

Poster - Plasma Polymerization

PO2001

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,**PO2002 Plasma polymer film deposition using a magnetically enhanced RF plasma source**Jaroslav Kousal¹, Juraj Čechvala², Milan Tichý², Iva Matolínová², Hynek Biederman²¹ Charles University, Prague, Czech Republic, ² Charles University, Faculty of Mathematics and Physics, Prague, Czech Republic**PO2003 Chemical derivatization of nanoporous a-C:H:N plasma polymer thin films**Sebastien Guimond¹, Dirk Hegemann¹¹ Empa, St.Gallen, Switzerland**PO2004 Ex-situ iodine doping of pulsed plasma polymerization of thiophene**Veronica Satulu¹, Bogdana Mitu², Valentin Ion², Gheorghe Virgil Aldica³, Gheorghe Dinescu²¹ Nat. Inst. Lasers, Plasma & Radiat Phys, Magurele-Bucharest, Romania, ² National Institute for Lasers, Plasma and Radiation Physics, Magurele-Bucharest, Romania, ³ National Institute for Materials Physics, Magurele-Bucharest, Romania

PO2005

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,**PO2006 Physical and Chemical Properties of Plasma Polymerized Allyl alcohol Thin Films**Alaa Fahmy¹, Renate Mix², Andreas Schönhals², Joerg Friedrich²¹ Federal Inst. for Materials Research, Berlin, Germany, ² Federal Institute for Materials Research and Testing, Berlin, Germany**PO2007 Wetting and mechanical properties of plasmopolymerized HMDSO and HMDSN based thin films for polymer processing**Jan Hagen¹, Frank Burmeister¹, Alexander Fromm¹, Jörn Denter¹, Marco Wirth¹, Günter Kleer¹¹ Fraunhofer IWM, Freiburg, Germany

PO2008 **Surface reactivity of Plasma Polymerized Allylamine (PPAA) thin films on Au and Si: study of the thickness influence and ageing of the films**

Nicolas Moreau¹, Olivier Feron², Bernard Gallez³, Bernard Masereel⁴, Carine Michiels⁵, Thierry Vander Borghet⁶, François Rossi⁷, Stéphane Lucas⁸

¹ University of Namur (FUNDP) - PMR, Namur, Belgium, ² Université Catholique de Louvain - FATH, Brussels, Belgium, ³ Université Catholique de Louvain - CMFA, Brussels, Belgium, ⁴ University of Namur (FUNDP) - DP, Namur, Belgium, ⁵ University of Namur (FUNDP) - URBC, Namur, Belgium, ⁶ Université Catholique de Louvain - IMRE, Mont-Godinne, Belgium, ⁷ Joint Research Center (IHCP), Ispra, Italy, ⁸ University of Namur (FUNDP) - PMR, Namur, Belgium

PO2009 **Non-destructive In-Depth Chemical Characterization of Air Exposed Plasma Polymers by Energy Resolved XPS**

Pierre-Luc Girard-Lauriault¹, Iris Retzko¹, Sufal Swaraj¹, Nobuyuki Matsubayashi², Thomas Gross¹, Renate Mix¹, Wolfgang E.S. Unger¹

¹ BAM, Berlin, Germany, ² National Institute of Advanced Industrial and Science Technology (AIST), Tsukuba, Japan

PO2010 **Characterization and Ageing Study of Plasma-Deposited Allylamine Polymer and Styrene/Ethylene-Allylamine Copolymer Films Using Principle Component Analysis of ToF-SIMS Spectra**

Pierre-Luc Girard-Lauriault¹, Hyegeun Min¹, Umut Oran¹, Wolfgang E.S. Unger¹

¹ BAM, Berlin, Germany

PO2011 **Dienophile functionalized aluminium substrate based on atmospheric DBD plasma polymerisation**

Anton Manakhov¹, Maryline Moreno-Couranjou¹, Patrick Choquet¹, Jean-Jacques Pireaux²

¹ CRP Gabriel Lippmann, Belvaux, Luxembourg, ² Facultés Universitaires Notre Dame de la Paix, Namur, Belgium

PO2012 **Development of transparent protective coatings on polycarbonate substrates using PECVD**

Valentin Mocanu¹, Vilma Buršikova², Adrian Stoica², Vratislav Peřina³, Daniel Franta², David Nečas², Lenka Zajičková², Ivan Ohlidal², Miloslav Ohlidal⁴

¹ Masarik University, PS, DPE, Brno, CzechRepublic, ² Masaryk University, FS, DPE, Brno, Czech Republic, ³ Nuclear Physics Institute of Academy of Science CR, Řež near Prague, Czech Republic, ⁴ Institute of Physical Engineering, Brno University of Technology, Brno, Czech Republic

Poster - Multilayer and Nanocomposite films

PO2013 **Large area sputter depositions for high-precision nanometer films**

Stefan Braun¹, Peter Gawlitza¹, Maik Menzel¹, Andreas Leson¹, Frank Allenstein², Matthias Nestler², Dirk Rost², Andreas Seifert², Michael Zeuner²

¹ Fraunhofer IWS Dresden, Dresden, Germany, ² Roth & Rau Microsystems, Hohenstein-Ernstthal, Germany

- PO2014 **Crystallization behavior of amorphous SiNx, BN and CNx phase with transition metal nitride (TiAlN and ZrN) layer in nanoscale multilayered coating**
JONG KEUK PARK¹, Young-Joon Baik², Wook-Seong Lee²
¹ Korea Institute of Science and Technology, Seoul, SouthKorea, ² Korea Institute of Science and Technology, Seoul, South Korea
- PO2015 **The structure and properties of VN-VCN-VC coatings deposited by a high energy ion assisted magnetron sputtering method**
Eduard Grigore¹, Cristian Ruset¹, Catalin Luculescu¹
¹ NILPRP, Bucharest-Magurele, Romania
- PO2016 **Composition, microstructure and mechanical properties of boron containing multilayer coatings for hot forming tools**
Hanno Paschke¹, Michael Stüber², Carlos Ziebert², Marcus Biströn³, Paul Mayrhofer⁴
¹ Fraunhofer IST im DOC, Dortmund, Germany, ² Karlsruhe Institute of Technology, Institute for Materials Research I, Karlsruhe, Germany, ³ Institute of Metal Forming and Metal-Forming Machines at Leibniz University Hannover, Garbsen, Germany, ⁴ Department of Physical Metallurgy and Materials Testing at Montanuniversität Leoben, Leoben, Austria
- PO2017 ¹
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- PO2018 **Functional nano-multilayer coatings for machining of hard-to-cut aerospace grade alloys**
Kenji Yamamoto¹, German F-Rabinovich²
¹ Kobe Steel Ltd., Kobe, Japan, ² McMaster University, Hamilton, Canada
- PO2019 **Contact damage evolution under cyclic loading on PVD TiN/CrN multilayer coatings**
Agurtzane Martinez¹, Giselle Ramirez², J.A. García³, Miguel Rico³, Gonzalo G. Fuentes³, Rafael J. Rodríguez³, Luis Llanes²
¹ AIN, Cordovilla, Spain, ² CIEFMA, Universitat Politècnica de Catalunya, Barcelona, Spain, ³ AIN, Centro de Ingeniería Avanzada de Superficies, Cordovilla, Pamplona, Spain
- PO2020 **Reactive Nanoscaled Multilayers for High Precision Joining**
Georg Dietrich¹, Stefan Braun¹, Maximilian Rühl¹, Andreas Leson¹
¹ Fraunhofer IWS, Dresden, Germany

PO2021
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PO2022 **How to manage the nanostructure of some nitrides films: example of four transition metals Cr, Ti, Nb and Fe.**

Alexandre Mège-Revil¹, Philippe Steyer², Jean-François Pierson³

¹ Institut Jean Lamour, Nancy, France, ² INSA Lyon, laboratoire MATEIS-RI2S, Villeurbanne, France, ³ Institut Jean Lamour - Ecole des Mines de Nancy - Département CP2S, Nancy, France

PO2023 **Interest of an in situ microscopic investigation to understand the deformation and oxidation behaviours of nanocomposite films**

Philippe STEYER¹, Thomas Schmitt², Gilbert Thollet³, Julien Fontaine⁴, Claude Esnouf³

¹ INSA de Lyon, Villeurbanne, France, ² INSA de Lyon-MATEIS/Ecole Centrale de Lyon-LTDS, Lyon, France, ³ INSA de Lyon - MATEIS, Villeurbanne, France, ⁴ Ecole Centrale Lyon - LTDS, Ecully, France

PO2024 **Nanocomposites prepared in a plasma with a cluster source**

Thomas Strunskus¹, Tilo Peter¹, Vladimir Zaporojtchenko¹, Venkata Sai Kiran Chakravadhanula¹, Sven Bornholdt², Matthias Wolter², Holger Kersten², Franz Faupel¹

¹ Institute for Material Science, CAU Kiel, Kiel, Germany, ² Institute for Experimental & Applied Physics, CAU Kiel, Kiel, Germany

PO2025 **Nanostructured thin films prepared from cluster beams**

Pavel Solar¹, Olexandr Polonskyi¹, Andrei Choukourov¹, Anna Artemenko¹, Jan Hanus¹, Hynek Biederman¹, Danka Slavinska¹

¹ Charles University in Prague, KMF MFF, Prague, CzechRepublic

PO2026 **Nanocomposite films prepared by means of a simple gas aggregation source**

Oleksandr Polonskyi¹, Jan Hanus², Jaroslav Kousal¹, Ondrej Kylian¹, Pavel Solar¹, Anna Artemenko¹, Josef Pesicka¹, Danka Slavinska¹, Hynek Biederman¹

¹ Charles University in Prague, Prague, CzechRepublic, ² Institute for Health and Consumer Protection, Joint Research Centre, Ispra, Italy

PO2027 **Energy flux measurement in a metal cluster source for the deposition of nanocomposites**

Holger Kersten¹, Sven Bornholdt², Tilo Peter³, Thomas Strunskus³, Vladimir Zaporojtchenko³, Franz Faupel³, Matthias Wolter²

¹ University of Kiel, IEAP, Kiel, Germany, ² University of Kiel, IEAP, Kiel, Germany, ³ University of Kiel, TF, Kiel, Germany

- PO2028 **Deposition, characterization and modeling of nanocrystalline MWCVD diamond/ β -SiC films**
Carsten Muders¹, Xin Jiang¹, Georg Dinger², Christoph Friedrich², Stefan Groß³, Holger Hoche³, Christina Berger³
¹ University of Siegen - LOT, Siegen, Germany, ² University of Siegen - MVP, Siegen, Germany, ³ Technische Universität Darmstadt - MPA, Darmstadt, Germany
- PO2029 **Synthesis of the Al-Cr-O-N coatings by cathodic arc evaporation**
Kurapov Denis¹, Denis Kurapov¹, Theo Bachmann¹, Max Döbeli²
¹ OC Oerlikon Balzers AG, Balzers, Liechtenstein, ² Ion Beam Physics, Paul Scherrer Institute and ETH Zurich, Zürich, Switzerland
- PO2030 ¹
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- PO2031 **Carbon:Vanadium nanocomposite films for tribological applications**
Matthias Krause¹, Gintautas Abrasonis², Frans Munnik², Andreas Kolitsch², Wolfhard Möller²
¹ Technische Universität Dresden, Dresden, Germany, ² Forschungszentrum Dresden-Rossendorf, Dresden, Germany
- PO2032 **Deposition and characterisation of n-TiC/a-C:H coatings prepared by hybrid PVD-PECVD**
Pavel Souček¹, Abdelaziz El Mel², Pierre-Yves Tessier², Marek Eliáš¹, Vilma Buršíková¹, Petr Vašina¹
¹ Masaryk University, Brno, Czech Republic, ² CNRS IMN, Nantes, France
- PO2033 **Adhesive wear and its coating removal analysis of alumina/titania nanocomposite layer fabricated by plasma electrolysis**
Mahmood Aliofkhazraei¹, Alireza Sabour Rouhaghdam¹
¹ Tarbiat Modares University, Tehran, Iran
- PO2034 **CORRELATION BETWEEN THE STRUCTURAL AND MECHANICAL PROPERTIES OF ZrBN NANOCOMPOSITE THIN FILMS**
Abdelouahad CHALA¹, Chahinez SAIED²
¹ Laboratoire de Chimie Appliquée., Biskra, Algeria, ² Laboratoire de Chimie Appliquée, Univ. Biskra, Biskra, Algeria

PO2035 **Active Corrosion Protection for Aluminium Surfaces by DLC Layers with Nanocontacts**

Eva Maria Moser¹, Sidney Chappuis¹, Vincent Rivest¹, Steve Röthlisberger¹, Eric Rosset¹, Markus Faller²

¹ University of Applied Sciences of Geneva, Geneva, Switzerland, ² Swiss Federal laboratories for Materials Testing and Research, Dübendorf, Switzerland

PO2036 **Ageing of nanocluster Ti/TiOx films prepared by means of gas aggregation cluster source**

Martin Drabik¹, Andrei Choukourov¹, Anna Artemenko¹, Olexandr Polonskyi¹, Pavel Solar¹, Josef Pesicka¹, Iva Matolinova¹, Danka Slavinska¹, Hynek Biederman¹

¹ Charles University in Prague, Prague, CzechRepublic

PO2037
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PO2038 **Experimental and Computational Study of Morphological and Electrical Properties of Tin/Plasma Polymer Nanocomposites**

Jindrich Matousek¹, Rudolf Hrach², Martin Svec³, Jaroslav Pavlik³, Stanislav Novak³, Lubomir Kovacic⁴

¹ J. E. Purkinje University, Usti nad Labem, CzechRepublic, ² Department of Surface and Plasma Science, Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic, ³ Department of Physics, Faculty of Science, J. E. Purkinje University, Usti nad Labem, Czech Republic, ⁴ Institute of Cellular Biology and Pathology, First Faculty of Medicine, Charles University, Prague, Czech Republic

PO2039 **Study of Growth Process for Nanocomposite Layer Fabricated by Plasma Electrolytic Carburizing**

Alireza Sabour Rouhaghdam¹, Mahmood Aliofkhazraei¹

¹ Tarbiat Modares University, Tehran, Iran

Poster - Plasma Diffusion Treatment

PO2040 **A possible new mechanism for glow discharge plasma nitriding**

Subroto Mukherjee¹, Suraj Sinha²

¹ FCIPT, Institute for Plasma Research, Gandhinagar, India, ² BIT-Mesra, Jaipur Campus, Jaipur, India

PO2041 **DEVELOPMENT OF PULSED LOW ENERGY ION IMPLANTATION FOR NITRIDING OF AUSTENITIC STAINLESS STEEL**

Stephan Mändl¹, D. Manova², F. Scholze², H. Neumann²

¹ Leibniz-Inst. f Oberflächenmodifizierung, Leipzig, Germany, ² Leibniz-Institut für Oberflächenmodifizierung, Leipzig, Germany

- PO2042 **Effect of screen material on active screen plasma nitriding response**
Akio Nishimoto¹, Kimiaki NAGATSUKA¹, Ryota NARITA¹, Katsuya AKAMATSU¹
¹ Kansai University, Osaka, Japan
- PO2043 **No Direct Correlation between Lattice Expansion and Nitrogen Content in Expanded Phase after Nitrogen Insertion in Austenitic Stainless Steel and CoCr Alloys**
Johanna Lutz¹, Darina Manova², Jürgen W. Gerlach², Horst Neumann², Stephan Mändl²
¹ TRM Leipzig, Leipzig, Germany, ² Leibniz-Institut für Oberflächenmodifizierung, Leipzig, Germany
- PO2044 **On the combination of plasma assisted nitriding and plasma assisted carburizing treatments of austenitic stainless steel**
Thierry Czerwiec¹, Yuanyuan Guo¹, Grégory Marcos², Thierry Czerwiec², Thierry Belmonte²
¹ Institut Jean Lamour, Nancy, France, ² IJL, Nancy, France
- PO2045 ¹
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- PO2046 **Influence of plasma nitriding and oxinitriding parameters to corrosion resistance**
Zdenek POKORNY¹, Vojtěch HRUBY¹, David KUSMIC¹
¹ The University of Defence, Brno, CzechRepublic
- PO2047 **Corrosion resistance of nitrided austenitic stainless steel**
Katharina Köster¹, Peter Kaestner¹, Günter Bräuer¹
¹ Institute for Surface Technology, Braunschweig, Germany
- PO2048 **Mechanical properties and structural modifications of plasma nitrided CoCrMo alloy**
Luc PICHON¹, Jean-Paul RIVIERE¹, Eric LE BOURHIS¹, Michel DROUET¹, Orhan OZTURK², Serdal OKUR²
¹ Institut P' UPR3346 CNRS U. de Poitiers, Chasseneuil- Futuroscope Cedex, France, ² Department of Physics, Izmir Institute of Technology, Izmir, Turkey
- PO2049 **Friction and sliding wear of Gas, Sal Bath and Active Screen plasma nitrided AISI H13 steel**
Pablo Corengia¹, Jon Zuñiga¹, Juan María Hernández¹, Aitor Esnal¹, Aitor Larrañaga²
¹ INASMET-Tecnalia, San Sebastian-Donostia, Spain, ² Tratamientos Térmicos TTT, S.A., Bergara, Spain

- PO2050 **Plasma-assisted nitriding for increased adhesion of sputter deposited Ti1-xAlxN coatings on a Fe-25%Co-15%Mo grade**
Thomas Weirather¹, Devrim Caliskanoglu², Werner Kölker³, Christian Mitterer¹
¹ University of Leoben, Leoben, Austria, ² Böhler Edelstahl GmbH & Co KG, Kapfenberg, Austria, ³ CemeCon AG, Würselen, Germany
- PO2051 **Characterization of AlTiCrN coatings on plasma nitrided austenitic stainless steel AISI 316L**
Zdeněk Joska¹, Jaromir Kadlec¹, Vojtěch Hruby¹, Emil Svoboda¹, Miroslav Pospíchal¹
¹ University of Defence Brno, Brno, CzechRepublic
- PO2052 **A COMPARATIVE STUDY ABOUT MECHANICAL AND TRIBOLOGICAL PROPERTIES OF LDX2101 DUPLEX STEEL SUBMITTED TO DIFFERENT ION NITRIDING PROCESSES**
Carlos Eugenio Foerster¹, Andre Assmann², Francisco Carlos Serbena², Silvio Luiz Rutz da Silva², Carlos Mauricio Lepienski³, Adilson Luiz Chinelatto², Mario Ueda⁴
¹ U. Est. de Ponta Grossa, Ponta Grossa, Brazil, ² UEPG, Ponta Grossa - Pr, Brazil, ³ UFPR, Curitiba-Pr, Brazil, ⁴ INPE, São Jose dos Campos, Brazil
- Poster - Atmospheric Plasma Processing, Plasma Spraying**
- PO2053
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- PO2054 **SCALABLE LINEAR MICROWAVE PLASMA SOURCE AT ATMOSPHERIC PRESSURE**
Julius Roch¹, Ines Dani¹, Stefan Kaskel¹, Eckhard Beyer¹, Matthias Scharrnbeck², Klaus Schröter²
¹ Fraunhofer IWS Dresden, Dresden, Germany, ² SITEC Automation, Chemnitz, Germany
- PO2055 **Application of Atmospheric Linear Plasma Source for High Speed Surface Treatment and Photocatalyst Coating**
Ryota Sasaki¹, Shotaro Yamasaki¹, Hideyuki Hirai¹, Masaki Ichikawa¹, Hidekazu Miyahara¹, Akitoshi Okino¹
¹ Tokyo Institute of Technology, Yokohama, Japan
- PO2056 **Non-equilibrium atmospheric pressure radio-frequency glow-like discharges**
Johann Laimer¹, Qurat-ul Ain², Herbert Störi²
¹ IAP/TU-Wien, Wien, Austria, ² TU Wien, Wien, Austria
- PO2057 **Radiofrequency discharge configurations for plasma processing of narrow tubes at atmospheric pressure**
Maximilian Teodorescu¹, Cristian Stancu¹, Eusebiu Rosini Ionita¹, Elena Claudia Stancu¹, Gheorghe Dinescu¹
¹ NILPRP, Magurele, Ilfov, Romania

- PO2058 ¹
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- PO2059 **Atmospheric pressure dielectric barrier discharge in air - Role of charged particles in surface activation**
Priyadarshini Rajasekaran¹, M Mischo², N Bibinov¹, W Viöl³, D Wandke⁴, P Awakowicz¹
¹ AEPT, Ruhr Universitaet Bochum, Bochum, Germany, ² Physical Chemistry II, Ruhr Universitaet Bochum, Bochum, Germany, ³ University of Applied Sciences and Arts, Goettingen, Germany, ⁴ Cinogy GmbH, Duderstadt, Germany
- PO2060 **In situ infrared spectroscopy of atmospheric pressure PECVD of SiO₂ thin films on glass**
Philip Martin¹, David Sawtell², Adam Higginson², David Sheel³, Philip Martin²
¹ University of Manchester, Manchester, United Kingdom, ² University of Manchester, SCEAS, Manchester, United Kingdom, ³ University of Salford, Institute for Materials Research, Salford, United Kingdom
- PO2061 **Synthesis of TiO_x Thin Films by Atmospheric Pressure Plasma Enhanced Chemical Vapor Deposition**
Sangsik Kim¹, Sungdae Kim¹, Joongwook Shin¹, Seongcheon Oh¹
¹ Institute for Advanced Engineering, Yongin, SouthKorea
- PO2062 ¹
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- PO2063 **Surface figuring of glass substrates by local deposition of silicon oxide with atmospheric pressure plasma jet**
Manuela Janietz¹, Thomas Arnold¹
¹ IOM Leipzig, Leipzig, Germany
- PO2064 **Complex analysis of SiO_xCyHz films deposited by an atmospheric pressure dielectric barrier discharge**
Stefan Horn¹, Jan Schäfer¹, Rüdiger Foest¹, Ronny Brandenburg¹, Klaus-Dieter Weltmann¹
¹ INP Greifswald, Greifswald, Germany
- PO2065 **Surface analysis of SiO_xCy thin film synthesized by Atmospheric pressure-plasma enhanced chemical vapor deposition**
Seung-chun Oh¹, Sang-sik Kim¹, Sung-dae Kim¹, Jung-uk Shin¹
¹ Institute for Advanced Engineering, Yongin-si, SouthKorea

- PO2066 **PEO-like plasma polymers prepared by atmospheric pressure dielectric barrier discharge**
Ivan Gordeev¹, Anna Artemenko¹, Andrei Choukourov¹, Václav Prukner², Milan Simek², Hynek Biederman¹
¹ Charles University in Prague, Prague, Czech Republic, ² Institute of Plasma Physics, Prague, Czech Republic
- PO2067 **Adhesion improvement of copper foils to epoxy resins by atmospheric DBD plasma treatments**
Juliano Borges¹, Thierry Belmonte², Patrick Choquet¹
¹ CRP-Gabriel Lippmann, Belvaux, Luxembourg, ² Institut Jean Lamour - UMR CNRS - Nancy-Université - UPV Metz - Département Chimie et Physique des Solides et des Surfaces, Nancy, France
- PO2068 **Corrosion protection of copper surfaces by atmospheric pressure plasma jet treatment**
Christoph Regula¹, Christoph Regula¹, Jörg Ihde¹, Uwe Lommatzsch¹, Ralph Wilken¹
¹ Fraunhofer IFAM, Bremen, Germany
- PO2069 **The diverse behavior of silica precursors in the Atmospheric Pressure Plasma Jet (APPJ) deposition for the improvement of gas barrier properties of polymeric substrates.**
Paolo Scopece¹, Emiliano Beggiato², Moreno Meneghetti², Alessandro Patelli¹
¹ Civen Association, Marghera (VE), Italy, ² Dipartimento Scienze Chimiche Università di Padova, Padova, Italy
- PO2070 **Sensing surfaces prepared by atmospheric pressure dielectric barrier discharge**
Nicolas Boscher¹, David Duday¹, Patrick Choquet¹
¹ CRP-Gabriel Lippmann, Belvaux, Luxembourg
- PO2071 -
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- PO2072 **The influence of plasma spraying regime and initial substance injection location on the structure of deposited coatings**
Vitas Valinčius¹, Romualdas Kėželis¹, Vilma Snapkauskienė¹, Viktorija Grigaitienė¹, Pranas Valatkevičius¹
¹ Lithuanian Energy Institute, Kaunas, Lithuania

- PO2073 ¹
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- PO2074 **EFFECT OF OXYGEN/FUEL RATIO ON THE IN-FLIGHT PARTICLE PARAMETERS AND PROPERTIES OF HVOF WC-CoCr COATINGS**
Josep Picas¹, Miquel Punset¹, Maria Teresa Baile¹, Enrique Martin¹, Antonio Forn¹
¹ Universitat Politecnica de Catalunya, Vilanova i la Geltru, Spain
- PO2075 **The influence of spraying distance on the characteristics of plasma sprayed titanium/hydroxyapatite composite coatings**
Narjes Koupaei¹, Mortaza Tamizifar²
¹ Iran university of science and technolog, Esfahan, Iran, ² Iran university of science and technology, Tehran, Iran
- PO2076 **Structure and Durability Evaluation of TBCs with APS and HVOF bond coats**
Abdullah Cahit KARAÖGLANLI¹, Ahmet TURK², Ismail OZDEMIR¹, Fatih USTEL²
¹ Bartin University, BARTIN, Turkey, ² Sakarya University, SAKARYA, Turkey
- PO2077 ¹
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- PO2078 **Rapidly Solidified Thick stainless cast iron alloy deposit with niobium carbide particles produced by plasma spraying**
Yasuhiro Hoshiyama¹, Tsutomu Miyazaki¹, Hidekazu Miyake¹
¹ Kansai University, Osaka, Japan
- PO2079 ¹
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- PO2080 **Novel approach for characterization of water stabilized plasma sprayed ceramics and metals by instrumented indentation**
Jiri Nohava¹, Radek Mušálek², Monika Vilémová², Jiří Matějčíček², Jan Siegl³
¹ CSM Instruments SA, Peseux, Switzerland, ² Institute of Plasma Physics, Prague, Czech Republic, ³ Czech Technical University, Faculty of Nuclear Sciences and Physical Engineering, Prague, Czech Republic
- PO2081 **Fatigue Behavior of Plasma-Sprayed Alumina Coating**
Fatih YILDIZ¹, Fatih YETİM², Akgün ALSARAN³, İrfan KAYMAZ³, Ayhan ÇELİK³
¹ Atatürk University Aşkale Vocational, Erzurum, Turkey, ² Atatürk University, Dept. of Metallurgical Engineering, Erzurum, Turkey, ³ Atatürk University, Dept. of Mechanical Engineering, Erzurum, Turkey

Poster - Tribological Coatings**PO2082 Decomposition of Arc Evaporated Ti1-xAlxN Coatings During Metal Machining**

Niklas Norrby¹, M.P. Johansson², A. Knutsson³, M. Odén³

¹ Linköping University, Linköping, Sweden, ² Seco Tools AB, Fagersta, Sweden, ³ Nanostructured Materials, IFM, Linköping University, Linköping, Sweden

PO2083 Tribological properties of arc-evaporated NbAlN hard coatings

Robert Franz¹, Markus Lechthaler², Conrad Polzer³, Christian Mitterer¹

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PO2084 Oxidation and diffusion study on arc-evaporated AlCrVN coatings using oxygen isotopes 16O and 18O

Robert Franz¹, Johannes Schnöller², Herbert Hutter², Christian Mitterer¹

¹ Montanuniversität Leoben, Austria, Leoben, Austria, ² Department of Chemical Technologies and Analytics, Vienna University of Technology, Wien, Austria

PO2085 Influence of the silicon content on the structure and mechanical properties of co-sputtered Cr-Si-N films devoted to woodworking tools

David Pilloud¹, Christophe Rousselot², Corinne Nouveau³, Luc Imhoff⁴, Joseph Gavaille², Nicolas Martin², Jean-Yves Rauch²

¹ Institut Jean Lamour, département CP2S, NANCY, France, ² Institut FEMTO-ST, UMR CNRS 6174, Université de Franche-Comté, ENSMM, UTBM, Montbéliard, France, ³ LaBoMaP, Université de Bourgogne - ENSAM de Cluny, Cluny, France, ⁴ Institut Carnot de Bourgogne, UMR CNRS 5613, Université de Bourgogne, Dijon, France

PO2086 Mechanical and tribological properties of coatings sputtered from SiC target in the presence of CH4 gas

Valeriy Kulikovskiy¹, Vladimir Vorliceck², Radim Ctvrtlik³, Petr Bohac², Jan Suchanek⁴, Lubomir Jastrabik²

¹ IPMS, Kiev, Ukraine/FZU AS CR, Prague, Czech Republic, ² Institute of Physics, Academy of Sciences, Prague, Czech Republic, ³ Joint Laboratory of Optics of UP and FZU AS CR, Olomouc, Czech Republic, ⁴ Czech Technical University, Faculty of Mechanical Engineering, Prague, Czech Republic

PO2087 SiCN thin films for high temperature applications – Comparison of RF-, DC- and HIPIMS-sputtering

Casper Pusch¹, Holger Hoche¹, Christina Berger¹, Ralf Riedel², Emanuel Ionescu², Claudia Fasel²

¹ MPA-IfW, TU Darmstadt, Darmstadt, Germany, ² Dispersive Solids Department, TU Darmstadt, Darmstadt, Germany

PO2088 TRIBOLOGICAL BEHAVIOR OF SELF-LUBRICATING MO-S-C COATINGS

Joao Victor Pimentel¹, Manuel Evaristo², Albano Cavaleiro², Tomas Polcar¹

¹ Czech Technical University in Prague, Prague, Czech Republic, ² SEG-CEMUC, University of Coimbra, Darmstadt, Portugal

Poster - Tribological Coatings

- PO2089 **Potentiality of Oxygen doped a-SiC:H PACVD films for space tribological applications**
Laurent THOMAS¹, Isabelle Bousquet¹, Audrey Soum-Glaude², Anne Laure Bourguère¹, Hervé Glénat¹
¹ PROMES/CNRS, Perpignan, France, ² LPSC-CNRS IN2P3, Grenoble, France
- PO2090 **Physicochemical, structural, tribological and mechanical properties of Si3N4 films annealed in O2**
Gabriel Soares¹, Cesar Aguzzoli¹, Cristiane Marin¹, Carlos Figueroa¹, Israel Baumvol²
¹ Universidade de Caxias do Sul, Caxias do Sul, Brazil, ² Universidade de Caxias do Sul and Universidade Federal do Rio Grande do Sul, Caxias do Sul and Porto Alegre, Brazil
- PO2091 **Oxygen and neon-ion irradiation of oxygen-containing cubic boron nitride films**
Jian Ye¹, Sebastian Geburt², Carsten Ronning², Jian Ye¹, Michael Stüber¹, Sven Ulrich¹
¹ Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany, ² Friedrich Schiller University of Jena, Jena, Germany
- PO2092 **Reactive magnetron sputtering of solid solution strengthened Al-Cr-O-N thin films**
Dominic Diechle¹, Michael Stüber¹, Harald Leiste¹, Sven Ulrich¹
¹ IMF I/Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany
- PO2093 **Disordered alloyed alumina thin films as wear-resistant coatings – a TEM and FIB study**
Wolfgang Engelhart¹, Oliver Eibl², Veit Schier¹, Werner Dreher³
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- PO2094 **A Comparative Study of Aluminum Oxide Layers Produced by Straight and Pulsed Direct Current Plasma Electrolytic Oxidation**
Ahmad Reza Rastkar¹, Azadeh Hashemi¹, Sara Babaei¹, babak Shokri¹
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- PO2095 **High rate silicon oxide deposition for scratch protection of polycarbonate components**
Andreas Schulz¹, Matthias Walker², Ulrich Stroth², Ralf Dreher³, Rudolf Emmerich³, Mathias Kaiser⁴
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- PO2096 **The effect of pulsed biasing on the microstructure and mechanical properties of sputtered TiB₂ coatings**
Stephan Grasser¹, Rostislav Daniel¹, Christian Mitterer¹
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- PO2097 **IN ORBIT TRIBOLOGICAL TESTS OF ALLOYED MOSX FILM AT THE INTERNATIONAL SPACE STATION**
Marta Brizuela¹, Alberto García-Luis², José Ignacio Oñate², Iñaki Garmendia²
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- PO2098 ¹
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- PO2099 **Improvement of tribological properties of stainless steel by alloying its surface layer with rare earth elements using high intensity pulsed plasma beams**
Bożena Sartowska¹, Jerzy Piekoszewski², Lech Waliś³, Jan Senatorski⁴, Marek Barlak², Katarzyna Bocheńska⁵, Wojciech Starosta³, Cezary Pochrybniak⁵
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- PO2100 **Wear Rates of CoCr Alloys Crucially Depend on Counter Body in Ball-on-Disc Tests**
Johanna Lutz¹, Stephan Mändl²
¹ TRM Leipzig, Leipzig, Germany, ² Leibniz-Institut für Oberflächenmodifizierung, Leipzig, Germany
- PO2101 **INFLUENCE OF THE APPLIED CONDITIONS DURING PVD FILMS WET MICRO-BLASTING ON THE WEAR BEHAVIOUR OF COATED TOOLS**
Konstantinos-Dionysios Bouzakis¹, Emmanouil Bouzakis², Georgios Skordaris¹, Alexandros Tsouknidas¹
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- PO2102 **INVESTIGATION OF DIFFUSION PHENOMENA IN THE CONTACT AREA BETWEEN STEEL AND VARIOUS PVD COATINGS BY A DEVELOPED EXPERIMENTAL SETUP**
Konstantinos-Dionysios Bouzakis¹, Michail Batsiolas¹, Dimitrios Sagris², Eleni Pavlidou³
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