalled Carbon Nanotube and Nanoclay loaded epoxy composites</b> , <i>C. A. Stergiou</i> <sup>1</sup> , <i>A. Z. Stimoniaris</i> <sup>2</sup> and <i>C. G. Delides</i> <sup>2</sup> , <sup>1</sup> Lab. of Inorganic Materials, Centre for Research and Technology Hellas, 57001 Themi, Greece, <sup>2</sup> Department of Pollution Control Technologies, T.E.I of Western Macedonia, Kila, 50100 Kozani, Greece
<b>P02.24</b>	<b>A Magnificent Double Painted meta-Byzantine Icon of St. Panteleimon at Gazoros: Pigment Characterization by Combined Spectroscopic Analysis</b> , <i>D. Patsiaoura</i> <sup>1</sup> , <i>P. Beinas</i> <sup>2</sup> , <i>E. Pavlidou</i> <sup>3</sup> , <i>T. Zorba</i> <sup>1</sup> , <i>A. Rousaki</i> <sup>1</sup> , <i>K. M. Paraskevopoulos</i> <sup>1</sup> , <sup>1</sup> FTIR and Thermal Analysis Laboratory, Solid State Physics Section, Physics Department, Aristotle University of Thessaloniki, GR-54124 Thessaloniki, Greece, <sup>2</sup> Painting Conservator, 'Esaetexnon' Artwork conservation Laboratory, GR-60100 Katerini, Greece, <sup>3</sup> Electron Microscopy Laboratory, Solid State Physics Section, Physics Department, Aristotle University of Thessaloniki, GR-54124 Thessaloniki, Greece
<b>P02.25</b>	<b>Construction of an Experimental Setup for the Study of the Behaviour of Ceramic Materials under Oxygen Partial Pressure Variation</b> , <i>K. Panos</i> <sup>1</sup> , <i>P. Pandis</i> <sup>1</sup> , <i>P. M. Sakkas</i> <sup>1</sup> , <i>D. G. Kanellopoulou</i> <sup>1</sup> , <i>G. Sourkouni</i> <sup>2</sup> , <i>Chr. Argirusis</i> <sup>1,2</sup> , <sup>1</sup> National Technical University of Athens, School of Chemical Engineering, Laboratory of Inorganic Materials Technology, Iroon Polytechniou 9, Zografou, Greece, <sup>2</sup> Energy Research Center of Lower Saxony (EFZN), 38640 Goslar, Germany
<b>P02.26</b>	<b>Effect of Sonication on the Structural Changes and the Thermomechanical Properties of Epoxy/Fly Ash Composites</b> , <i>A. Z. Stimoniaris</i> <sup>1</sup> , <i>A. P. Karadiakos</i> <sup>2</sup> , <i>C. A. Stergiou</i> <sup>3</sup> , <i>A. E. Domopoulou</i> <sup>1</sup> , <i>M. A. Karakassides</i> <sup>2</sup> and <i>C. G. Delides</i> <sup>1</sup> , <sup>1</sup> Department of Pollution Control Technologies, T.E.I. of Western Macedonia, Kozani, Greece, <sup>2</sup> Department of Materials Science and Engineering, University of Ioannina, Greece, <sup>3</sup> Lab. of Inorganic Materials, Centre for Research and Technology Hellas, 57001 Themi, Greece



P02.27	<b>Low content TiO<sub>2</sub> Polymer Matrix Nanocomposites: Towards High Energy Storage Efficient Systems.</b> , <i>G. N. Tomara<sup>1</sup>, A. P. Kerasidou<sup>1</sup>, A. C. Patsidis<sup>2</sup> P. K. Karahaliou<sup>1,2</sup>, G. C. Psarras<sup>2</sup>, S. N. Georga<sup>1</sup>, C. A. Krontiras<sup>1</sup></i> , <sup>1</sup> Department of Physics, University of Patras, 26504, Patras, Greece, <sup>2</sup> Department of Materials Science, University of Patras, 26504, Patras, Greece
P02.28	<b>Electromagnetic Characterization and Microwave Absorption of Y-type Hexaferrites</b> , <i>C. A. Stergiou<sup>1</sup> and G. Litsardakis<sup>2</sup></i> , <sup>1</sup> Lab. of Inorganic Materials, Centre for Research and Technology Hellas, 57001, Themi, Greece, <sup>2</sup> Lab. of Materials for Electrotechnics, Aristotle University of Thessaloniki, Greece
P02.29	<b>Pre-dose effect in BaSO<sub>4</sub> and possibility of zeroing thermoluminescence signal of gypsum by petrification: two luminescence features affecting dating of portable paintings through ground layers by using luminescence</b> , <i>B. A. Ageli<sup>1</sup>, I. K. Sfamba<sup>1</sup>, G. Kitis<sup>1</sup>, G. S. Polymeris<sup>2</sup></i> , <sup>1</sup> Nuclear and Elementary Particle Physics Laboratory, Department of Physics, Aristotle University of Thessaloniki, GR-54214 Thessaloniki, Greece, <sup>2</sup> Solid State Section, Department of Physics, Aristotle University of Thessaloniki, GR-54214 Thessaloniki, Greece
P02.30	<b>Conductivity Study of the M<sub>3</sub>Fe<sub>4</sub>V<sub>6</sub>O<sub>24</sub> System</b> , <i>K. Karkas<sup>1</sup>, N. Guskos<sup>1,2</sup> and Ch. Voulgaris<sup>1</sup></i> , <sup>1</sup> Department of Physics, University of Athens, Panepistimiopolis, 157.84 Zografos, Athens, Greece, <sup>2</sup> Institute of Physics, Szczecin University of Technology, Al. Piastow 17, 70.310 Szczecin, Poland
P02.31	<b>Dielectric Properties of Epoxy Resin - Boron Carbide Composites</b> , <i>E. C. Senis<sup>1</sup>, A. C. Patsidis<sup>1</sup> and G. C. Psarras<sup>1</sup></i> , <sup>1</sup> Department of Material Science, University of Patras
P02.32	<b>Dielectric response, functionality and energy storage in barium titanate-epoxy resin nanocomposites</b> , <i>A. C. Patsidis<sup>1</sup>, A. Kanapitsas<sup>2</sup>, C. Tsonos<sup>2</sup> and G. C. Psarras<sup>1</sup></i> , <sup>1</sup> Department of Materials Science, School of Natural Sciences, University of Patras, Patras 26504, Greece, <sup>2</sup> Department of Electronics, Technological Educational Institute of Lamia, 35100 Lamia, Greece
P02.33	<b>Saint Demetrios Monastery of Stomion: Study of Wall Paintings in the Catholicon</b> , <i>L. Malletzidou<sup>1</sup>, P. Beinas<sup>2</sup>, A. Rousaki<sup>1</sup>, T. Zorba<sup>1</sup>, E. Pavlidou<sup>1</sup>, K. M. Paraskevopoulos<sup>1</sup></i> , <sup>1</sup> Physics Department, Solid State Physics Section, Aristotle University of Thessaloniki, GR-54124, Thessaloniki, Macedonia, Greece, <sup>2</sup> Painting Conservator, 'Esaetixnon' Artwork Conservation Laboratory, GR-60100 Katerini, Greece
P02.34	<b>Joining of C<sub>f</sub>/SiC composite to Ti alloy</b> , <i>P. Yialouris<sup>1</sup>, X. Hernandez<sup>2</sup>, C. Jimenez<sup>2</sup>, V. Liedtke<sup>3</sup>, C. Wilhelm<sup>4</sup>, S. Messoloras<sup>1</sup> and K. Mergia<sup>1</sup></i> , <sup>1</sup> Institute of Nuclear and Radiological Science, Energy, Technology and Safety, National Centre for Scientific Research Demokritos, 15310 Aghia Paraskevi, Athens, Greece, <sup>2</sup> Tecnalia Research & Innovation, Mikeletegi Pasealekua, 2, Donostia-San Sebastian, Spain, <sup>3</sup> Aerospace & Advanced Composites GmbH, A-2700 Wiener Neustadt, Austria, <sup>4</sup> EADS Innovation Works, 81663 Munich, Germany
P02.35	<b>Contact-less Charging Effects in RF MEMS Capacitive Switches</b> , <i>M. Koutsourelis<sup>1</sup>, L. Michalas<sup>1</sup>, P. Martins<sup>2</sup>, E. Papandreou<sup>1</sup>, A. Leuliet<sup>2</sup>, S. Bansropun<sup>2</sup>, G. Papaioannou<sup>1</sup> and A. Ziaei<sup>2</sup></i> , <sup>1</sup> Solid State Section, Physics Department, University of Athens, Athens 15784, Greece, <sup>2</sup> Thales Research & Technology, F91767, Palaiseau Cedex, France
P02.36	<b>Excimer Laser Annealing For Subsurface Modification Of Ag Nanoparticles in Aluminum Nitride Thin Films</b> , <i>D. C. Koutsogeorgis<sup>1</sup>, A. Siozios<sup>2</sup>, E. Lidorikis<sup>2</sup>, W. M. Cranton<sup>1</sup>, C. Kosmidis<sup>3</sup>, P. Patsalas<sup>2,4</sup></i> , <sup>1</sup> School of Science and Technology, Nottingham Trent University, Nottingham, NG11 8NS, United Kingdom, <sup>2</sup> Department of Materials Science and Engineering, University of Ioannina, Ioannina, 45110, Greece, <sup>3</sup> Department of Physics, University of Ioannina, Ioannina, 45110, Greece, <sup>4</sup> Department of Physics, Aristotle University of Thessaloniki, GR-54124 Thessaloniki, Greece
P02.37	<b>SEM-EDS and micro-Raman investigations in coated CoSb<sub>3</sub> skutterudite</b> , <i>A. Rousaki<sup>1</sup>, E. Hatzikraniotis<sup>1</sup>, K. Zawadzka<sup>2</sup>, E. Godlewska<sup>2</sup>, K. Mars<sup>2</sup>, D. Lampakis<sup>3</sup> and K. M. Paraskevopoulos<sup>1</sup></i> , <sup>1</sup> Solid State Section, Physics Department, Aristotle University of Thessaloniki, GR-54124, Thessaloniki, Greece, <sup>2</sup> Faculty of Materials Science and Ceramics, AGH University of Science and Technology, Krakow, Poland, <sup>3</sup> University Ecclesiastical Academy of Thessaloniki, Department of Management and Conservation of Ecclesiastical Cultural Heritage Objects, 542 50 Thessaloniki, Greece
P02.38	<b>Thin film silicon a-Si/<math>\mu</math>c-Si tandem photovoltaic modules and comparison of outdoor performance with c-Si modules</b> , <i>G. Koutsourakis<sup>1</sup>, G. Leftheriotis<sup>1</sup>, P. Yianoulis<sup>1</sup></i> , <sup>1</sup> Energy and Environment Lab, Physics Department, University of Patras, Rion, 26500, Greece
P02.39	<b>Structural and optical properties of TiO<sub>2</sub> thin films prepared by spin-coating technique</b> , <i>I. Sta<sup>1</sup>, M. Jlassi<sup>1</sup>, M. Hajji<sup>1,2</sup>, M. Kompitsas<sup>3</sup> and H. Ezzaouia<sup>1</sup></i> , <sup>1</sup> Laboratoire de Photovoltaïque, Centre de Recherche et des Technologies de l'Énergie, Technopole de Borj-Cadria, BP 95, 2050 Hammam-Lif, Tunisie, <sup>2</sup> Institut Supérieur d'Électronique et de Communication de Sfax, Université de Sfax, BP 868, 3018 Sfax, Tunisie, <sup>3</sup> National Hellenic Research Foundation, Theoretical and Physical Chemistry Institute, 48, Vasileos, Konstantinou Ave, 11635 Athens, Greece

<b>P02.40</b>	<b>Local Symmetries And Perfect Transmission In 1-D Aperiodic Quantum And Photonic Systems</b> , <i>P. A. Kalozoumis</i> <sup>1</sup> , <i>C. Morfonios</i> <sup>2</sup> , <i>N. Palaiodimopoulos</i> <sup>1</sup> , <i>F. K. Diakonov</i> <sup>1</sup> and <i>P. Schmelcher</i> <sup>2,3</sup> , <sup>1</sup> Department of Physics, University of Athens, GR-15771 Athens, Greece, <sup>2</sup> Zentrum für Optische Quantentechnologien, Universität Hamburg, Luruper Chaussee 149, 22761 Hamburg, Germany , <sup>3</sup> The Hamburg Centre for Ultrafast Imaging, Luruper Chaussee 149, 22761 Hamburg, Germany
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Wednesday, September 25, 2013

13:00-15:00 Poster Session P03/Light Lunch

<b>P03.01</b>	<b>Dephasing rates in spin-based and charge based Quantum Dots</b> , <i>V. N. Stavrou<sup>1,2</sup> and G. P. Veropoulos<sup>2</sup></i> , <sup>1</sup> Department of Physics and Astronomy, University of Iowa, Iowa City, IA 52242, USA, <sup>2</sup> Division of Physics, Hellenic Naval Academy, 185 39 Hadjikyriakou, Piraeus, Greece
<b>P03.02</b>	<b>Annealing-induced lattice recovery and defect annihilation in In implanted GaN</b> , <i>M. Katsikini<sup>1</sup>, F. Pinakidou<sup>1</sup> and E. C. Paloura<sup>1</sup></i> , <sup>1</sup> School of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece
<b>P03.03</b>	<b>Fabrication and Characterization of MOS Memory Devices Containing Pt Nanocrystals</b> , <i>P. Bousoulas, E. Verrelli, D. Tsoukalas</i> , Department of Applied Physics, National Technical University of Athens, Iroon Polytechniou 9 Zografou, 15780 Athens, Greece
<b>P03.04</b>	<b>The Temperature Dependence of the Transient Photoconductivity of TiO<sub>2</sub> Nanopowder Modified with Urea</b> , <i>T. Georgakopoulos<sup>1</sup>, N. Todorova<sup>2</sup>, K. Pomoni<sup>1</sup> and C. Trapalis<sup>2</sup></i> , <sup>1</sup> Department of Physics University of Patras, 26500 Patras Greece, <sup>2</sup> Institute of Advanced Materials, Physicochemical Process, Nanotechnology and Microsystems, National Center for Scientific Research 'Demokritos' 15310 Ag. Paraskevi Attikis, Greece
<b>P03.05</b>	<b>Simulating the Effect of CO<sub>2</sub> Laser Radiation on Plasma Doped Silicon</b> , <i>S. Stathopoulos<sup>1</sup>, A. Florakis<sup>1</sup>, G. Bennisayag<sup>2</sup>, F. Torregrosa<sup>3</sup>, Y. Spiegel<sup>3</sup> and D. Tsoukalas<sup>1</sup></i> , <sup>1</sup> Department of Physics, National Technical University of Athens, Zographou 15780, Athens, Greece, <sup>2</sup> CEMES/CNRS, 31055 Toulouse CEDEX 4, France, <sup>3</sup> Ion Beam Services, 13790 Peynier, France
<b>P03.06</b>	<b>RF-Sputtering Growth and Study of Thermochromic VO<sub>2</sub> Thin Layers</b> , <i>M. Panagopoulou<sup>1</sup>, D. Tsoukalas<sup>1</sup> and Y. S. Raptis<sup>1</sup></i> , <sup>1</sup> School of Applied Mathematical. &Physical Sciences, National Technical University of Athens, GR 157 80 Athens, GREECE
<b>P03.07</b>	<b>Electrical Properties of ALD- Deposited Al<sub>2</sub>O<sub>3</sub> On n-type Germanium</b> , <i>M. Barlas<sup>1</sup>, V. Ioannou-Sougliridis<sup>2</sup>, S. Ladas<sup>3</sup>, S. Kennou<sup>3</sup>, M. Bersani<sup>4</sup>, M. Barozzi<sup>4</sup>, Th. Speliotis<sup>5</sup> and D. Skarlatos<sup>1</sup></i> , <sup>1</sup> Department of Physics, University of Patras, GR 26500 Patras, Greece, <sup>2</sup> Department of Microelectronics, NCSR Demokritos, GR 15310 Aghia Paraskevi, Athens, Greece, <sup>3</sup> Department of Chemical Engineering, University of Patras, GR 26500 Patras, Greece, <sup>4</sup> FBK-irst, Materials and Microsystem Center, Via Sommarive 18, 38123 Povo, Trento, Italy, <sup>5</sup> Department of Materials Science, NCSR Demokritos, GR 15310 Aghia Paraskevi, Athens, Greece
<b>P03.08</b>	<b>Scanning Hot Probe system for studying Spatial In-homogeneities in thermoelectric materials</b> , <i>A. Theodorakakos, G. S. Polymeris, E. Hatzikraniotis and K. M. Paraskevopoulos</i> , <sup>1</sup> Solid State Section, Physics Department, Aristotle University of Thessaloniki, GR- 54124, Thessaloniki, Greece
<b>P03.09</b>	<b>Micro-FTIR and SEM mapping in PbTe doped with Br</b> , <i>E. C. Stefanaki<sup>1</sup>, M. V. Nikolic<sup>2</sup>, E. Paulidou<sup>1</sup>, G. S. Polymeris<sup>1</sup>, E. Hatzikraniotis<sup>1</sup>, P. M. Nikolic<sup>3</sup> and K. M. Paraskevopoulos</i> , <sup>1</sup> Physics Department, Aristotle University of Thessaloniki, GR-54124, Thessaloniki, Greece, <sup>2</sup> Institute for Multi-disciplinary Research, University of Belgrade, Kneza Visaslava 1, 11000 Beograd, Serbia, <sup>3</sup> Institute of Technical Sciences of SASA, Knez Mihailova 35/IV, 11000 Belgrade, Serbia
<b>P03.10</b>	<b>Thickness effect on the electrical properties of Si<sub>3</sub>N<sub>4</sub>/n-Si Metal-Insulator-Semiconductor capacitors</b> , <i>I. Barmaxizoglou, I. Stavrakas, D. Triantis and S. F. Galata</i> , Department of Electronics, Technological Educational Institute of Athens, Athens, 12210, Greece
<b>P03.11</b>	<b>Properties Of ZAO Films Sputtered With Various Deposition Power And Annealed In Air Or N<sub>2</sub>/H<sub>2</sub></b> , <i>C. Tsiarapas<sup>1</sup>, D. Girginoudi<sup>1</sup>, N. Georgoulas<sup>1</sup> and V. Stathopoulos<sup>2</sup></i> , <sup>1</sup> Department of Electrical and Computer Engineering, Democritus University of Thrace, Building A' E&CE, University Campus Xanthi-Kimmeria, 67100, Xanthi, Greece, <sup>2</sup> General Department of Applied Sciences, Technological Educational Institute of Chalkida, Sklhro, 34400, Psachna Evias
<b>P03.12</b>	<b>Nanomechanical properties of engineering nanostructures</b> , <i>E. P. Koumoulos<sup>1</sup> and C. A. Charitidis<sup>1</sup></i> , <sup>1</sup> School of Chemical Engineering, National Technical University of Athens, 9 Heroon Polytechniou St, Zographos, Athens, 15780, Greece
<b>P03.13</b>	<b>Electronic Properties of Double-Wall Carbon Nanotubes</b> , <i>A. Diamantopoulou<sup>1</sup>, S. Glenis<sup>1</sup>, V. Likodimos<sup>1,2</sup>, N. Guskos<sup>1</sup></i> , <sup>1</sup> Department of Solid State Physics, University of Athens, Panepistimioupolis, GR-157 84 Athens, Greece, <sup>2</sup> Institute of Advanced Materials, Physicochemical Processes, Nanotechnology and Microsystems, NCSR Demokritos, Aghia Paraskevi Attikis, 15341 Athens, Greece

<b>P03.14</b>	<b>Intercalation Properties of Hydrothermally Grown Vanadium Oxide as a Capacitor Electrode Material</b> , <i>M. Apostolopoulou<sup>1</sup>, D. Louloudakis<sup>2,3</sup>, D. Vernardou<sup>2</sup>, N. Katsarakis<sup>2,4</sup> and E. Koudoumas<sup>2,5</sup></i> , <sup>1</sup> Department of Materials Science and Technology, University of Crete, 7103 Heraklion, Crete, Greece, <sup>2</sup> Center of Materials Technology and Photonics, School of Applied Technology, Technological Educational Institute of Crete, 7104 Heraklion, Crete, Greece, <sup>3</sup> Department of Physics, University of Crete, 71003 Heraklion, Crete, Greece, <sup>4</sup> Institute of Electronic Structure and Laser, Foundation for Research & Technology-Hellas, P.O. Box 1527, Vassilika Vouton, 711 10 Heraklion, Crete, Greece, <sup>5</sup> Electrical Engineering Department, Technological Educational Institute of Crete, 71004 Heraklion, Crete, Greece
<b>P03.15</b>	<b>Electronic Properties of Carbon Nanotube Poly(ether-ester) Composites</b> , <i>O. Manos<sup>1</sup>, S. Glenis<sup>1</sup>, A. Szymczyk<sup>2</sup>, V. Likodimos<sup>1,3</sup>, N. Guskos<sup>1</sup></i> , <sup>1</sup> Department of Solid State Physics, University of Athens, Panepistimioupolis, GR-157 84 Athens, Greece, <sup>2</sup> West Pomeranian University of Technology, Institute of Physics, Al. Piastów 17, 70-310 Szczecin, Poland, <sup>3</sup> Institute of Advanced Materials, Physicochemical Processes, Nanotechnology and Microsystems, NCSR Demokritos, Aghia Paraskevi Attikis, 15341 Athens, Greece
<b>P03.16</b>	<b>Superlattices and nano-structures of metal di-borides: a first-principles study</b> , <i>E. Gkogkosi<sup>1</sup> and L. Tsetseris<sup>1</sup></i> , <sup>1</sup> Department of Physics, National Technical University of Athens, Athens, Greece
<b>P03.17</b>	<b>Hydrophobic/Hydrophilic Channel Flows at the Nanoscale</b> , <i>F. Sofos, T. E. Karakasidis and A. Liakopoulos</i> , Laboratory of Hydromechanics and Environmental Engineering, Department of Civil Engineering, School of Engineering, University of Thessaly, Volos, GR-38334, Greece
<b>P03.18</b>	<b>Laser-assisted growth of graphene for energy applications</b> , <i>A. Antonelou<sup>1,2</sup>, T. Ioannides<sup>1</sup>, N. Bouropoulos<sup>1,2</sup> and S. N. Yannopoulos<sup>1,2</sup></i> , <sup>1</sup> FORTH/ICE-HT, P.O. Box 1414, GR-26504, Patras, Greece, <sup>2</sup> Department of Materials Science, University of Patras, GR-26504, Patras, Greece
<b>P03.19</b>	<b>The dependence of the magnetoresistance effect observed in Co-Nb-Co trilayers on the thickness of the superconducting interlayer</b> , <i>E. Aristomenopoulou, D. Stamopoulos</i> , Institute of Advanced Materials, Physicochemical Processes, Nanotechnology and Microsystems, NCSR Demokritos, 153-10, Aghia Paraskevi, Athens, Greece, * densta@ims.demokritos.gr,
<b>P03.20</b>	<b>Structure and Stability of Nanocrystalline Silicon</b> , <i>C. Neophytou<sup>1</sup> and P. C. Kelires<sup>1</sup></i> , <sup>1</sup> Research Unit for Nanostructured Materials Systems, Department of Mechanical and Materials Science Engineering, Cyprus University of Technology, P.O. Box 50329, 3603 Lemesos, Cyprus
<b>P03.21</b>	<b>Photoluminescence from Nanocrystalline/Microcrystalline Materials Based on (CH<sub>3</sub>NH<sub>3</sub>)(1-Naphthylmethyl Ammonium)<sub>2</sub>Pb<sub>2</sub>C<sub>17</sub> and Similar Compounds</b> , <i>G. C. Papavassiliou, G. Pagona, G. A. Mousdis, N. Karousis</i> , <sup>1</sup> Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, 48, Vassileos Constantinou Ave, Athens 116 35, Greece
<b>P03.22</b>	<b>Surface Characterization of Laser Irradiated Polymers/CNT Composites by Using SEM and SPM</b> , <i>E. Spyratou, S. Koutsoumpis, S. Kriptomou, A. Kyritsis and P. Pissis</i> , Department of Physics, National Technical University of Athens, Zografou Campus, 157 80 Athens, Greece
<b>P03.23</b>	<b>Graphene scrolls around carbon nanotubes: a first-principles study</b> , <i>M. Tzavala<sup>1</sup> and L. Tsetseris<sup>1</sup></i> , <sup>1</sup> Department of Physics, National Technical University of Athens, Athens, Greece
<b>P03.24</b>	<b>Energy Dispersive X-Ray Fluorescence Spectroscopy</b> , <i>E. Tsompopoulou<sup>1,2</sup>, K. Mergia<sup>2</sup></i> , <sup>1</sup> Department of Physics, University of Athens, 15784 Athens, Greece, <sup>2</sup> Institute of the Nuclear & Radiological Science, Energy, Technology & Safety, National Centre for Scientific Research Demokritos, 15310 Athens, Greece
<b>P03.25</b>	<b>Maximizing magnetic hyperthermia response by nanoparticle assembling</b> , <i>E. Myrovali<sup>1</sup>, K. Simeonidis<sup>2</sup>, M. Marciello<sup>3</sup>, M. P. Morales<sup>3</sup>, D. Serantes<sup>3</sup>, O. Chubykalo-Fesenko<sup>3</sup>, C. Martinez-Boubeta<sup>4</sup>, M. Angelakeris<sup>1</sup></i> , <sup>1</sup> Physics Department, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece, <sup>2</sup> Department of Mechanical Engineering, University of Thessaly, 38334 Volos, Greece, <sup>3</sup> Instituto de Ciencia de Materiales de Madrid ICMM-CSIC, 28049 Cantoblanco Madrid, Spain, <sup>4</sup> Departament d'Electronica-IN2UB, Universitat de Barcelona, 08028 Barcelona, Spain
<b>P03.26</b>	<b>Shape Effects on the Magnetic Behavior of Nanoparticles with Core/Shell Morphology</b> , <i>M. Vasilakaki<sup>1</sup>, K. N. Trohidou<sup>1</sup>, A. Morphis<sup>1</sup>, C. Binns<sup>2</sup></i> , <sup>1</sup> IAMPNNM, Department of Materials Science, NCSR Demokritos, Athens, Greece, <sup>2</sup> Department of Physics and Astronomy, University of Leicester, Leicester UK
<b>P03.27</b>	<b>Optical Properties of MoS<sub>2</sub> Nanostructures</b> , <i>D. Davelou<sup>1</sup>, G. Kopidakis<sup>1</sup>, G. Kioseoglou<sup>1</sup> and I. N. Remediakis<sup>1</sup></i> , <sup>1</sup> Department of Materials Science and Technology, University of Crete, Greece
<b>P03.28</b>	<b>Shaping the Composition Profiles in Heteroepitaxial Islands: Interplay of Thermodynamic and Kinetic Effects</b> , <i>C. Georgiou<sup>1</sup> and P. C. Kelires<sup>1</sup></i> , <sup>1</sup> Research Unit for Nanostructured Materials Systems, Department of Mechanical and Materials Science Engineering, Cyprus University of Technology, P.O. Box 50329, 3603 Lemesos, Cyprus

<b>P03.29</b>	<b>High Pressure Graphene-Environment Interactions Probed by Raman Spectroscopy</b> , <i>K. Filintoglou<sup>1</sup>, J. Arvanitidis<sup>1</sup>, D. Christofilos<sup>2</sup>, S. Ves<sup>1</sup>, G. A. Kourouklis<sup>2</sup>, J. Parthenios<sup>3</sup>, C. Galiotis<sup>3,4</sup> and K. Papagelis<sup>3,4</sup></i> , <sup>1</sup> Physics Department, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece, <sup>2</sup> Physics Division, School of Technology, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece, <sup>3</sup> FORTH/ICE-HT, 26504 Rio Patras, Greece, <sup>4</sup> Materials Science Department, University of Patras, 26504 Rio Patras, Greece
<b>P03.30</b>	<b>XPS Characterization of Drug Delivery Systems Based on Microporous Zeolites and Ordered Mesoporous Carbons</b> , <i>L. Sygellou<sup>1</sup>, T. A. Steriotis<sup>2</sup>, G. C. Charalambopoulou<sup>2</sup>, V. Nikolakis<sup>3</sup>, D. G. Fatouros<sup>4</sup>, A. Siokou<sup>1</sup></i> , <sup>1</sup> FORTH/ICE-HT, P.O. Box 1414, 26504 Patras, Greece, <sup>2</sup> National Center for Scientific Research Demokritos, Agia Paraskevi Attikis 15341, Greece, <sup>3</sup> University of Delaware, Catalysis Center for Energy Innovation & Department of Chemical and Biomolecular Engineering ,150 Academy St, Newark, DE 19716, USA, <sup>4</sup> Aristotle University of Thessaloniki, School of Pharmacy, Department of Pharmaceutical Technology, GR-54124 Thessaloniki, Greece
<b>P03.31</b>	<b>Metallic-Nanoparticles-Decorated Graphene for Surface Enhanced Raman Scattering</b> , <i>I. Lariou, M. Panagopoulou, S. Stathopoulos, D. Tsoukalas and Y. S. Raptis</i> , School of Applied Mathematical & Physical Sciences, National Technical University of Athens, GR 157 80 Athens, GREECE
<b>P03.32</b>	<b>Magnetic Properties of Few-Layer Graphene</b> , <i>P. Bougiatioti<sup>1</sup>, S. Glenis<sup>1</sup>, V. Likodimos<sup>1,2</sup>, N. Guskos<sup>1</sup></i> , <sup>1</sup> Department of Solid State Physics, University of Athens, Panepistimioupolis, GR-15784 Athens, Greece, <sup>2</sup> Institute of Advanced Materials, Physicochemical Processes, Nanotechnology and Microsystems, NCSR Demokritos, Aghia Paraskevi Attikis, 15341 Athens, Greece
<b>P03.33</b>	<b>Laser-Assisted Synthesis and Processing of Functional Chalcogenide Nanostructures</b> , <i>Th. Vasileiadis<sup>1,2</sup>, V. Dracopoulos<sup>1</sup>, M. Kolia<sup>3</sup>, L. Sygellou<sup>1</sup>, and S. N. Yannopoulos<sup>1,2</sup></i> , <sup>1</sup> FORTH/ICE-HT, P.O. Box 1414, GR-26504, Patras, Greece, <sup>2</sup> Department of Materials Science University of Patras, <sup>3</sup> Lab of Electron Microscopy and Microanalysis, University of Patras, GR-26504, Rio-Patras, Greece
<b>P03.34</b>	<b>Defects investigation of (CdZn)Te, (CdTe)In and (CdTe)Cl Bulk Single Crystals</b> , <i>B. Kotsos<sup>1</sup>, Th. Ganetsos<sup>1</sup>, Ed. Belas<sup>2</sup>, L. Cedivy<sup>2</sup> and N. Laskaris<sup>1</sup></i> , <sup>1</sup> Department of Electronics, TEI of Central Greece, Lamia, 35100, Greece, <sup>2</sup> Institute of Physics, Charles University, Prague, Czech Republic
<b>P03.35</b>	<b>Synthesis and Hydrogen Sorption Characteristics of Mechanically Alloyed Mg(Ni<sub>x</sub>Cr<sub>1-x</sub>)<sub>2</sub> Intermetallics</b> , <i>E. I. Gkanas<sup>1</sup>, G. Stoian<sup>3</sup>, A. Ioannidou<sup>2</sup>, M. Gjoka<sup>2</sup>, S. S. Makridis<sup>1</sup>, N. Lupu<sup>3</sup></i> , <sup>1</sup> H2matters Group, Mechanical Engineering Department, University of Western Macedonia, Greece, <sup>2</sup> Institute for Advanced Materials, Physicochemical Processes, Nanotechnology & Microsystems, National Centre for Scientific Research 'Demokritos', Agia Paraskevi, Athens, 15310, GREECE, <sup>3</sup> National Institute of Research and Development for Technical Physics, Iasi, Romania