

Poster - Optical Coatings

- PO1001 **Improving the optical properties of titanium nitride based coatings for industrial solar thermal applications**
Ramon Escobar Galindo¹, Miriam Yuste¹, Olga Sanchez¹, Jose Maria Albella¹
¹ Instituto Ciencia Materiales Madrid, Madrid, Spain
- PO1002 **Photoluminescence of Nd-doped TiO₂ Thin Films by Laser Ablation**
Shinji Kawai¹, Shuji Komuro², Toru Katsumata²
¹ AIST, Tsukuba, Japan, ² Toyo University, Kawagoe, Japan
- PO1003 **INFLUENCE OF SUBSTRATE ON STRUCTURAL AND OPTICAL PROPERTIES OF CaTiO₃:Pr³⁺ DEPOSED BY RADIOFREQUENCY REACTIVE MAGNETRON SPUTTERING IN ELECTROLUMINESCENCE STRUCTURE**
Angélique Bousquet¹, Ludovic Sarakha¹, Fadi Zoubian¹, Eric Tomasella¹, Philippe Boutinaud¹, Rachid Mahiou¹
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- PO1004 **Investigation of the working pressure effect on NdNiO₃ thin films deposited by reactive magnetron co-sputtering followed by a soft annealing process.**
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- PO1005 **Elaboration and characterisations of NdCoO₃ thin films prepared by DC magnetron co-sputtering**
Fabien Capon¹, Alexis Boileau¹, David Horwat¹, Jean-François Pierson¹
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- PO1006 **Physical vapour deposition and plasma-etching of organic compounds for optical applications**
Ulrike Schulz¹, Christiane Präfke¹, Peter Munzert¹, Christoph Goedecker¹, Norbert Kaiser¹
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Poster - Computer Modeling of Film Growth and Structure

- PO1007 **High temperature simulations of the early stage growth of Ge quantum dots on silicon based substrates with the kinetic Monte Carlo code NASCAM.**
Stéphane Lucas¹, Pavel Moskovkin¹
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- PO1008 **New Si-B-C-N materials: Combining electrical conductivity with extremely high thermal stability**
Jiri Houska¹, Simon Kos¹, Petr Zeman¹, Jiri Capek¹, Pavel Calta¹, Petr Steidl¹, Jaroslav Vlcek¹
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- PO1009 **Nano structured thin films by GLAD: a simulation approach**
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- PO1010 **Nanostructure of Thin Films Grown by Deposition of Isotropically Distributed Gaseous Particles**
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- Poster - Electro and Magneto Functional Films**
- PO1011 **Granular magnetoresistive films preparation and characterization**
Cristian P. LUNGU¹, Ionut JEPU¹, Ion MUSTATA¹, Ana Mihaela LUNGU¹, Catalin TICOS¹, Corneliu POROSNICU¹, Alexandru ANGHEL¹, Petrica CHIRU¹, Victor KUNCSE²
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- PO1012 **Electronic properties of thin AlN films deposited by magnetron sputtering method on silicon substrates**
Piotr Firek¹, Krzysztof Zdunek², Jan Szmidt³, Rafal Chodun², Katarzyna Nowakowska-Langier⁴, Michal Waskiewicz³
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- PO1013 **Iron Doped Ba_{0.6} Sr_{0.4} Ti_{1-x} Fex O₃ Thin Films Deposited by RF Magnetron Co-sputtering**
Florian Stemme¹, Holger Gesswein¹, Joachim R. Binder¹, Michael Bruns¹
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- PO1014 **Sputter deposited Al₂O₃, SiO₂ and Si₃N₄ films for electrical insulation at high temperatures**
Hagen Bartzsch¹, Daniel Glöß¹, Pierre Pötschick¹, Matthias Gittner¹, Peter Frach¹, Johannes Hartung², Wolfgang Brode³
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- PO1015 **Ni/YSZ cermet sputter deposited under reactive atmospheres: potential anode for SOFC**
Pascal BRIOIS¹, Alain BILLARD¹
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- PO1016 **Hydrogenated carbon layer system for sensory applications**
Saskia Biehl¹, Sebastian Staufenberg¹, Frank Hauschild¹
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PO1017 **Performance of TiO₂ films obtained by cathodic arc deposition as carbon monoxide gas sensor**

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Poster - HiPIMS

PO1018 **A simplified model of a high-power pulsed magnetron sputtering discharge**

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PO1019 **The evolution of the IEDF in a low pressure HiPIMS discharge**

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PO1020 **Time-resolved Langmuir probe measurements during modulated pulsed power reactive magnetron sputtering of Cr/CrN**

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PO1021 **Time-resolved plasma parameters in the HiPIMS discharge with Ti target in Ar/O atmosphere**

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PO1022 **Time-resolved diagnostics of high power pulsed magnetron discharges during formation of antimicrobial Ti-Cu thin films**

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PO1023 **Characterization of a High-Power Impulse Magnetron Sputtering discharge by Laser Induced Fluorescence Spectroscopy**

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- PO1024 **Investigation of HIPIMS discharge by energy resolved mass spectrometry in a reactive atmosphere with Oxygen content**
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- PO1025 **Experimental investigation of physical processes in the high power pulsed magnetron discharge**
Ivan Shchelkanov¹, Georgiy Khodachenko², Galina Krashevskaya², Artyom Sokolov²
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- PO1026 **Effect of the enlarged target power densities during shortened voltage pulses on high power impulse magnetron sputtering of zirconium**
Jiri Rezek¹, Jan Lazar², Jaroslav Vlcek²
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- PO1027 **Dual-magnetron open field sputtering system for sideways deposition of thin films**
Asim Ajjaz¹, Daniel Lundin¹, Petter Larsson¹, Ulf Helmersson¹
¹ IFM, Linköping University, Linköping, Sweden
- PO1028 **The influence of pulse shape, length and peak current density on ion flux to the substrate, deposition rate and plasma composition for high power pulsed sputtering discharges.**
Frank Papa¹, Holger Gerdes², Ralf Bandorf², Arutiun Ehiasarian³, Guenter Braeuer², Thomas Krug¹, Roel Tietema¹
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- PO1029 **Process Control for TiO₂ Deposition Using HiPIMS**
Paul Barker¹, Glen West¹, Peter Kelly¹, James Bradley²
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- PO1030 **Turning HIPIMS/HPPMS into a Product**
Christoph Schiffers¹, Werner Kölker¹, Stephan Bolz¹, Walter May¹
¹ CemeCon AG, Wuersele, Germany
- PO1031 **Important aspects of reactive High Impulse Power Magnetron Sputtering**
Martynas Audronis¹, Victor Bellido-Gonzalez¹, Benoît Daniel¹
¹ Gencoa Ltd, Liverpool, United Kingdom

- PO1032 **Optical properties of oxide thin films deposited by reactive HiPIMS**
Montri Aiempnanakit¹, Petter Larsson², Jens Jensen³, Tomáš Kubart⁴, Ulf Helmersson²
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- PO1033 **Deposition of zinc oxide thin film on wire by DCMS / HiPIMS techniques**
Antoine Lejars¹, David Duday¹, David Horwat², Patrick Choquet¹, Philippe Pigeat², Tom Wirtz¹
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- PO1034 **Pulsed Magnetron Sputtering Systems Used for the Deposition of TiO₂ and TiO₂:N Thin Films**
Zdeněk Hubička¹, Martin Čada¹, Štěpán Kment¹, Lubomír Jastrabík¹
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- PO1035 **MF-Superimposed Reactive HiPIMS for Deposition of ZnO:Al**
Holger Gerdes¹, Ralf Bandorf¹, Paul Barker², Peter Kelly², Günter Bräuer¹
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- PO1036 ¹
¹ , ,
- PO1037 **COMPARISON OF THE PROPERTIES OF TiN AND CrN COATINGS SYNTHESISED BY REACTIVE ARC EVAPORATION AND HIGH POWER IMPULSED MAGNETRON SPUTTERING**
Frédéric Lapostolle¹, Amélie Guillaumot¹, Jean François Pierson², David Pilloud², Alain Billard¹
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- PO1038 ¹
¹ , ,
- PO1039 **First HiPIMS tests for superconducting Niobium films**
Wil Vollenberg¹, Sergio Calatroni², Anna Gustafsson²
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- PO1040 **Thin Nickel layer growth on PET and PC by HIPIMS and DC sputtering**
Alessandro Patelli¹, Simone Vezzu¹, Piero Schiavuta¹, Lorenzo Zottarel¹, Marione Colasuonno¹, Valentino Rigato²
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Poster - Plasma and Ion Etching and Activation

- PO1041 **Hydrogen plasma etching of silicon dioxide in a hollow-cathode system**
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- PO1042 **Surface characterization after subaperture Reactive Ion Beam Etching**
André Miessler¹, Thomas Arnold¹
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- PO1043 **Etching mechanisms during Plasma Jet Machining of silicon carbide**
Inga-Maria Eichentopf¹, Thomas Arnold¹
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- PO1044 ¹
¹ , ,
- PO1045 **Carbon layers cleaning from inside of narrow gaps by a RF glow discharge**
Cristian Stancu¹, Maximilian Teodorescu¹, Aurelian-Catalin Galca², Gheorghe Dinescu¹
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- PO1046 **INVESTIGATION OF THE INFLUENCE OF OXYGEN PLASMA ON THE COPPER SURFACE**
Karola Richter¹, Christoph Kubasch¹, Johann-Wolfgang Bartha¹
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- PO1047 **Effect of plasma treatment on the properties of Fe- and Co- based electrocatalysts**
Natalie Savastenko¹, Volker Brüser¹, Kirsten Anklam¹, Stefan Müller¹, Andreas Schmu², Henrik Junge³
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- PO1048 **Effects of atmospheric pressure plasma in aqueous solution on dissolution of copper residues**
Won Gyu Lee¹, Cheon Kwang Ko¹
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- PO1049 **The Surface Texturing of SCM 415 Steel by Using Electrical Discharge Machining and Ion Beam Etching Methods**
Jung-Dae Kwon¹, Seong-Hwan Yun¹, Seunghun Lee¹, Do-Geun Kim¹, Jong-Kuk Kim¹
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- PO1050 **Reliable Fine Interconnection as Forming Trench on Polyimide Film**
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- PO1051 **Comparison between hexatriacontane and acid stearic behaviours under late Ar-O2 post-discharge.**
Euclides Alexandre Bernardelli¹, Thierry Belmonte², Fabienne Poncin-Epaillard³, Ana Maria Maliska⁴
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- PO1052 **Ion Beam Figuring (IBF) of High Precision Aspherical Optics**
Frank Allenstein¹, Michael Zeuner¹, Marcel Demmler¹, Thoralf Dunger¹, Matthias Nestler¹, Sven Kiontke²
¹ Roth & Rau MicroSystems GmbH, Hohenstein-Ernstthal, Germany, ² asphericon GmbH, Jena, Germany
- PO1053 **DBD Excimer VUV source for surface treatment without direct plasma contact**
Siegmar Rudakowski¹, Markus Roth¹
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- Poster - Carbon-Based Films**
- PO1054 **High rate deposition of DLC coatings from pulsed plasma using different carbon containing precursors**
Hiroataka Ito¹, kenji Yamamoto², Koichiro Akari³, Satoshi Hirota³
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- PO1055 **High rate deposition of hard a-C:H films using microwave excited plasmas-assisted CVD**
Marcus Günther¹, Ingmar Bialuch², Siegfried Peter¹, Klaus Bewilogua², Frank Richter¹
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- PO1056 ¹
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- PO1057 **Deposition and structure characterization of carbon films prepared at atmospheric pressure by plasma jet**
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- PO1058 **Growth of nitrogen-containing diamond-like carbon using a magnetized sheet plasma source**
Leo Mendel Rosario¹, Rommel Paulo Vilaoan², Michelle Marie Villamayor², Roy Tumlos³, Henry Ramos²
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- PO1059 **On the influence from micro topography on the structure and growth of low friction amorphous carbon PVD coatings**
Harald Nyberg¹, Julia Gerth², Johanna Olofsson², Urban Wiklund², Staffan Jacobson²
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- PO1060 ¹
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- PO1062 **Mechanical and structural properties of thin sputtered a-C and CNx layers to polymer substrates**
Zdenek Stryhal¹, Hartmut Kupfer¹, Frank Richter¹, Arndt Schumann¹, Jens Sumpf¹
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- PO1063 **Study of mechanical, physical and chemical properties of a-C:H thin films deposited by reactive magnetron sputtering in d.c. pulsed mode.**
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- PO1064 **Study on the properties of modified amorphous carbon thin films deposited by PECVD**
Adrian Stoica¹, Valentin Mocanu², Magdalena Kadlecikova³, Vratislav Perina⁴, Petr Klapetek⁵, Daniel Franta², David Necas², Pavel Slavicek², Vilma Bursikova²
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- PO1065 **Low stress, nanostructured, biocompatible DLC coatings prepared by thermionic vacuum arc method**
Cristian P. LUNGU¹, Ionut JEU¹, Ana Mihaela LUNGU¹, Constantin Fenic¹, Carmen MOLDOVAN², Bogdan FIRTAT², Radu ALBULESCU³, Cristiana GRIGORESCU⁴
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- PO1066 **DLC-Si THIN FILMS DEPOSITED BY REACTIVE SPUTTERING: STRUCTURAL AND OPTICAL EVOLUTIONS.**
Eric Tomasella¹, Tiphaine Soubeyrand², Eric Tomasella², Angélique Bousquet², Marc Dubois², Joel cellier², Thierry Sauvage³, Celine Eypert⁴, Jean Paul Gaston⁴, El Matti Ech-Chamikh⁵
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- PO1067 **Optical versus microscopic properties of ECR and RF-bias generated amorphous hydrogenated carbon layers**
Andreas Hertwig¹, Maksym Rybachuk², Matthias Weise³, Uwe Beck³
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- PO1068 **Hard graphite-like hydrogenated amorphous carbon grown by a remote plasma on steel substrates for tribological applications**
Teodor Zaharia¹, Roland Groenen², Peter Persoone², Richard van de Sanden¹
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- PO1069 **Hydrogen Content Variation for Enhancing the Lubricated Tribological Performance of DLC Coatings**
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- PO1070 **Application of DLC films deposited by plasma CVD for effective protection of flexible substrates**
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- PO1072 **Adhesion behavior of CVD- diamond coatings on WC-Co insert deposited onto Cr- based sublayers prepared by PVD and PED methods**
Ekaterina Azarova¹, Evgeny Levashov², Victor Ralchenko³, Andrey Bolshakov³, Evgeny Ashkinazi³, Satoru Hosomi⁴
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- PO1073 **Tribological properties of a-C:H:F coatings with different chemical compositions**
Jean-Pierre Lavoute¹, Cédric Jaoul¹, Olivier Jarry², Pascal Tristant¹, Christelle Dublanche-Tixier¹, Hélène Ageorges¹, Maggy Colas¹, Thérèse Merle-Mejean¹
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- PO1074 **Tribological properties of a-C:N coatings prepared by magnetron sputtering and anode layer source**
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- PO1076 **Effect of nitrogen on tribological properties of X-ray amorphous carbon films with added titanium**
Martin Hromadka¹, Petr Novak¹, Jindrich Musil¹
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- PO1077 **Carbon coatings doped by copper: tribological behavior in olive oil lubrication**
Roseli Marins Balestra¹, Alichandra M. G. Castro², Manuel Evaristo², P. Mutafov³, Tomas Polcar³, Albano Cavaleiro²
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Poster - Plasma treatment of polymers and textiles

PO1079 **In-situ XPS study of low energy argon and oxygen ions etched flexible polymeric substrates**

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PO1080 **Impact of Atmospheric Pressure Plasma on Polymers: Modification vs. Etching**

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PO1082 **Polystyrene surface modification with atmospheric pressure capillary dielectric barrier micro-plasma jet**

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PO1083 **Polymer surface functionalization based on SO₂ plasma treatments**

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PO1084 **Argon Plasma Treatment of Polymers - Trapping of Radicals by Nitric Oxide Gassing**

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PO1085 **Plasma modification of PET foils with different crystallinity**

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- PO1086 **Polyurethane treatment by air dielectric barrier discharge at atmospheric pressure**
Konstantin Kostov¹, Alessandro L. R. dos Santos¹, Pedro A. P. Nascente², Milton E. Kayama¹, Rogerio P. Mota¹, Mauricio A. Algatti¹
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- PO1087 **Surface modification of Poly(tetrafluoroethylene) and Poly(vinylidene difluoride) using atmospheric pressure plasma jet in Ar/CO₂ mixtures**
Abdollah Sarani¹, Emile Carbone², Anton Yu Nikiforov³, Christophe Leys³, François Reniers²
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- PO1088 **EFFECT OF THE TYPE OF GAS AND TEMPERATURE DURING ATMOSPHERIC PRESSURE GLOW DISCHARGE TREATMENTS ON LDPE FILMS**
Lorenzo Bautista¹, Jordi Mota¹, Laia Crespo¹, Mercè de la Fuente¹, Meritxell Martínez¹, Chiara Pavan², Meritxell de la Varga¹, Laurent Aubouy¹
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- PO1089 **Investigations on the influence of hygroscopic surfaces on the plasma-assisted modification of polyamide**
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- PO1090 ¹,
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- PO1091 **Modification of chitosan by different plasmas**
Vera Elinson¹, Ramilya Nezhmetdinova², Alexandr Naumkin³, Andrey Lyamin⁴, Olga Podlesnaya⁵
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- PO1092 **Quantitative Chemical Determination of Organic Layers using CDXPS: A Standard Experimental Procedure ?**
Pierre-Luc Girard-Lauriault¹, Paul Dietrich¹, Thomas Gross¹, Wolfgang E.S. Unger¹
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- PO1093 **Plasma tailoring of polycarbonate to the desired SuperHydrophilic/SuperHydrophobic features**
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- PO1094 ¹
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- PO1095 **Plasma treatment of membranes for direct methanol fuel cells**
Matthias Walker¹, Joachim Schneider¹, Andreas Schulz¹, Jochen Kerres², Ludwig Jörissen³, Ulrich Stroth¹
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- PO1096 ¹
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- PO1097 **Primary amine grafting on polystyrene using a non destructive plasma functionalization technique**
Cristina Navio¹, Thomas Godfroid², Benoit Ruelle¹, Rony Snyders³
¹ Université de Mons, Mons, Belgium, ² Materia Nova Research Center, Mons, Belgium, ³ Université de Mons and Materia Nova Research Center, Mons, Belgium
- PO1098 **Plasma functionalization of foils and technical textiles with specific tunable wetting behavior**
Michael Haupt¹, Brunhilde Kindle-Hasse², Jakob Barz¹, Christian Oehr¹, Matthias Bess³, Rudolf Knes³, Wolfgang Siefert², Heinz Hilgers⁴
¹ Fraunhofer IGB, Stuttgart, Germany, ² ROWO Coating GmbH, Herbolzheim, Germany, ³ Pink GmbH Plasma-finish, Wertheim-Bestenheid, Germany, ⁴ Cerobear GmbH, Herzogenrath, Germany
- PO1099 **Overview of the interaction between sputtered deposited metal layers and PET surfaces**
Martin Amberg¹, Enrico Körner², Sebastien Guimond², Barbara Hanselmann², Dirk Hegemann²
¹ EMPA Materials Science and Technology, St. Gallen, Switzerland, ² EMPA Materials Science and Technology, St. Gallen, Switzerland
- PO1100 **Dielectric properties of carbon-unwoven fabric composite obtained by plasma assisted physical vapour deposition.**
Maciej Jaroszewski¹, Janina Pospieszna¹
¹ Wrocław University of Technology, Wrocław, Poland

PO1101 **Zinck-unvowen fabric composite obtained by magnetron sputtering.**

Maciej Jaroszewski¹, Jan Ziaja¹

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PO1102 **Evaluation of biological safety for plasma-polymer treatment.**

Victor Vasilets¹, Valentina Egorova², Viktor Sevastianov²

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