

Poster programme

Session 5: Poster session I
Monday, 03 September 2018 | 17:45-19:15

- [YSA.01] **Ordering and electronic structure of graphene doped with boron and nitrogen - Monte Carlo and tight binding study**
A. Jamróz*, J.A. Majewski, *University of Warsaw, Poland*
- [YSA.02] **Diamond deep depletion metal oxide semiconductor field effect transistor (D3MOSFET) for power electronics**
C. Masante*¹, J. Pernot¹, J. Letellier¹, D. Eon¹, N. Rouger², ¹*Univ. Grenoble Alpes, France*, ²*LAPLACE, Université de Toulouse, France*
- [YSA.03] **Nanodiamonds for gene delivery: chemical design and biological interaction studies**
S. Alwani*, R. Rai, N. Hua, D. Michel, R.E. Verrall, C. Karunakaran, J. Chitanda, L. Sobchishin, N. Appathurai, I. Badea, *University of Saskatchewan, Canada*
- [YSA.04] **Controlled formation of colour centres in single crystal diamond needles**
S.A. Malykhin*^{1,2}, R.R. Ismagilov¹, A.S. Orekhov³, E.A. Obraztsova⁴, A.N. Obraztsov^{1,2}, ¹*Lomonosov Moscow State University, Russia*, ²*University of Eastern Finland, Finland*, ³*National Research Center Kurchatov Institute, Russia*, ⁴*Institute of Bioorganic Chemistry RAS, Russia*
- [YSA.05] **Wide field diamond magnetometry with millihertz frequency resolution and nanotesla magnetic sensitivity**
K. Mizuno*¹, M. Nakajima¹, H. Ishiwata^{1,2}, Y. Masuyama¹, T. Iwasaki¹, M. Hatano¹, ¹*Tokyo Institute of Technology, Japan*, ²*PREST, Japan*
- [YSA.06] **High mobility diamond field effect transistor with a monocrystalline h-BN gate dielectric**
Y. Sasama*^{1,2}, K. Komatsu¹, S. Moriyama¹, M. Imura¹, T. Teraji¹, K. Watanabe¹, T. Taniguchi¹, T. Uchihashi¹, Y. Takahide^{1,2}, ¹*National Institute for Materials Science, Japan*, ²*University of Tsukuba, Japan*
- [P5.01] **Electrochemical and electromechanical properties of high-performance fluoropolymer/ionic liquid (with wide electrochemical window of 6 V) gel hybrid actuators based on single-walled carbon nanotubes**
N. Terasawa*, K. Asaka, *National Institute of Advanced Industrial Science and Technology (AIST), Japan*
- [P5.02] **Hydrogen detection properties of palladium coated on carbon nanotubes sheet films**
H.S. Jang¹, S.K. Jeon², S.H. Nahm*², ¹*World Tech. co. Ltd, Republic of Korea*, ²*Korea Research Institute of Standards and Science, Republic of Korea*
- [P5.03] **Sorption study of selected pharmaceuticals and their metabolites on different type of carbon nanotubes**
M. Paszkiewicz*, J. Dolzonek, A. Bialk-Bielinska, M. Gromelski, K. Jagiello, T. Puzyn, P. Stepnowski, *University of Gdansk, Poland*
- [P5.04] **Carbon nanotubes as effective sorbents for diclofenac, carbamazepine and beta-estradiol removal from water matrices**
M. Caban*, M. Paszkiewicz, K. Godlewska, P. Stepnowski, *University of Gdańsk, Poland*
- [P5.05] **A betavoltic microcell based on semiconducting single-walled carbon nanotube arrays/Si heterojunctions**
M. Li, J. Zhang*, *Peking University, China*

- [P5.06] **Ultra-short, high-dose rate X-ray pulses from digital X-ray tubes with carbon nanotube field electron emitters**
J-T. Kang*¹, J-W. Jeong¹, K.N. Yun¹, S. Park¹, J-W. Kim¹, J-W. Yeon¹, S. Kim¹, E. Go^{1,2}, J-W. Lee^{1,2}, Y-H. Song^{1,2}, ¹*Electronics and Telecommunication Research Institute, Republic of Korea*, ²*University of Science and Technology, Republic of Korea*
- [P5.07] **Novel theoretical self-consistent mean-field approach to describe the conductivity of carbon fiber filled thermoplastics**
D.W. Schubert, *Friedrich-Alexander University Erlangen-Nuremberg, Germany*
- [P5.09] **Effect of curvature on the electronic properties of carbon nanocoils**
M. Ikeda*¹, K. Matsuda¹, R. Ikeda¹, Y. Ishii¹, S. Kurumi¹, K. Suzuki¹, Y. Suda², ¹*Nihon University, Japan*, ²*Toyohashi University of Technology, Japan*
- [P5.10] **Hydrogen storage properties of Ru-decorated carbon nanomaterials**
V. Verdinelli*, E. German, A. Juan, *IFISUR-CONICET, Argentina*
- [P5.11] **Lifetime of charge carriers in CNT-embedded polymer-based organic solar cells**
S-Y. Jeon*¹, S. Yu², ¹*Sungkyunkwan University, Republic of Korea*, ²*Hankuk University of Foreign Studies, Republic of Korea*
- [P5.12] **Kinetics of growth of the nanotube**
S. Bulyarskiy*, A. Lakalin, A. Pavlov, *Institute of Nanotechnology of Microelectronics of the Russian Academy of Sciences, Russia*
- [P5.13] **Uranium promoted growth of carbon nanostructures on rock substrata: experimental evidence**
G. Drennan, T. Woods, M.A.G. Andreoli*, *University of the Witwatersrand, South Africa*
- [P5.14] **Directional growth of metal-encapsulated carbon microtubes synthesized by laser assisted solid/liquid interfacial arc discharge method**
T. Kondo*¹, T. Sagara², K. Mikami¹, S. Kurumi¹, K. Matsuda¹, K. Suzuki¹, ¹*Nihon University, Japan*, ²*Tokyo Metropolitan College of Industrial Technology, Japan*
- [P5.15] **Patterned boron-doped diamond coated CNTs for applications in neuronal intracellular recording**
S. Kang*, A.C. Taylor, R.B. Jackman, *University College London, UK*
- [P5.16] **Kinetic mechanism to enriched growth of (n, n-1) tubes**
S. Zhang*, J. Zhang, *Peking University, China*
- [P5.17] **Microwave-assisted regeneration of single-walled carbon nanotubes from carbon fragments**
D. Lin*¹, S. Zhang¹, Z. Zheng^{1,2}, W. Hu², J. Zhang¹, ¹*Peking University, China*, ²*Tianjin University, China*
- [P5.18] **The kinetics of growth of the nanotube**
S. Bulyarskiy*, A. Pavlov, A. Lakalin, *Institute of Nanotechnology of Microelectronics of the Russian Academy of Sciences, Russia*
- [P5.19] **Vibration damping in epoxy nanocomposites reinforced with arc discharge and CVD synthesized carbon nanotubes**
A. Joy*, S. Varughese, S. Sankaran, P. Haridoss, *Indian Institute of Technology, India*
- [P5.20] **Stability of carbon nanotetrahedron/ribbon structures under electron irradiation or a tensile load**
H. Kohno*, S. Suto, K. Sasayama, *Kochi University of Technology, Japan*
- [P5.21] **Bioactive layers on titanium substrate based on black glasses and carbon nanotubes**
M. Sitarz*, E. Dlugon, M. Blazewicz, M. Gaweda, P. Jelen, M. Lesniak, *AGH University of Science and Technology, Poland*

- [P5.23] **SEM induced ductility of carbon nitrides and structurally complex carbon in a diamond-bearing impact strewnfield, SW Egypt**
M.A. Andreoli¹, R. Erasmus¹, V. Pischedda², S. Huotari³, A. Kallonen³, G. Belyanin⁴, J. Kramers¹, A. Ziegler¹, M.D.S. Lekgoathi⁵, L.D. Kock⁵, L. Chown¹, S. Piazzolo⁶, A. Shiryayev⁷, D. Billing¹, M. Di Martino⁸, R. Serra⁹, G.P. Sighinolfi¹⁰, R.L. Gibson¹, A.A. Barakat¹¹, ¹University of the Witwatersrand, South Africa, ²Université de Lyon 1, France, ³University of Helsinki, Finland, ⁴University of Johannesburg, South Africa, ⁵Necsa limited, South Africa, ⁶University of Leeds, UK, ⁷Institute Physical Chemistry Electrochemistry RAS, Russia, ⁸INAF –Torino, Italy, ⁹Università di Bologna, Italy, ¹⁰Universita' di Modena e Reggio Emilia, Italy, ¹¹Geological Survey of Egypt, Egypt
- [P5.24] **A review for removal of nitrogen oxides with carbonaceous materials**
S.H. Kim*, H.C. Yoon, Korea Institute of Energy Research, Republic of Korea
- [P5.25] **Fabrication of PVP-derived mesoporous carbon spheres using electrospraying and their application to Li-ion battery**
Y.S. Kim*, W-R. Yu, J.H. Yoon, H-S. Yang, Seoul National University, Republic of Korea
- [P5.26] **Nanostructure nucleation from carbon gas: molecular dynamic study with reactive potentials ReaxFF and AIREBO**
G.M. Ostroumova^{*1,2}, N.D. Orekhov^{1,2}, V.V. Stegailov¹, ¹Joint Institute for High Temperature of Russian Academy of Science, Russia, ²Moscow Institute of Physics and Technology, Russia
- [P5.27] **Quantifying curvature of the atomic structure in non-graphitizing carbons**
K. Jurkiewicz^{*1,2}, M. Pawlyta³, S. Duber¹, D. Zygadlo^{1,2}, A. Celzard⁴, A. Burian^{1,2}, ¹University of Silesia, Poland, ²Silesian Center for Education and Interdisciplinary Research, Poland, ³Silesian University of Technology, Poland, ⁴Universite de Lorraine, France
- [P5.28] **Design of a two-dimensional covalent network of sp² and sp³ carbon atoms: Polymeric networks of C₄₀ fullerene cages**
M. Maruyama*, S. Okada, University of Tsukuba, Japan
- [P5.29] **Investigation of detection efficiency of a neutron detection system based on SiC sensors and fission target**
X.P. Zhang*, L.Y. Liu, J.F. Zhang, Z.H. Song, Northwest Institute of Nuclear Technology, China
- [P5.30] **Effect of implantation temperature on heavily nitrogen and phosphorus ion implanted 4H-SiC**
J.H. Moon^{*1}, H-S. Lee^{1,2}, O. Seok¹, H.W. Kim¹, I.H. Kang¹, S.C. Kim¹, M. Na¹, W. Bahng¹, ¹Korea Electrotechnology Research Institute (KERI), Republic of Korea, ²Gyeongsang National University, Republic of Korea
- [P5.31] **Design and fabrication of 3.3kV 4H-SiC Schottky barrier diodes**
I.H. Kang*, J.Y. Keum, M. Na, O. Seok, H.W. Kim, N.K. Kim, W. Bahng, KERI, Republic of Korea
- [P5.32] **Mechanical properties of silicon carbide sintered with various forms of carbon**
M. Petrus*, J. Wozniak, T. Cygan, M. Kostecki, A.R. Olszyna, Warsaw University of Technology, Poland
- [P5.33] **Vacancy type defects in neutron irradiated 4H-SiC epitaxial material studied by positron annihilation spectroscopy**
L.Y. Liu^{*1,2}, P. Zhang³, S. Bai⁴, P. Jin¹, X.Z. Cao³, B.Y. Wang³, X.P. Ouyang^{1,2}, ¹Northwest Institute of Nuclear Technology, China, ²Xi'an Jiaotong University, China, ³Chinese Academy of Sciences, China, ⁴Nanjing Electronic Devices Institute, China
- [P5.34] **Structure and electromagnetic interference shielding effectiveness of TiC film by unbalanced magnetron sputtering**
W.R. Kim*, S.B. Heo, E.Y. Choi, I.W. Park, Koera Institute of Industrial Technology, Republic of Korea

- [P5.35] **Thermodynamical stability of the AlN/diamond interfaces and charge transfer mechanisms - a DFT studies**
R. Hrytsak¹, P. Kempisty¹, S. Krukowski¹, M. Sznajder*², ¹Polish Academy of Sciences, Poland, ²University of Rzeszow, Poland
- [P5.36] **Polarization effect in irradiated scCVD diamond**
T.S. Naaranoja*, L. Martikainen, M. Berretti, K. Österberg, *University of Helsinki, Finland*
- [P5.37] **A multifunctional diamond sensor for water monitoring in extreme environments**
R.B. Jackman, W. Parfitt*, *University College London, UK*
- [P5.38] **High quality deep etching of diamond: Process optimisation of an iterative Ar/O₂ and Ar/Cl₂ICP reactive ion etch for power device fabrication**
M-L. Hicks*, A.C. Pakpour-Tabrizi, R.B. Jackman, *University College London, UK*
- [P5.39] **Novel approach to the formation of nano-structured high power diamond Schottky diodes**
J.O. Welch*, A. Afandi, R.B. Jackman, *University College London, UK*
- [P5.40] **Conductive surface formation on nano-polycrystalline diamond by laser irradiation**
R. Fukuta*¹, N. Yamamoto¹, F. Ishikawa¹, T. Yoshitake², H. Ikenoue², M. Matsushita¹, H. Ohfuji¹, T. Shinmei¹, T. Irifune¹, ¹Ehime University, Japan, ²Kyushu University, Japan
- [P5.41] **The remarkable p-type carrier transport induced by 1000°C B and C implantation into the IIa diamond substrates followed by 1150°C annealing**
Y. Seki*, Y. Hoshino, J. Nakata, *Kanagawa University, Japan*
- [P5.42] **Characterization of deep level defects in boron-doped (100) and (111) diamond films using transient photocapacitance method**
O. Maida*, T. Hori, T. Kodama, *Osaka University, Japan*
- [P5.43] **Boron-doped diamond with bulk-like properties at the near-atomic scale**
A.C. Pakpour-Tabrizi*¹, F. Mazzola², J.A. Miwa³, F. Arnold³, M. Bianchi³, P. Hoffman³, J.W. Wells², R.B. Jackman¹, ¹University College London, UK, ²Norwegian University of Science and Technology, Norway, ³Aarhus University, Denmark
- [P5.45] **Study of diamond gratings polarizers for high power laser system**
S. Fan*, L. Bai, T. Zhu, H. Wang, *Xian Jiaotong University, China*
- [P5.46] **Micrometre scale fluorescent defect engineering by focused particle beam writing method for multi-dimensional long-term data storage**
T. Higuchi*^{1,2}, W. Kada¹, Y. Suda¹, M. Haruyama^{1,2}, S. Onoda², K. Miura¹, T. Ohshima², O. Hanaizumi¹, ¹Gunma University, Japan, ²National Institutes for Quantum and Radiological Science and Technology (QST), Japan
- [P5.47] **Fabrication of nano-semi-sphere on diamond surface to improve efficiency of photon collection from embraced nitrogen-vacancy centre**
Z.C. Liu*, Y.F. Wang, F. Wen, S.W. Fan, H.X. Wang, *Xi'an Jiaotong University, China*
- [P5.48] **Luminescent erbium incorporation in rigid/tight crystal structures of diamond and ZnO - theoretical simulation and experiment**
J. Cajzl*¹, P. Nekvindova¹, A. Mackova^{2,3}, P. Malinsky^{2,3}, Z. Remes², M. Varga², A. Kromka², R. Böttger⁴, J. Oswald², ¹University of Chemistry and Technology, Czech Republic, ²Czech Academy of Sciences, Czech Republic, ³J.E. Purkinje University, Czech Republic, ⁴Helmholtz-Zentrum Dresden-Rossendorf, Germany
- [P5.49] **Transport and non-equilibrium processes in superconducting boron-doped diamond nanostructures**
N. Titova*¹, A. Kardakova¹, N. Tovpeko¹, S. Ryabchun¹, G.N. Goltsman¹, S. Mandal², G. Klemencic², B. Sacépe³, E. Bustarret³, T.M. Klapwijk^{1,4}, ¹Moscow State University of Education, Russia, ²Cardiff University, UK, ³Institut Néel, France, ⁴Delft University of Technology, The Netherlands

- [P5.50] **Effect of ultraprecision polishing techniques on coherence times of shallow nitrogen-vacancy centers in diamond**
G. Braunbeck^{*1}, S. Mandal², M. Touge³, O.A. Williams², F. Reinhard¹, ¹Technische Universität München, Germany, ²Cardiff University, UK, ³Kumamoto University, Japan
- [P5.51] **Phononic quantum networks of spin qubits in diamond**
M.C. Kuzyk, I. Lekavicius, H. Wang^{*}, University of Oregon, USA
- [P5.52] **Group-IV colour centres in CVD nanodiamonds**
F. Isa^{*1,2}, L. Rogers², L. Brown², T. Volz², A. Bendavid¹, ¹CSIRO Manufacturing, Australia, ²Macquarie University, Australia
- [P5.53] **Optimizing low temperature diamond thin films for thermal applications**
F. tuz Zahra^{*}, J. Downes, Macquarie University, Australia
- [P5.54] **Silver nanoparticles embedded in ultrananocrystalline diamond films for antimicrobial applications in implant coatings**
D. Merker¹, T. Weingärtner², T. Bergfeldt², B. Popova³, J.P. Reithmaier¹, C. Popov^{*1}, ¹University of Kassel, Germany, ²Karlsruhe Institute of Technology, Germany, ³University of Göttingen, Germany
- [P5.55] **A comparison of gold nanoparticle dispersions on boron doped diamond electrodes for trace mercury detection**
M. McLaughlin^{*}, R.B. Jackman, University College London, UK
- [P5.56] **Electrooxidation of *m*-cresol on *in-situ* surfactant modified boron doped diamond electrode**
S. Baluchová^{*}, K. Procházková, J. Vosáhlová, K. Schwarzová-Pecková, Charles University, Czech Republic
- [P5.57] **A new diamond plasmonic platform for SERS chemical sensing in the marine environment**
M. Ramsay^{*}, J.O. Welch, R.B. Jackman, University College London, UK
- [P5.58] **Simple synthesis of Pt nano-particle diamond micro-electrode oxygen sensors**
R. Jennings-Moors^{*}, R.B. Jackman, University College London, UK
- [P5.59] **Screen-printed diamond electrode for sensitive electrochemical detection of ciprofloxacin**
T. Matsunaga^{*1}, T. Kondo¹, T. Osasa², A. Kotsugai², T. Aikawa¹, M. Yuasa¹, ¹Tokyo University of Science, Japan, ²Ricoh Co., Ltd, Japan
- [P5.60] **Performance and failure mechanism of diamond electrodes prepared on Ti and Nb substrates**
W. Tang^{*}, X. Lu, M. Ding, C. Zhang, University of Science and Technology Beijing, China
- [P5.61] **Label-free electrical detection of EBV DNA hybridization using graphene FET biosensor**
C.Y. Su¹, C.C. Huang¹, S.W. Lee¹, M.Y. Lan^{*2,3}, ¹National Central University, Taiwan, ²Taipei Veterans General Hospital, Taiwan, ³National Yang-Ming University, Taiwan
- [P5.62] **A comparative study on nanocarbon electrochemistry**
Y. Zhang^{*1}, J. Yu¹, H. Li¹, Q. Wan¹, Y. Li², N. Yang^{1,3}, ¹Wuhan Institute of Technology, China, ²Wuhan University of Science and Technology, China, ³University of Siegen, Germany
- [P5.63] **Selective area growth of GaN microstructures on graphene buffer layer by metalorganic vapour phase epitaxy**
S.Y. Bae^{*1}, S.M. Jeong¹, J.Y. Lee², D. Lee², H. Amano³, ¹Korea Institute of Ceramic Engineering and Technology, Republic of Korea, ²Gwangju Institute of Science and Technology, Republic of Korea, ³Nagoya University, Japan
- [P5.64] **Ink formulation of graphene:2'-aminochalcone blends for luminescent applications**
L-T. Figueroa-Ariza, D-M. Marulanda, B-A. Paez-Sierra^{*}, Universidad Militar Nueva Granada, Colombia

- [P5.65] **Synthesis and electrochromic properties of the H₂V₃O₈/graphene nanofilm**
W. Wei*¹, Z. Liu¹, X. Li¹, P. Jing¹, Q. Zhu¹, G. Zakharova², ¹Wuhan University of Technology, China, ²Ural Branch of the Russian Academy of Science, Russia
- [P5.66] **Raman characterizations of potassium-doped bilayer graphene**
T. Yamada*, Y. Okigawa, M. Hasegawa, National Institute of Advanced Industrial Science and Technology, Japan
- [P5.67] **Electrostatic properties of graphene edges for electron emission under an external electric field**
Y. Gao*, S. Okada, University of Tsukuba, Japan
- [P5.68] **Field-induced structural control of CO_x molecules adsorbed on graphene**
M. Matsubara*, S. Okada, University of Tsukuba, Japan
- [P5.69] **Few-layer graphene (FLG) supported polyaniline (PANI) film as a transparent counter electrode for dye solar cells**
M.U. Shahid, N.M. Mohamed*, A.S. Muhsan, R. Bashiri, A.E. Shamsudin, S.N.A. Zaine, Universiti Teknologi Petronas, Malaysia
- [P5.70] **Diatomite-templated synthesis of free-standing three-dimensional graphdiyne for energy storage and catalysis application**
J.Q. Li*, J. Zhang, Z.F. Liu, Peking University, China
- [P5.71] **A novel air-stable reduced graphene oxide(RGO) coated sodium iron hexacyanoferrate (RGO-Na_xFe[Mn(CN)₆]) with rhombohedral structure**
H.Y. Choi*^{1,2}, P.J. Noh¹, H.S. Kim³, M.H. Lee¹, J.H. Choi¹, S.M. Lee¹, ¹Korea Electrotechnology Research Institute, Republic of Korea, ²Seoul National University, Republic of Korea, ³Korea Atomic Energy Research Institute, Republic of Korea
- [P5.72] **High-capacity graphite nanosheet electrodes for lithium-oxygen batteries**
P. Wunderlich*, U. Simon, RWTH Aachen University, Germany
- [P5.73] **Electrocatalytic oxidation of liquid fuels on metal nanoparticles decorated expanded graphite**
H. Li¹, Y. Zhang¹, T. Zeng¹, Q. Wan¹, Y. Li², N. Yang*^{1,2}, ¹Wuhan Institute of Technology, China, ²University of Siegen, Germany, ³Wuhan University of Science and Technology, China
- [P5.74] **Synthesis of carbon nanospheres induced by pulsed laser irradiation of HOPG**
O. Mouane*¹, E. Sideras-Haddad^{1,2}, D. Wamwangi^{1,2}, G. Peters^{1,2}, A. Forbes¹, ¹University of Witwatersrand, South Africa, ²DST/NRF Centre of excellence for strong materials, South Africa
- [P5.75] **Influence of the NO₂ p-type doping at the H-diamond MOS interface studied by C-V and G-f measurements**
N.C. Saha, M. Kasu*, Saga University, Japan
- [P5.76] **Multi-walled carbon nanotubes –sulfur/high-density polyethylene (HDPE) multi-composites: Synthesis, crystallization, morphology and thermo-mechanical properties**
K.K. Jena*, S. Alhassan, Khalifa University of Science and Technology, United Arab Emirates
- [P5.77] **Electrical and rheological properties of cellulose nanofiber / carbon nanotube aqueous conductive ink**
H.J. Kim*, E.A. Shin, S.B. Lee, T.J. Kim, C.K. Lee, Korea Institute of Industrial Technology, Republic of Korea
- [P5.78] **Electrical and mechanical properties of flexible and stretchable chitosan nanofiber / carbon nanotube electrodes on a film**
C.K. Lee*, E.A. Shin, H.J. Kim, S.B. Lee, Korea Institute of Industrial Technology, Republic of Korea

- [P5.79] **Single crystal doped diamond tips for enhanced nano-electrical characterization**
J.I. Kilpatrick^{*1,2}, P. De Wolf³, N. O'Hara², C. McManamon², H. Cavazos², G.L.W. Cross^{2,4}, ¹University College Dublin, Ireland, ²Adama Innovations, Ireland, ³Bruker Nano Surfaces, USA, ⁴Trinity College Dublin, Ireland
- [P5.80] **Enhanced field emission properties and minimum focal spot size by post-treated carbon nanotube emitter on metal alloy substrate for high resolution x-ray imaging**
W.S. Kim^{*1}, A.P. Gupta^{1,2}, J.M. Lim¹, J.Y. Park¹, S.J. Yeo^{1,2}, J.S. Ahn¹, J.H. Ryu^{1,2}, ¹Kyunghee University, Republic of Korea, ²CAT Beam Tech co., Ltd., Republic of Korea
- [P5.81] **Growth of carbon nanotubes on surface modified metal alloy substrate**
J.Y. Park^{*1}, A.P. Gupta^{1,2}, W.S. Kim¹, J.M. Lim¹, J.S. Ahn¹, S.J. Yeo^{1,2}, J.W. Ryu^{1,2}, ¹Kyung Hee University, Republic of Korea, ²CAT Beam Tech Co., Ltd., Republic of Korea
- [P5.82] **Enhanced field emission characteristics of carbon nanotubes on strip shaped metal alloy substrate for dental X-ray applications**
J.M. Lim^{*1}, A.P. Gupta^{1,2}, W.S. Kim¹, J.Y. Park¹, J. Ahn¹, S.J. Yeo^{1,2}, H.K. Park¹, J.H. Ryu^{1,2}, ¹Kyung Hee University, Republic of Korea, ²CAT Beam Tech co., Ltd, Republic of Korea
- [P5.83] **Fabrication of uniform multi-walled carbon nanotube film as a sensing material**
S. Inoue^{*}, M.L. Zhang, Y. Matsumura, *Hiroshima University, Japan*

Session 13: Poster session II
Wednesday, 05 September 2018 | 16:00-17:30

- [P13.01] **Impurity introduction at the synthesis of nano-polycrystalline diamond by high-pressure and high-temperature**
N. Yamamoto^{*}, Y. Murakami, R. Fukuta, F. Ishikawa, M. Matsushita, H. Ohfuji, T. Shinmei, T. Irifune, *Ehime University, Japan*
- [P13.02] **Epitaxial formed pyramidal diamond by high temperature and high pressure treatment**
R. Fukuta^{*}, N. Yamamoto, F. Ishikawa, M. Matsushita, H. Ohfuji, T. Shinmei, T. Irifune, *Ehime University, Japan*
- [P13.03] **Field emission characteristics of pattern-defined CNFB grown by MPCVD**
S.R. Wu^{*}, H.Y. Tsai, *National Tsing Hua University, Taiwan*
- [P13.04] **Single crystal diamond growth via graphite etching in H₂ microwave plasma**
V.Y. Yurov^{*1}, A.P. Bolshakov^{1,2}, K. Yao², B. Dai², E.V. Bushuev¹, A.A. Khomich^{1,3}, G. Shu², I.A. Antonova¹, V.G. Ralchenko^{1,2}, J. Zhu², ¹General Physics Institute RAS, Russia, ²Institute of Technology, China, ³Institute of Radio Engineering and Electronics RAS, Russia
- [P13.05] **Design and optimization of a distributed antenna array PECVD system for low temperature/large area diamond film growth process**
D. Dekkar, F. Bénédic^{*}, R. Issaoui, J. Achard, *Laboratoire des Sciences des Procédés et des Matériaux (LSPM-CNRS), France*
- [P13.06] **Diamond homoepitaxy on Ni and Au coated diamond (111) substrates by epitaxial lateral overgrowth**
K-A. Chiu^{*}, P. Wu, L-L. Wei, W-L. Wang, L. Chang, *National Chiao Tung University, Taiwan*
- [P13.08] **Evaluation of heteroepitaxial diamond grown on 1 inch a-plane sapphire substrate**
S. Kim^{*}, Y. Kawamata, K. Ikejiri, K. Fujita, D. Fujii, K. Nishiguchi, Y. Kimura, *Adamant Namiki Precision Jewel Co., Ltd., Japan*
- [P13.09] **3-Dimensional imaging of synchrotron X-ray topography of HPHT single crystal diamond**
S. Masuya^{*1}, H. Sumiya², M. Kasu¹, ¹Saga University, Japan, ²Sumitomo Electric Industries Ltd., Japan
- [P13.10] **Repair of cracks on diamond surface formed by laser cutting and polishing**
Y.F. Wang^{*}, X.H. Chang, D. Zhao, *Xi'an Jiaotong University, China*

- [P13.11] **Impact of methane concentration on surface morphology and electrical properties in heavily boron-doped single crystal diamond growth**
R. Rouzbahani^{*1,2}, S. Nicley^{1,3}, P. Pobedinskas^{1,2}, M. Van Bael^{1,2}, K. Haenen^{1,2}, ¹Hasselt University, Belgium, ²IMOMECE, IMEC vzw, Belgium, ³University of Oxford, UK
- [P13.12] **Using a gradient approach for systematic optimization of diamond surfaces**
Y. Tian^{*}, F.P. Perona Martinez, Q. Zhou, M.S. Chipaux, P. van Rijn, R. Schirhagl, Groningen University, The Netherlands
- [P13.13] **Self-organized nanoscale patterns by ion bombardment on (100) single crystal diamond**
S. Mi^{*}, T. Graziosi, A. Toros, N. Quack, *École Polytechnique Fédérale de Lausanne, Switzerland*
- [P13.14] **Non-contact polishing of single crystal diamond by ion beam etching**
S. Mi^{*}, A. Toros, T. Graziosi, N. Quack, *École Polytechnique Fédérale de Lausanne, Switzerland*
- [P13.15] **Phosphorus doping for singlecrystalline diamond using phosphoric acid liquids by excimer laser irradiations**
E. Abubakr^{*1,2}, A. Zkria^{1,2}, Y. Katamune³, S. Ohmagari⁴, H. Ikenoue¹, T. Yoshitake¹, ¹Kyushu University, Japan, ²Aswan University, Egypt, ³Kyushu Institute of Technology, Japan, ⁴National Institute of Advanced Industrial Science and Technology (AIST), Japan
- [P13.16] **Hydrogen retention and nitrogen distribution in delta-doped diamond films**
M. Attrash¹, M. Kumar Kuntumalla¹, A. Hoffman^{*1}, M. Chandran², R. Akhvlediani¹, ¹Technion, Israel, ²National Institute of Technology (NIT) Calicut, India
- [P13.17] **Bonding, structural properties and thermal stability of low damage RF (N₂) plasma treated diamond (100) surfaces studied by XPS, LEED, and TPD**
M. Attrash, M. Kumar, A. Hoffman^{*}, Technion, Israel
- [P13.18] **Tribological properties of nanocrystalline diamond films grown on the (110) single crystal diamond**
V. Podgursky^{*1}, A. Bogatov¹, M. Yashin¹, V. Sedov^{2,3}, V. Ralchenko^{2,3}, ¹Tallinn University of Technology, Estonia, ²Prokhorov General Physics Institute, Russia, ³National Research Nuclear University MEPhI, Russia
- [P13.19] **Study on high-frequency spark erosion of boron-doped polycrystalline diamond**
S.T. Chen^{*}, C.H. Chen, C.H. Chang, National Taiwan Normal University, Taiwan
- [P13.20] **Effects of irradiation-induced defects on the transformation from graphite to amorphous diamond under shock compression**
K. Niwase^{*1}, K.G. Nakamura¹, ¹Hyogo University of Teacher Education, Japan, ²Tokyo Institute of TechnologyTokyo Institute of Technology, Japan
- [P13.21] **Fabrication and structural characterization of diamond coated tungsten tips**
A. Tafel^{*}, M. Wu, E. Spiecker, P. Hommelhoff, J. Ristein, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
- [P13.22] **Fabrication and transfer of thin single crystal diamond membranes**
A. Toros^{*}, T. Graziosi, M. Kiss, H. Sattari, C. Galland, N. Quack, *Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland*
- [P13.23] **Micro-structural properties of CVD diamond films characterized by Raman mapping technique**
A. Dychalska^{*1}, W. Koczorowski^{1,2}, K. Fabisiak³, K. Paprocki³, M. Szybowicz¹, ¹Poznan University of Technology, Poland, ²Centre for Advanced Technologies, Adam Mickiewicz University, Poland, ³Kazimierz Wielki University, Poland

- [P13.24] **Enhancement of oxidation resistance via a titanium boron carbide coating on diamond particles**
Y.H. Sun^{1,3}, C. Zhang^{*1,2}, Q.N. Meng¹, B.C. Liu^{1,2}, L.K. He^{1,2}, J.H. Wu^{1,2}, ¹Jilin University, China, ²Key Laboratory of Drilling and Exploitation Technology in Complex Conditions, Ministry of Land and Resources, China, ³State Key Laboratory of Superhard Materials, China
- [P13.25] **Sealing of acid fluids with multilayered CVD diamond coatings**
S. Pratas¹, J.M. Carrapichano², A.J.S. Fernandes¹, F.J. Oliveira¹, R.F. Silva^{*1}, ¹University of Aveiro, Portugal, ²Coimbra Superior Eng. Inst., Portugal
- [P13.26] **Fracture behaviors and cutting performances of nitrogen-doped multilayer diamond coated cutting tools**
C.C. Wang^{*}, X.X. Wang, Z.C. Du, F.H. Sun, Shanghai Jiao Tong University, China
- [P13.27] **Effect of nitrogen contained in a-C:H film deposition for cell behaviour**
Y. Nakazato^{*1}, N. Miyata², T. Miyazaki², N. Tatsumi¹, T. Yaguchi¹, A. Homma¹, K. Hirakuri¹, Y. Ohgoe¹, ¹Tokyo Denki University, Japan, ²CROSS, Neutron Science and Technology Center, Japan
- [P13.28] **Time course of Zn release from Zn-containing DLC**
S. Kidera^{*1}, K. Fujjoka², Y. Ohgoe¹, K. Sato¹, M. Hiratsuka³, H. Tsuboi³, H. Masuda⁴, H. Honda⁴, Y. Manome², K. Hirakuri¹, ¹Tokyo Denki University, Japan, ²Jikei University School of Medicine, Japan, ³Nanotec Co. Ltd, Japan, ⁴Nition Co. Ltd, Japan
- [P13.29] **Ultraviolet reflection and antibacterial properties of DLC coating on PMMA**
S. Onodera^{*}, K. Hirakuri, Tokyo Denki University, Japan
- [P13.30] **Electrical behaviour of diamond-like carbon films under mechanical compression conditions**
T. Suzuki^{*}, S. Obata, A. Homma, K. Hirakuri, Y. Ohgoe, Tokyo Denki University, Japan
- [P13.31] **The bio-polymer polylactic acid as a promising substrate for in-situ grown amorphous hydrogenated carbon (a-C:H) films**
T. Schlebrowski^{*1}, A. Nefedov², S. Wehner¹, C.B. Fischer^{1,3}, ¹University Koblenz-Landau, Germany, ²Karlsruher Institute for Technology, Germany, ³Mohammed VI Polytechnic University, Morocco
- [P13.32] **Improvement of wear property or acid and sterilization treatment for medical device by DLC coating**
K. Sakurai^{*1}, K. Terai¹, H. Nakamori², M. Hiratsuka², K. Namiki³, K. Hirakuri¹, Y. Ohgoe¹, ¹Tokyo Denki University, Japan, ²Nanotec Co. Ltd, Japan, ³Namiki-Mi Co. Ltd, Japan
- [P13.33] **Preparation of DLC films on light metals**
D. Nakajima^{*1}, H. Kuwabara², S. Annaka², Y. Ohgoe¹, K. Hirakuri¹, ¹Tokyo Denki University, Japan, ²NAKADAI Metals Co., Ltd., Japan
- [P13.34] **Wear behaviour of different DLC coatings applied on hardened AISI 52100 steel by PVD magnetron sputtering**
D.I. Feldiorean, D. Cristea^{*}, D. Munteanu, M.H. Tierean, Transilvania University of Brasov, Romania
- [P13.35] **Temperature dependence of damage on ta-C observed by deep ultraviolet Raman spectroscopy**
T. Kozu^{*1}, R. Hori¹, M. Yamaguchi¹, M. Kawaguchi², M. Yoshimura³, ¹Akita university, Japan, ²TIRI, Japan, ³Toyota Technical Insitute, Japan
- [P13.36] **Transfer-free microwave plasma enhanced chemical vapor deposition of graphene on Si(100) and SiO₂ substrates**
R. Gudaitis, A. Vasiliauskas, A. Guobiene, S. Tamulevicius, S. Meškinis^{*}, Kaunas University of Technology, Lithuania

- [P13.37] **Nucleation and growth dynamics of graphene grown through plasma enhanced chemical vapor deposition (PECVD)**
C.C. Yen*, W.Y. Woon, *National Central University, Taiwan*
- [P13.38] **Plasma submerged in liquid for modification of graphene suspension**
S. Vizireanu*¹, M.D. Ionita¹, E.R. Ionita¹, A. Lazea-Stoyanova¹, L. Carpen¹, M. Teodorescu¹, I. Ion², G. Dinescu¹, ¹*National Institute for Lasers, Plasma and Radiation Physics INFLPR, Romania*, ²*National Institute for R&D in Electrical Engineering ICPE-CA, Romania*
- [P13.39] **Energetics and electronic structures of border between graphene and h-BN**
H. Sawahata*¹, A. Yamanaka², M. Maruyama¹, S. Okada¹, ¹*University of Tsukuba, Japan*, ²*Research Organization for Information Science and Technology (RIST), Japan*
- [P13.40] **The adsorption of an S₈ molecule on graphene and between graphite layers, a critical comparison**
J.S. Arellano¹, O. Salas^{1,2}, L.F. Magana*^{1,3}, ¹*Universidad Autónoma Metropolitana Azcapotzalco, Mexico*, ²*Instituto Politécnico Nacional, Mexico*, ³*Universidad Nacional Autónoma de México, Mexico*
- [P13.41] **Local photocurrent characterization of 2D-3D heterojunctions**
J. Ráhová*^{1,2}, A. Aliaksei Vetushka³, K. Sampathkumar¹, Z. Hájková³, M. Ledinský³, A. Fejfar³, O. Frank¹, ¹*J. Heyrovsky Institute of Physical Chemistry of the CAS, Czech Republic*, ²*Charles University in Prague, Czech Republic*, ³*Institute of Physics of the CAS, Czech Republic*
- [P13.42] **Highly flexible and stretchable hybrid 3D graphene/Ti₃C₂T_x MXene composite thin film**
N.N.N.A. Halim, M. Salleh, N.M. Mohamed*, M.S.M. Saheed, *Universiti Teknologi PETRONAS, Malaysia*
- [P13.43] **Mechanical and electronic properties of graphene nanoribbons**
K. Yoneyama*¹, A. Yamanaka², S. Okada¹, ¹*University of Tsukuba, Japan*, ²*Research Organization for Information Science and Technology, Japan*
- [P13.44] **Mechanical properties and tribological performance of alumina matrix composites reinforced with graphene, graphene oxide and nickel coated graphene**
T. Cygan*¹, M. Petrus¹, J. Wozniak¹, S. Cygan², M. Kostecki¹, L. Jaworska², A.R. Olszyna¹, ¹*Warsaw University of Technology, Poland*, ²*The Institute of Advanced Manufacturing Technologies, Poland*
- [P13.45] **Production and characterization of graphene functionalizing nylon nanowires by electrospinning**
S. Coba-Daza¹, B-A. Paez-Sierra*², A. Pataquiva-Mateus¹, ¹*Universidad Jorge Tadeo Lozano, Colombia*, ²*Universidad Militar Nueva Granada, Colombia*
- [P13.46] **Time-resolved Raman spectroscopy of mechanically deformed graphene**
M. Bouša*¹, S. Katsiaounis², A. Michail², N. Delikoukos², J. Parthenios², K. Papagelis^{2,3}, O. Frank¹, ¹*J. Heyrovsky Institute of Physical Chemistry of the AS CR v.v.i., Czech Republic*, ²*Institute of Chemical Engineering Sciences, Foundation for Research and Technology - Hellas (FORTH/ICE-HT), Greece*, ³*Aristotle University of Thessaloniki, Greece*
- [P13.47] **Variations in some optical properties of graphene, when using the main amino acids of spider's silk**
A.F. Jimenez, L.F. Magana*, *Universidad Nacional Autónoma de México, Mexico*
- [P13.48] **Cooper pair distribution function of misaligned graphene sheets to determine critical temperatures and superconductivity**
G-I. González-Pedrerros¹, R. Baquero², B-A. Paez-Sierra*¹, ¹*Universidad Militar Nueva Granada, Colombia*, ²*Center for Research and Advanced Studies of the National Polytechnic Institute, Mexico*

- [P13.49] **Ultrathin 2D nanomaterials functionalized with metal oxide in flame retardancy of PE composites**
E. Mijowska*, K. Wenelska, M. Dudziak, P. Homa, K. Szymanska, *West Pomeranian University of Technology, Poland*
- [P13.50] **Influence of nitrogen and oxygen doping on the performance of metal catalysts supported on carbon**
M. Avhad*, H. Kaper, *Saint-Gobain, France*
- [P13.51] **A laser-based fabrication of carbonized polyimide surfaces for sensors**
Y-W. Ma*, C-Y. Gwak, D-H. Yun, J-H. Park, B.S. Shin, *Pusan National University, Republic of Korea*
- [P13.52] **FEM simulations of isotropic PMMA/carbon-fiber composites below the electrical percolation threshold: validation of a novel analytical conductivity model**
G. Yang*¹, D. Schubert¹, M. Qu¹, F. Nilsson², ¹*Friedrich-Alexander University Erlangen-Nuremberg, Germany*, ²*KTH Royal Institute of Technology, Sweden*
- [P13.53] **Electrical conductivities of melt spun ternary composites comprising PMMA, carbon fibers and carbon black**
M. Qu*¹, F. Nilsson², D. Schubert¹, ¹*Friedrich-Alexander University, Germany*, ²*KTH Royal Institute of Technology, Sweden*
- [P13.54] **Conductivity of melt spun PMMA composites with aligned carbon fibers - revealing a master curve**
D. Schubert, M. Qu*, *Friedrich-Alexander University Erlangen-Nuremberg, Germany*
- [P13.55] **One-step synthesis of interconnected porous carbon nanosheets and their bio-inspired surface functionalization for high-performance electrochemical capacitors**
Y.A. Lee*^{1,2}, J. Lee^{1,3}, C-Y. Yoo¹, S.H. Park¹, J.J. Yoo³, B. Kim¹, W.K. Cho², H. Yoon¹, ¹*Korea Institute of Energy Research (KIER), Republic of Korea*, ²*Chungnam National University, Republic of Korea*, ³*KAIST, Republic of Korea*
- [P13.56] **Flexible fiber-shaped lithium-ion battery fabricated by plying of carbon nanofiber yarns**
S. Park*¹, Y. Kwon¹, D.W. Kim², W-R. Yu¹, ¹*Seoul National University, Republic of Korea*, ²*Korea Research Institute of Chemical Technology, Republic of Korea*
- [P13.57] **A new approach to synthesize anhydrous metal fluoride/nanoporous carbon nanocomposites for Li-ion battery cathodes**
J. Chun, *Korea Institute of Ceramic Engineering & Technology (KICET), Republic of Korea*
- [P13.58] **Surface hardness improvement of binderless boron nitride composites through hybrid CO₂ laser/ waterjet heat treatment**
J. Zhao*¹, P. Shrotriya^{1,2}, X. Ma¹, J. Guo¹, V. Bushlya³, ¹*Tianjin University of Science and Technology, China*, ²*Iowa State University, USA*, ³*Lund University, Sweden*
- [P13.59] **Properties of silicon nitride matrix composites reinforced with two-dimensional Ti₂C nanosheets**
J. Wozniak*, T. Cygan, M. Petrus, A. Jastrzebska, T. Wojciechowski, W. Ziemkowska, A. Olszyna, *Warsaw University of Technology, Poland*
- [P13.60] **New constitutive modelling of carbon fiber-reinforced composites considering asymmetric tension and compression behaviour**
J. Jang*, J.H. Choi, W. Shim, W-R. Yu, *Seoul National University, Republic of Korea*
- [P13.61] **Can we use fluorescent nanodiamonds to study the role of free radicals in chronologically aging yeast cells?**
K.J. van der Laan*, A. Sigaeva, F.P. Perona-Martinez, *University Medical Center Groningen, The Netherlands*
- [P13.62] **The interaction and differentiation of human neural stem cells on O-NDs**
A.C. Taylor*, C. Gonzalez, B. Vagaska, P. Ferreti, R.B. Jackman, *University College London, UK*

- [P13.63] **Paramagnetism highly conductive structures in DNDs powders**
V.Y. Dolmatov*¹, T.T.B. Nguyen², N.M. Lapchuk², V. Myllymäki³, A. Vehanen³, ¹Federal State Unitary Enterprise Special Design and Technological Bureau Technolog, Russia, ²Belarusian State University, Belarus, ³Carbodeon Ltd. Oy, Finland
- [P13.64] **Fabrication of boron-doped nanodiamond and its application to aqueous supercapacitors**
K. Miyashita*¹, T. Kondo¹, M. Nishikawa², T. Tei², T. Aikawa¹, M. Yuasa¹, ¹Tokyo University of Science, Japan, ²Daicel Corporation, Japan
- [P13.65] **Pulsed bias effects on the growth and mechanical properties of ultrananocrystalline diamond/amorphous carbon films deposited by coaxial arc plasma deposition**
A. M.Ali*^{1,2}, M. Egiza^{1,3}, K. Murasawa^{1,4}, Y. Fukui¹, H. Gonda⁴, M. Sakurai⁴, T. Yoshitake¹, ¹Kyushu University, Japan, ²Al-Azhar University, Egypt, ³Kafrelsheikh University, Egypt, ⁴OSG Corp., Japan
- [P13.66] **Nanodiamond with average grain size of 3-4 nm prepared by femtosecond laser pulses**
S. Tóth*¹, P. Németh², L.A.J. Garvie³, M. Veres¹, M. Koós¹, ¹Wigner Research Centre for Physics of the Hungarian Academy of Sciences, Hungary, ²Research Centre for Natural Sciences, Hungary, ³Arizona State University, USA
- [P13.67] **Synthesis of nanodiamond-based energetic composites by spray flash evaporation**
M. Guillevic*¹, V. Pichot¹, P. Fioux², D. Spitzer¹, ¹French-German Research Institute Saint-Louis (ISL), France, ²Institut de Science des Matériaux de Mulhouse (IS2M), France
- [P13.68] **Structure organization of aqueous suspensions of carbon-based nanomaterials by scattering techniques**
O.V. Tomchuk*^{1,2}, L.A. Bulavin¹, M.V. Avdeev², V.L. Aksenov^{2,3}, V. Ryukhtin⁴, A.E. Alexenskii⁵, A.T. Dideikin⁵, A.Y. Vul⁵, ¹Taras Shevchenko National University of Kyiv, Ukraine, ²Joint Institute for Nuclear Research, Russia, ³National Research Center 'Kurchatov Institute', Russia, ⁴Czech Academy of Sciences, Czech Republic, ⁵Russian Academy of Sciences, Russia
- [P13.69] **Study of the process of electrochemical gold deposition in citric acid and phosphoric acid electrolyte in the presence of modified detonation nanodiamonds**
V.Y. Dolmatov*¹, G.K. Burkat², A.S. Aleksandrova², A.Y. Vul³, E.A. Alexensky³, A.S. Kozlov¹, V. Myllymäki⁴, A. Vehanen⁴, ¹FSUE Special Design-Technological Bureau Technolog, Russia, ²Saint Petersburg State Technological Institute (Technical University), Russia, ³Physico-Technical Institute A.F. Ioffe, Russia, ⁴Carbodeon Ltd. Oy, Finland
- [P13.70] **Study of the process of nickel-diamond coating electrochemical deposition with modified phosphorus detonation nanodiamonds**
V.Y. Dolmatov*¹, G.K. Burkat², V. Myllymäki³, A. Vehanen³, ¹Federal State Unitary Enterprise Special Design and Technological Bureau Technolog, Russia, ²Saint Petersburg State Technological Institute (Technical University), Russia, ³Carbodeon Ltd. Oy, Finland
- [P13.71] **Structural features of liquid crystalline suspensions of diamond nanoparticles by neutron scattering**
O.V. Tomchuk*^{1,2}, S.V. Tomylo³, A.A. Tomchuk¹, L.A. Bulavin², M.V. Avdeev¹, ¹Joint Institute for Nuclear Research, Russia, ²Taras Shevchenko National University of Kyiv, Ukraine, ³Institute of Physics NASU, Ukraine
- [P13.72] **Hard coating of Si-doped ultrananocrystalline diamond/ amorphous carbon composite films deposited by coaxial arc plasma deposition for cutting tools applications**
M. Egiza^{1,2}, A. M. Ali*^{1,3}, K. Murasawa^{1,4}, Y. Fukui⁴, H. Gonda⁴, M. Sakurai⁴, T. Yoshitake¹, ¹Kyushu University, Japan, ²Kafrelsheikh University, Egypt, ³Al-Azhar University, Egypt, ⁴OSG corporation, Japan

- [P13.73] **Influence of the different methods of purification of nanodiamonds on their fluorescent properties**
A. Vervalde*¹, A. Lachko¹, O. Kudryavtsev², I. Vlasov², T. Dolenko¹, ¹M.V. Lomonosov Moscow State University, Russia, ²Russian Academy of Sciences, Russia
- [P13.74] **Annealing effect on the structure and properties of Ti-DLC films**
S.D. Zhang*, M.F. Yan, Y. Yang, J.H. Guo, S.S. Jiang, Y.B. Yuan, Harbin Institute of Technology, China
- [P13.75] **Short-time low temperature plasma modification of carbon coating produced on oxidized NiTi shape memory alloy**
J. Witkowska*¹, E. Choinska¹, M. Kulpa², T. Borowski¹, M. Tarnowski¹, J. Morgiel³, J. Szade², W. Swieszkowski¹, T. Wierzchon¹, ¹Warsaw University of Technology, Poland, ²Silesian University of Technology, Poland, ³Institute of Metallurgy and Materials Science of the Polish Academy of Sciences, Poland
- [P13.76] **Synthesis of soluble graphene by using polymer functionalization**
A. Nabihah*¹, H.E. Aminul¹, M.D. Ifraan¹, M. Kubo², ¹TATI University College, Malaysia, ²Mie University, Japan
- [P13.77] **Kinetics of Ni-catalyzed graphitization of nanocrystalline diamond films studied by in-situ x-ray photoelectron spectroscopy**
O. Romanyuk*¹, M. Varga¹, S. Tulic², V. Skakalova², T. Izak¹, P. Jiricek¹, A. Kromka¹, B. Rezek^{1,3}, ¹Institute of Physics, ASCR, Czech Republic, ²University of Vienna, Austria, ³Czech Technical University, Czech Republic
- [P13.78] **Large size freestanding diamond substrate with high thermal conductivity fabricated by a two-step micropattern heteroepitaxial growth method**
T. Zhan*¹, M. Xu¹, R. Yamato¹, M. Tomita¹, S. Kim², K. Koyama², T. Watanabe¹, ¹Waseda University, Japan, ²Adamant Namiki Precision Jewel Co., Ltd., Japan
- [P13.79] **New luminescent material based on nanodiamonds**
V.A. Lapina*, T.A. Pavich, P.P. Persukevich, Institute of Physics of NAS Belarus, Belarus
- [P13.80] **New photoactive immunoconjugate based on nanodiamond particles**
T.A. Pavich*, V.A. Lapina, Institute of Physics of NAS Belarus, Belarus
- [P13.81] **Revisiting water molecules' interactions with hydrogenated nanodiamonds: towards their direct quantification in aqueous suspensions**
I. Chauv-Jukic*^{1,2}, C-B. Faye², P. Bergonzo², R. Grall², S. Chevillard², N. Ugolin², ¹BIP3D, France, ²CEA, France
- [P13.82] **Effect of CNT modification with liquid acrylonitrile-butadiene rubber on reinforcing rubber composites**
H. Lee*, W. Wang, G. Kang, C.H. Yun, J. Jeon, C. Nah, Chonbuk National University, Republic of Korea
- [P5.44] **Impurity impact ionization avalanche in doped diamond**
V. Mortet*^{1,2}, N. Lambert^{1,2}, A. Taylor¹, P. Hubik¹, D. Tremouilles³, ¹Institute of Physics CAS, Czech Republic, ²Czech Technical University, Czech Republic, ³LAAS-CNRS, France

Note:

P5.44 will be presented in Session 13: Poster session II
P5.08, P5.22 and P13.07 have been withdrawn