

Role of Oxide Defects in ALD grown TiO₂ Coatings on Performance as Photoanode Protection Layer

Saari, J., Ali-Löytty, H. & Valden, M., 29 May 2018.

Research output: Other conference contribution > Paper, poster or abstract > Scientific

Thermal Modification of ALD Grown Titanium Oxide Ultra Thin Film for Photoanode Applications

Hannula, M. K., Lahtonen, K. T., Isotalo, T. J., Saari, J. S. & Valden, M. O., 15 Dec 2016.

Research output: Other conference contribution > Paper, poster or abstract > Scientific

Vacancy-type defect distributions near argon sputtered Al(100) surface studied by variable-energy positrons and molecular dynamics simulations

Mäkinen, J., Vehanen, A., Hautojärvi, P., Huomo, H., Lahtinen, J., Nieminen, R. M. & Valkealahti, S., 2 Sep 1986, In : *Surface Science*. 175, 2, p. 385-414 30 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Atomikerroskasvatusmenetelmällä kasvatetun titaanidioksidikalvon ominaisuudet valosähkökemiallisessa veden hajottamisessa

Translated title of the contribution: : Properties of Atomic Layer Deposited Titanium Dioxide Film in Photoelectrochemical Water Splitting

Saari, J., 4 Oct 2017, 74 p.

Research output: Book/Report > Master's Thesis > Scientific

Advanced coatings by novel high-kinetic thermal spray processes

Matikainen, V., Koivuluoto, H., Milanti, A. & Vuoristo, P., 9 Feb 2015, In : *Materia*. 73, 1, p. 46-50 5 p.

Research output: Contribution to journal > Article > Professional

Cavitation wear characteristics of Al₂O₃-ZrO₂-ceramic coatings deposited by APS and HVOF -processes

Kiilakoski, J., Lukac, F., Koivuluoto, H. & Vuoristo, P., 9 Jun 2017, *International Thermal Spray Conference ITSC 2017, Conference Proceedings: June 7-9, 2017, Düsseldorf, Germany..* Düsseldorf: DVS Media GmbH, Vol. 336. p. 928-933 6 p. (DVS-Berichte / DVS - Deutscher Verband für Schweißen und Verwandte Verfahren e.V.).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

Fracture Characteristics of High-Velocity Suspension Flame-Sprayed Aluminum Oxide Coatings

Kiilakoski, J., Lutoschkin, A., Plachetta, M., Apostol, M., Koivuluoto, H., Killinger, A. & Vuoristo, P., 2016, *International Thermal Spray Conference & Exposition, ITSC 2016*. DVS Media GmbH, p. 466-471 6 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

Slurry and dry particle erosion wear properties of WC-10Co4Cr and Cr₃C₂-25NiCr hardmetal coatings deposited by HVOF and HVAF spray processes

Matikainen, V., Rubio Peregrina, S., Ojala, N., Koivuluoto, H., Schubert, J., Houdková & Vuoristo, P., 2019, In : *Tribologia*. 36, 1-2, p. 58-61 4 p.

Research output: Contribution to journal > Article > Scientific

Effect of microstructure on the abrasive wear resistance of steels with hardness 450 HV

Haiko, O., Heino, V., Porter, D. A., Uusitalo, J. & Kömi, J., 2019, In : *Tribologia*. 36, 1, p. 54-57 4 p.

Research output: Contribution to journal > Article > Scientific

Corrosion properties of thermally sprayed bond coatings under plasma sprayed chromia coating in sulfuric acid solutions

Vuoristo, P., Varis, T., Meschini, D., Bolelli, G. & Lusvarghi, L., May 2019, *International Thermal Spray Conference and Exposition, ITSC 2019: New Waves of Thermal Spray Technology for Sustainable Growth*. Azarmi, F., Lau, Y., Veilleux, J., Widener, C., Toma, F., Koivuluoto, H., Balani, K., Li, H. & Shinoda, K. (eds.). ASM International, p. 923-930 8 p. (Proceedings of the International Thermal Spray Conference).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Process time importance in the product properties evolution during extrusion coating of different LDPE grades

Suokas, E. & Kuusipalo, J., 1 Jan 2018, *15th TAPPI Advanced Coating Fundamentals Symposium 2018: Charlotte; United States; 14 April 2018 through 15 April 2018*. TAPPI Press, p. 151-159 9 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Active packaging by paper coating

Jarnstrom, L., Johansson, K., Kuusipalo, J. & Jonsson, L., 1 Jan 2016, *14th TAPPI Advanced Coating Symposium 2016*. TAPPI Press, p. 88-92 5 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Roll-to-roll application of photocatalytic TiO₂ nanoparticles for printed functionality

Saarinen, J. J., Valtakari, D., Bollström, R., Stepien, M., Haapanen, J., Mäkelä, J. M. & Toivakka, M., 2016, *Advanced Manufacturing, Electronics and Microsystems: TechConnect Briefs 2016*. TechConnect, Vol. 4. p. 47-50 4 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Improved properties for packaging materials by nanoscale surface modification and ALD barrier coating

Lahti, J., Lavonen, J., Lahtinen, K., Johansson, P., Seppänen, T. & Cameron, D. C., 2016, *TAPPI International Conference on Nanotechnology for Renewable Materials 2016*. TAPPI Press, Vol. 2. p. 684-706 23 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Characterization Of High-Velocity Single Particle Impacts On Thermally Sprayed Ceramic Coatings

Kiilakoski, J., Lindroos, M., Matikainen, V., Apostol, N., Koivuluoto, H. & Vuoristo, P., 13 May 2015, (Unpublished) *International Thermal Spray Conference & Exposition 2015*.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

HVOF process control enabling strategies

Ghabchi, A., Varis, T., Holmberg, K. & Sampath, S., 2012, *International Thermal Spray Conference and Exposition, ITSC 2012 - Air, Land, Water and the Human Body: Thermal Spray Science and Applications*. ASM International, p. 465-471 7 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Adjustable wetting properties of paperboard by liquid flame spray process

Stepien, M., Saarinen, J. J., Teisala, H., Tuominen, M., Aromaa, M., Kuusipalo, J., Mäkelä, J. & Toivakka, M., 2010, *11th Advanced Coating Fundamentals Symposium Proceedings: The Latest Advances in Coating Research and Development*. p. 80-88 9 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

CLC a Colored Liquid Crystal: Prototype Description and Design Opportunities

Rubio Hernandez, R., 2009, *Proceedings of the 11th International Conference: Glass Performace Days*.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Envolvente de Vidrio Electrocrómico

Translated title of the contribution: : Electrochromic Glass Envelope

Rubio Hernandez, R., Marshall-Berenguer, R. & De la Flor San Vicente, L., 2004, *Foro ARCA II. Arquitectura y Calidad de vida. : Edificación y sostenibilidad: un compromiso posible*.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Development in additive methods in aramid fiber surface modification to increase fiber-matrix adhesion: A review

Palola, S., Vuorinen, J., Noordermeer, J. W. M. & Sarlin, E., 1 Jun 2020, In : *Coatings*. 10, 6, 31 p., 556.

Research output: Contribution to journal › Review Article › Scientific › peer-review

Stimuli-responsive photonic polymer coatings

Stumpel, J. E., Broer, D. J. & Schenning, A. P. H. J., 28 Dec 2014, In : *Chemical Communications*. 50, 100, p. 15839-15848 10 p.

Research output: Contribution to journal › Review Article › Scientific › peer-review

Formation mechanisms, structure, and properties of HVOF-sprayed WC-CoCr coatings: An approach toward process maps

Varis, T., Suhonen, T., Ghabchi, A., Valarezo, A., Sampath, S., Liu, X. & Hannula, S. P., 2014, In : *Journal of Thermal Spray Technology*. 23, 6, p. 1009-1018 10 p.

Research output: Contribution to journal › Review Article › Scientific › peer-review

Development and application of HVOF sprayed spinel protective coating for SOFC interconnects

Thomann, O., Pihlatie, M., Rautanen, M., Himanen, O., Lagerbom, J., Mäkinen, M., Varis, T., Suhonen, T. & Kiviaho, J., Jun 2013, In : Journal of Thermal Spray Technology. 22, 5, p. 631-639 9 p.

Research output: Contribution to journal › Review Article › Scientific › peer-review

Increased lifetime for biomass and waste to energy power plant boilers with HVOF coatings: High temperature corrosion testing under chlorine-containing molten salt

Okša, M., Tuurna, S. & Varis, T., Jun 2013, In : Journal of Thermal Spray Technology. 22, 5, p. 783-796 14 p.

Research output: Contribution to journal › Review Article › Scientific › peer-review

Lubricated icephobic coatings prepared by flame spraying with hybrid feedstock injection

Donadei, V., Koivuluoto, H., Sarlin, E. & Vuoristo, P., 15 Dec 2020, In : Surface and Coatings Technology. 403, 13 p., 126396.

Research output: Contribution to journal › Article › Scientific › peer-review

The effect of substrate pre-treatment on durability of rubber-stainless steel adhesion

Sarlin, E., Honkanen, M., Lindgren, M., Laihonon, P., Juutilainen, M., Vippola, M. & Vuorinen, J., 1 Dec 2020, In : Surfaces and Interfaces. 21, 9 p., 100646.

Research output: Contribution to journal › Article › Scientific › peer-review

Avoiding the initial adhesive friction peak in fretting

Juoksukangas, J., Hintikka, J., Lehtovaara, A., Mäntylä, A., Vaara, J. & Frondelius, T., 15 Nov 2020, In : Wear. 460-461, 12 p., 203353.

Research output: Contribution to journal › Article › Scientific › peer-review

Tribocorrosion behaviour of tin bronze CuSn12 under a sliding motion in NaCl containing environment: Contact to inert vs. reactive counterbody

Huttunen-Saarivirta, E., Kilpi, L., Pasanen, A. T., Salminen, T. & Ronkainen, H., 1 Nov 2020, In : Tribology International. 151, 106389.

Research output: Contribution to journal › Article › Scientific › peer-review

On the alignment of ZnO nanowires by Langmuir – Blodgett technique for sensing application

Baratto, C., Golovanova, V., Faglia, G., Hakola, H., Niemi, T., Tkachenko, N., Nazarchuk, B. & Golovanov, V., 30 Oct 2020, In : Applied Surface Science. 528, 146959.

Research output: Contribution to journal › Article › Scientific › peer-review

Characteristics of carbide-free medium-carbon bainitic steels in high-stress abrasive wear conditions

Haiko, O., Kaikkonen, P., Somani, M., Valtonen, K. & Kömi, J., 15 Sep 2020, In : Wear. 456-457, 12 p., 203386.

Research output: Contribution to journal › Article › Scientific › peer-review

Effect of prior austenite grain size on the abrasive wear resistance of ultra-high strength martensitic steels

Haiko, O., Javaheri, V., Valtonen, K., Kajjalainen, A., Hannula, J. & Kömi, J., 15 Aug 2020, In : Wear. 454-455, 203336.

Research output: Contribution to journal › Article › Scientific › peer-review

Rotational Diffusion of Membrane Proteins in Crowded Membranes

Javanainen, M., Ollila, O. H. S. & Martinez-Seara, H., 16 Apr 2020, In : Journal of Physical Chemistry B. 124, 15, p. 2994-3001 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

A study of Cr₃C₂-based HVOF- and HVOF-sprayed coatings: Abrasion, dry particle erosion and cavitation erosion resistance

Matikainen, V., Koivuluoto, H. & Vuoristo, P., 15 Apr 2020, In : Wear. 446-447, 11 p., 203188.

Research output: Contribution to journal › Article › Scientific › peer-review

Transparent Yb³⁺ doped phosphate glass-ceramics

Hongisto, M., Veber, A., Boetti, N. G., Danto, S., Jubera, V. & Petit, L., 1 Jan 2020, In : *Ceramics International*.

Research output: Contribution to journal > Article > Scientific > peer-review

Cold gas spraying of a high-entropy CrFeNiMn equiatomic alloy

Lehtonen, J., Koivuluoto, H., Ge, Y., Juselius, A. & Hannula, S. P., 2020, In : *Coatings*. 10, 1, 12 p., 53.

Research output: Contribution to journal > Article > Scientific > peer-review

Compounding and characterization of recycled multilayer plastic films

Jönnkäri, I., Poliakova, V., Mylläri, V., Anderson, R., Andersson, M. & Vuorinen, J., 2020, In : *Journal of Applied Polymer Science*. 8 p., e49101.

Research output: Contribution to journal > Article > Scientific > peer-review

Hematite Surface Modification toward Efficient Sunlight-Driven Water Splitting Activity: The Role of Gold Nanoparticle Addition

Tofanello, A., Freitas, A. L. M., Carvalho, W. M., Salminen, T., Niemi, T. & Souza, F. L., 2020, In : *Journal of Physical Chemistry C*.

Research output: Contribution to journal > Article > Scientific > peer-review

Influence of powder properties on residual stresses formed in high-pressure liquid fuel HVOF sprayed WC-CoCr coatings

Varis, T., Suhonen, T., Jokipii, M. & Vuoristo, P., 2020, In : *Surface and Coatings Technology*. 388, 9 p., 125604.

Research output: Contribution to journal > Article > Scientific > peer-review

Ultrafast Photochemistry of the [Cr(NCS)₆]³⁻ Complex in Dimethyl Sulfoxide and Dimethylformamide upon Excitation into Ligand-Field Electronic State

Khvorost, T. A., Beliaev, L. Y., Potalueva, E., Laptenkova, A. V., Selyutin, A. A., Bogachev, N. A., Skripkin, M. Y., Ryazantsev, M. N., Tkachenko, N. & Mereshchenko, A. S., 2020, In : *Journal of Physical Chemistry B*. 124, 18, p. 3724-3733 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Cold-Sprayed Al6061 coatings: Online spray monitoring and influence of process parameters on coating properties

Koivuluoto, H., Larjo, J., Marini, D., Pulci, G. & Marra, F., 2020, In : *Coatings*. 10, 4, 16 p., 348.

Research output: Contribution to journal > Article > Scientific > peer-review

Novel borosilicate bioactive scaffolds with persistent luminescence

Del Cerro, P. R., Teittinen, H., Norrbo, I., Lastusaari, M., Massera, J. & Petit, L., 2020, In : *Biomedical Glasses*. 6, 1, p. 1-9 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Evaluation of Residual Stresses and Their Influence on Cavitation Erosion Resistance of High Kinetic HVOF and HVOF-Sprayed WC-CoCr Coatings

Varis, T., Suhonen, T., Laakso, J., Jokipii, M. & Vuoristo, P., 2020, In : *Journal of Thermal Spray Technology*. 17 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Assessment of pitting corrosion in bare and passivated (wet scCO₂-induced patination and chemical passivation) hot-dip galvanized steel samples with SVET, FTIR, and SEM (EDS)

Saarimaa, V., Fuertes, N., Persson, D., Zavalis, T., Kaleva, A., Nikkanen, J-P., Levänen, E. & Heydari, G., 2020, In : *Materials and Corrosion*. 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Modification of Surface States of Hematite-Based Photoanodes by Submonolayer of TiO₂ for Enhanced Solar Water Splitting

Palmolahti, L., Ali-Löytty, H., Khan, R., Saari, J., Tkachenko, N. V. & Valden, M., 2020, In : *Journal of Physical Chemistry C*. 124, 24, p. 13094-13101 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Energy dissipation in natural rubber latex films: The effect of stabilizers, leaching and acetone-treatment

Shakun, A., Sarlin, E. & Vuorinen, J., 2020, In : Journal of Applied Polymer Science. 15 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Luminescent (Er,Ho)₂O₃ thin films by ALD to enhance the performance of silicon solar cells

Ghazy, A., Safdar, M., Lastusaari, M., Aho, A., Tukiainen, A., Savin, H., Guina, M. & Karppinen, M., 2020, In : Solar Energy Materials and Solar Cells. 219, 5 p., 110787.

Research output: Contribution to journal › Article › Scientific › peer-review

Effect of tempering on the impact-abrasive and abrasive wear resistance of ultra-high strength steels

Haiko, O., Valtonen, K., Kaijalainen, A., Uusikallio, S., Hannula, J., Liimatainen, T. & Kömi, J., 15 Dec 2019, In : Wear. 440-441

Research output: Contribution to journal › Article › Scientific › peer-review

Prediction of contact condition and surface damage by simulating variable friction coefficient and wear

Mäntylä, A., Hintikka, J., Frondelius, T., Vaara, J., Lehtovaara, A. & Juoksukangas, J., 5 Nov 2019, In : Tribology International. 11 p., 106054.

Research output: Contribution to journal › Article › Scientific › peer-review

Running-in in fretting, transition from near-stable friction regime to gross sliding

Hintikka, J., Mäntylä, A., Vaara, J., Frondelius, T., Juoksukangas, J. & Lehtovaara, A., Nov 2019, In : Tribology International. 143, 9 p., 106073.

Research output: Contribution to journal › Article › Scientific › peer-review

Tribocorrosion behaviour of two low-alloy steel grades in simulated waste solution

Mäntyranta, A., Heino, V., Isotahdon, E., Salminen, T. & Huttunen-Saarivirta, E., 1 Oct 2019, In : Tribology International. 138, p. 250-262 13 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Detection of gaseous species during KCl-induced high-temperature corrosion by the means of CPFAAS and CI-API-TOF

Lehmusto, J., Olin, M., Viljanen, J., Kalliokoski, J., Mylläri, F., Toivonen, J., Dal Maso, M. & Hupa, L., 30 Aug 2019, In : Materials and Corrosion. 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Characterizing the micro-impact fatigue behavior of APS and HVOF-sprayed ceramic coatings

Kiilakoski, J., Langlade, C., Koivuluoto, H. & Vuoristo, P., 15 Aug 2019, In : Surface and Coatings Technology. 371, p. 245-254

Research output: Contribution to journal › Article › Scientific › peer-review

Magnetic non-contact friction from domain wall dynamics actuated by oscillatory mechanical motion

Rissanen, I. & Laurson, L., 13 Aug 2019, In : Journal of Physics D: Applied Physics. 52, 44, 445002.

Research output: Contribution to journal › Article › Scientific › peer-review

Erosion wear performance of WC-10Co4Cr and Cr₃C₂-25NiCr coatings sprayed with high-velocity thermal spray processes

Matikainen, V., Rubio Peregrina, S., Ojala, N., Koivuluoto, H., Schubert, J., Houdková & Vuoristo, P., 25 Jul 2019, In : Surface and Coatings Technology. 370, p. 196-212 17 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Characterization of cracks formed in large flat-on-flat fretting contact

Juoksukangas, J., Nurmi, V., Hintikka, J., Vippola, M., Lehtovaara, A., Mäntylä, A., Vaara, J. & Frondelius, T., Jul 2019, In : International Journal of Fatigue. 124, p. 361-370 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Water-Responsive and Mechanically Adaptive Natural Rubber Composites by in Situ Modification of Mineral Filler Structures

Banerjee, S. S., Hait, S., Natarajan, T. S., Wießner, S., Stöckelhuber, K. W., Jehnichen, D., Janke, A., Fischer, D., Heinrich, G., Busfield, J. J. C. & Das, A., 20 Jun 2019, In : Journal of Physical Chemistry B. 123, 24, p. 5168-5175 8 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Photovoltaic properties of low-bandgap (0.7–0.9eV) lattice-matched GaInNAsSb solar junctions grown by molecular beam epitaxy on GaAs

Isoaho, R., Aho, A., Tukiainen, A., Aho, T., Raappana, M., Salminen, T., Reuna, J. & Guina, M., 15 Jun 2019, In : Solar Energy Materials and Solar Cells. 195, p. 198-203 6 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Role of fracture toughness in impact-abrasion wear

Chintha, A. R., Valtonen, K., Kuokkala, V. T., Kundu, S., Peet, M. J. & Bhadeshia, H. K. D. H., 15 Jun 2019, In : Wear. 428-429, p. 430-437 8 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Surface reactivity and silanization ability of borosilicate and Mg-Sr-based bioactive glasses

Ferraris, S., Nommets-Nomm, A., Spriano, S., Vernè, E. & Massera, J., 1 May 2019, In : Applied Surface Science. 475, p. 43-55 13 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Comparison of various high-stress wear conditions and wear performance of martensitic steels

Valtonen, K., Ojala, N., Haiko, O. & Kuokkala, V-T., 30 Apr 2019, In : Wear. 426-427, Part A, p. 3-13 11 p.
Research output: Contribution to journal › Article › Scientific › peer-review

The formation and characterization of fretting-induced degradation layers using quenched and tempered steel

Nurmi, V., Hintikka, J., Juoksukangas, J., Honkanen, M., Vippola, M., Lehtovaara, A., Mäntylä, A., Vaara, J. & Frondelius, T., 1 Mar 2019, In : Tribology International. 131, p. 258-267 10 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Stable and unstable friction in fretting contacts

Hintikka, J., Mäntylä, A., Vaara, J., Frondelius, T. & Lehtovaara, A., 1 Mar 2019, In : Tribology International. 131, p. 73-82 10 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Mining tailings as raw materials for reaction-sintered aluminosilicate ceramics: Effect of mineralogical composition on microstructure and properties

Karhu, M., Lagerbom, J., Solismaa, S., Honkanen, M., Ismailov, A., Räisänen, M. L., Huttunen-Saarivirta, E., Levänen, E. & Kivikytö-Reponen, P., Mar 2019, In : Ceramics International. 45, 4, p. 4840-4848
Research output: Contribution to journal › Article › Scientific › peer-review

Characterization of Powder-Precursor HVOF-Sprayed Al₂O₃-YSZ/ZrO₂ Coatings

Kiilakoski, J., Puranen, J., Heinonen, E., Koivuluoto, H. & Vuoristo, P., Jan 2019, In : Journal of Thermal Spray Technology. 28, 1-2, p. 98-107
Research output: Contribution to journal › Article › Scientific › peer-review

Behaviour of leaded tin bronze in simulated seawater in the absence and presence of tribological contact with alumina counterbody: Corrosion, wear and tribocorrosion

Huttunen-Saarivirta, E., Isotahdon, E., Metsäjoki, J., Salminen, T., Ronkainen, H. & Carpen, L., 2019, In : Tribology International. 129, p. 257-271 15 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Impact wear and mechanical behavior of steels at subzero temperatures

Valtonen, K., Ratia, V., Ramakrishnan, K. R., Apostol, M., Terva, J. & Kuokkala, V-T., 2019, In : Tribology International. 129, p. 476-493 18 p.
Research output: Contribution to journal › Article › Scientific › peer-review

On the limit of superhydrophobicity: Defining the minimum amount of TiO₂ nanoparticle coating

Haapanen, J., Aromaa, M., Teisala, H., Juuti, P., Tuominen, M., Sillanpää, M., Stepien, M., Saarinen, J. J., Toivakka, M., Kuusipalo, J. & Mäkelä, J. M., 2019, In : *Materials Research Express*. 6, 3, 035004.

Research output: Contribution to journal › Article › Scientific › peer-review

Running-in effects on friction of journal bearings under slow sliding speeds

Linjamaa, A., Lehtovaara, A., Kallio, M. & Léger, A., 2019, In : *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*.

Research output: Contribution to journal › Article › Scientific › peer-review

Temperature scanning stress relaxation behavior of water responsive and mechanically adaptive elastomer nanocomposites

Banerjee, S. S., Natarajan, T. S., Subramani B., E., Wießner, S., Janke, A., Heinrich, G. & Das, A., 2019, In : *Journal of Applied Polymer Science*. 48344.

Research output: Contribution to journal › Article › Scientific › peer-review

Process Parameter Impact on Suspension-HVOF-Sprayed Cr₂O₃ Coatings

Kiilakoski, J., Trache, R., Björklund, S., Joshi, S. & Vuoristo, P., 2019, In : *Journal of Thermal Spray Technology*. 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Mechanical characterization of pore-graded bioactive glass scaffolds produced by robocasting

Barberi, J., Nommeots-Nomm, A., Fiume, E., Verné, E., Massera, J. & Bairo, F., 2019, In : *Biomedical Glasses*. 5, 1, p. 140-147 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

How well can we predict cluster fragmentation inside a mass spectrometer?

Passananti, M., Zapadinsky, E., Zanca, T., Kangasluoma, J., Myllys, N., Rissanen, M. P., Kurtén, T., Ehn, M., Attoui, M. & Vehkamäki, H., 2019, In : *Chemical Communications*. 55, 42, p. 5946-5949 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Mechanical, thermal, and burning properties of viscose fabric composites: Influence of epoxy resin modification

Rajan, R., Rainosalu, E., Ramamoorthy, S. K., Thomas, S. P., Zavašnik, J., Vuorinen, J. & Skrifvars, M., 20 Sep 2018, In : *Journal of Applied Polymer Science*. 135, 36, 46673.

Research output: Contribution to journal › Article › Scientific › peer-review

Design aspects of all atomic layer deposited TiO₂-Fe₂O₃ scaffold-absorber photoanodes for water splitting

Hiltunen, A., Ruoko, T-P., Iivonen, T., Lahtonen, K., Ali-Löytty, H., Sarlin, E., Valden, M., Leskelä, M. & Tkachenko, N., 31 Jul 2018, In : *Sustainable Energy & Fuels*. 2, 9, p. 2124-2130

Research output: Contribution to journal › Article › Scientific › peer-review

Fluid flow simulations meet high-speed video: Computer vision comparison of droplet dynamics

Kulju, S., Riegger, L., Koltay, P., Mattila, K. & Hyväluoma, J., 15 Jul 2018, In : *Journal of Colloid and Interface Science*. 522, p. 48-56 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Evaluation of screen printed silver trace performance and long-term reliability against environmental stress on a low surface energy substrate

Mikkonen, R. & Mäntysalo, M., 1 Jul 2018, In : *Microelectronics Reliability*. 86, p. 54-65 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

The effect of carbon and nickel additions on the precursor synthesis of Cr₃C₂-Ni nanopowder

Kaunisto, K., Kotilainen, M., Karhu, M., Lagerbom, J., Vuorinen, T., Honkanen, M., Vippola, M. & Turunen, E., 1 Jun 2018, In : *Ceramics International*. 44, 8, p. 9338-9346

Research output: Contribution to journal › Article › Scientific › peer-review

The effects of laser patterning 10CeTZP-Al₂O₃ nanocomposite disc surfaces: Osseous differentiation and cellular arrangement in vitro

Goyos-Ball, L., Prado, C., Díaz, R., Fernández, E., Ismailov, A., Kumpulainen, T., Levänen, E., Torrecillas, R. & Fernández, A., Jun 2018, In : *Ceramics International*. 44, 8, p. 9472-9478

Research output: Contribution to journal > Article > Scientific > peer-review

Influence of the phosphate glass melt on the corrosion of functional particles occurring during the preparation of glass-ceramics

Ojha, N., Laihininen, T., Salminen, T., Lastusaari, M. & Petit, L., Jun 2018, In : *Ceramics International*. 44, 10, p. 11807-11811

Research output: Contribution to journal > Article > Scientific > peer-review

Morphology evolution of PS-b-PDMS block copolymer and its hierarchical directed self-assembly on block copolymer templates

Rasappa, S., Schulte, L., Borah, D., Hulkkonen, H., Ndoni, S., Salminen, T., Senthamaraiakanan, R., Morris, M. A. & Niemi, T., 15 May 2018, In : *Microelectronic Engineering*. 192, p. 1-7 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Switchable light reflectance in dilute magneto-optical colloids based on nickel ferrite nanowires

Sutka, A., Timusk, M., Joost, U., Ignatans, R. & Maiorov, M., 2 May 2018, In : *e-Journal of Surface Science and Nanotechnology*. 16, p. 119-121 3 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Characteristics of nFOG, an aerosol-based wet thin film coating technique

Harra, J., Tuominen, M., Juuti, P., Rissler, J., Koivuluoto, H., Haapanen, J., Niemelä-Anttonen, H., Stenroos, C., Teisala, H., Lahti, J., Kuusipalo, J., Vuoristo, P. & Mäkelä, J. M., May 2018, In : *Journal of Coatings Technology Research*. 15, 3, p. 623-632 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Accurate Binding of Sodium and Calcium to a POPC Bilayer by Effective Inclusion of Electronic Polarization

Melcr, J., Martinez-Seara, H., Nencini, R., Kolafa, J., Jungwirth, P. & Ollila, O. H. S., 26 Apr 2018, In : *Journal of Physical Chemistry B*. 122, 16, p. 4546-4557 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Membrane bound COMT isoform is an interfacial enzyme: General mechanism and new drug design paradigm

Magarkar, A., Parkkila, P., Viitala, T., Lajunen, T., Mobarak, E., Licari, G., Cramariuc, O., Vauthey, E., Róg, T. & Bunker, A., 11 Apr 2018, In : *Chemical Communications*. 54, 28, p. 3440-3443 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Effect of nozzle geometry on the microstructure and properties of hvaf-sprayed wc-10co4cr and cr3c2-25nicr coatings

Matikainen, V., Koivuluoto, H., Vuoristo, P., Schubert, J. & Houdková, 1 Apr 2018, In : *Journal of Thermal Spray Technology*. 27, 4, p. 680-694 15 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Properties of HVOF-sprayed Stellite-6 coatings

Sassatelli, P., Bolelli, G., Lassinantti Gualtieri, M., Heinonen, E., Honkanen, M., Lusvardi, L., Manfredini, T., Rigon, R. & Vippola, M., 25 Mar 2018, In : *Surface and Coatings Technology*. 338, p. 45-62 18 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Improving the high temperature abrasion resistance of thermally sprayed Cr₃C₂-NiCr coatings by WC addition

Janka, L., Berger, L. M., Norpoth, J., Trache, R., Thiele, S., Tomastik, C., Mätikäinen, V. & Vuoristo, P., 15 Mar 2018, In : *Surface and Coatings Technology*. 337, p. 296-305 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Entrapped Styrene Butadiene Polymer Chains by Sol-Gel-Derived Silica Nanoparticles with Hierarchical Raspberry Structures

Vaikuntam, S. R., Stöckelhuber, K. W., Subramani Bhagavatheswaran, E., Wießner, S., Scheler, U., Saalwächter, K., Formanek, P., Heinrich, G. & Das, A., 15 Feb 2018, In : Journal of Physical Chemistry B. 122, 6, p. 2010-2022 13 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Arc-sprayed Fe-based coatings from coredwires for wear and corrosion protection in power engineering

Yury, K., Filippov, M., Makarov, A., Malygina, I., Soboleva, N., Fantozzi, D., Andrea, M., Koivuluoto, H. & Vuoristo, P., 1 Feb 2018, In : Coatings. 8, 2, 71.
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Tribology of FeVCrC coatings deposited by HVOF and HVOF thermal spray processes

Bolelli, G., Bursi, M., Lusvarghi, L., Manfredini, T., Matikainen, V., Rigon, R., Sassatelli, P. & Vuoristo, P., 2018, In : Wear. 394-395, p. 113-133 21 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Stable blue phase polymeric Langmuir-Schaefer films based on unsymmetrical hydroxyalkadiynyl N-arylcarbamate derivatives

Alekseev, A., Ihalainen, P., Ivanov, A., Domnin, I., Rosqvist, E., Lemmetyinen, H., Vuorimaa-Laukkanen, E., Peltonen, J. & Vyaz'min, S., 2018, In : Thin Solid Films. 645, p. 108-118 11 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Light-trapping enhanced thin-film III-V quantum dot solar cells fabricated by epitaxial lift-off

Cappelluti, F., Kim, D., van Eerden, M., Cédola, A. P., Aho, T., Bissels, G., Elsehrawy, F., Wu, J., Liu, H., Mulder, P., Bauhuis, G., Schermer, J., Niemi, T. & Guina, M., 2018, In : Solar Energy Materials and Solar Cells. 181, p. 83-92
Research output: Contribution to journal › Article › Scientific › peer-review

Erosive-abrasive wear behavior of carbide-free bainitic and boron steels compared in simulated field conditions

Vuorinen, E., Heino, V., Ojala, N., Haiko, O. & Hedayati, A., 2018, In : Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology. 232, 1, p. 3-13 11 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Novel Online Diagnostic Analysis for In-Flight Particle Properties in Cold Spraying

Koivuluoto, H., Matikainen, V., Larjo, J. & Vuoristo, P., 2018, In : Journal of Thermal Spray Technology. 27, 3, p. 423-432 10 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Convenient extraction method for quantification of thin zinc patina layers

Saarimaa, V., Kaleva, A., Paunikallio, T., Nikkanen, J-P., Heinonen, S., Levänen, E., Väisänen, P. & Markkula, A., 2018, In : Surface and Interface Analysis. 50, 5, p. 564-570
Research output: Contribution to journal › Article › Scientific › peer-review

Efficient photon upconversion at remarkably low annihilator concentrations in a liquid polymer matrix: when less is more

Durandin, N. A., Isokuortti, J., Efimov, A., Vuorimaa-Laukkanen, E., Tkachenko, N. V. & Laaksonen, T., 2018, In : Chemical Communications. 54, 99, p. 14029-14032 4 p.
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Supercritical carbon dioxide treatment of hot dip galvanized steel as a surface treatment before coating

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Time-Resolved Fluorescence Spectroscopy Reveals Fine Structure and Dynamics of Poly(L-lysine) and Polyethylenimine Based DNA Polyplexes

Lisitsyna, E. S., Ketola, T-M., Morin-Picardat, E., Liang, H., Hanzlíková, M., Urtti, A., Yliperttula, M. & Vuorimaa-Laukkanen, E., 7 Dec 2017, In : Journal of Physical Chemistry B. 121, 48, p. 10782-10792 11 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Oxygen and water vapor transmission rates of starch-poly(vinyl alcohol) barrier coatings for flexible packaging paper
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Research output: Contribution to journal > Article > Scientific > peer-review

Infrared Thermography as a Non-destructive Testing Solution for Thermal Spray Metal Coatings

Santangelo, P. E., Allesina, G., Bolelli, G., Lusvarghi, L., Matikainen, V. & Vuoristo, P., Dec 2017, In : Journal of Thermal Spray Technology. 26, 8, p. 1982-1993 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Erosive wear of filled vinylester composites in water and acidic media at elevated temperature

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Research output: Contribution to journal > Article > Scientific > peer-review

Global energy consumption due to friction and wear in the mining industry

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Research output: Contribution to journal > Article > Scientific > peer-review

One-step flame synthesis of silver nanoparticles for roll-to-roll production of antibacterial paper

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Research output: Contribution to journal > Article > Scientific > peer-review

Fluorimetric oxygen sensor with an efficient optical read-out for in vitro cell models

Välimäki, H., Verho, J., Kreuzer, J., Kattiparambil Rajan, D., Ryyänen, T., Pekkanen-Mattila, M., Ahola, A., Tappura, K., Kallio, P. & Lekkala, J., 1 Oct 2017, In : Sensors and Actuators B: Chemical. 249, p. 738-746 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Starch-poly(vinyl alcohol) barrier coatings for flexible packaging paper and their effects of phase interactions

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Research output: Contribution to journal > Article > Scientific > peer-review

Investigation of long-term chemical stability of structured ZnO films in aqueous solutions of varying conditions

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Wear of cemented tungsten carbide percussive drill-bit inserts: Laboratory and field study

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A Study of Cr₃C₂-Based HVOF- and HVAF-Sprayed Coatings: Microstructure and Carbide Retention

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Research output: Contribution to journal > Article > Scientific > peer-review

Configurational Disorder of Water Hydrogen-Bond Network at the Protein Dynamical Transition

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Vegetable fillers for electric stimuli responsive elastomers

Poikelispää, M., Shakun, A., Sarlin, E., Das, A. & Vuorinen, J., 20 Jul 2017, In : Journal of Applied Polymer Science. 134, 28, 45081.

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Microwave induced hierarchical nanostructures on aramid fibers and their influence on adhesion properties in a rubber matrix

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Hafnium oxide thin films as a barrier against copper diffusion in solar absorbers

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Research output: Contribution to journal > Article > Scientific > peer-review

Long-Range Observation of Exciplex Formation and Decay Mediated by One-Dimensional Bridges

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Catalytic Activity of AuCu Clusters on MgO(100): Effect of Alloy Composition for CO Oxidation

Ma, L., Laasonen, K. & Akola, J., 25 May 2017, In : Journal of Physical Chemistry C. 121, 20, p. 10876-10886 11 p.

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Geometric Structure and Chemical Ordering of Large AuCu Clusters: A Computational Study

Goh, J.-Q., Akola, J. & Ferrando, R., 25 May 2017, In : Journal of Physical Chemistry C. 121, 20, p. 10809-10816 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Photoinduced Electron Injection from Zinc Phthalocyanines into Zinc Oxide Nanorods: Aggregation Effects

Virkki, K., Hakola, H., Urbani, M., Tejerina, L., Ince, M., Martínez-Díaz, M. V., Torres, T., Golovanova, V., Golovanov, V. & Tkachenko, N. V., 4 May 2017, In : Journal of Physical Chemistry C. 121, 17, p. 9594-9605 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Third Particle Ejection Effects on Wear with Quenched and Tempered Steel Fretting Contact

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Research output: Contribution to journal > Article > Scientific > peer-review

Improved corrosion properties of Hot Dip Galvanized Steel by nanomolecular silane layers as hybrid interface between zinc and top coatings

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Sliding wear behaviour of HVOF and HVAF sprayed Cr₃C₂-based coatings

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Research output: Contribution to journal > Article > Scientific > peer-review

Load capacity of lubricated bismuth bronze bimetal bearing under elliptical sliding motion

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Research output: Contribution to journal > Article > Scientific > peer-review

Non-destructive and wireless monitoring of biodegradable polymers

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Research output: Contribution to journal > Article > Scientific > peer-review

Optimization of convectively cooled heat sinks

Lampio, K. & Karvinen, R., 2017, In : Microelectronics Reliability. 79, p. 473-479

Research output: Contribution to journal > Article > Scientific > peer-review

Two cations, two mechanisms: Interactions of sodium and calcium with zwitterionic lipid membranes

Javanainen, M., Melcrová, A., Magarkar, A., Jurkiewicz, P., Hof, M., Jungwirth, P. & Martinez-Seara, H., 2017, In : Chemical Communications. 53, 39, p. 5380-5383 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

HVOF- and HVOF-Sprayed Cr₃C₂-NiCr Coatings Deposited from Feedstock Powders of Spherical Morphology: Microstructure Formation and High-Stress Abrasive Wear Resistance Up to 800 °C

Janka, L., Norpoth, J., Trache, R., Thiele, S. & Berger, L. M., 2017, In : Journal of Thermal Spray Technology. 26, 7, p. 1720-1731 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Abrasive-Erosive Wear of Thermally Sprayed Coatings from Experimental and Commercial Cr₃C₂-Based Powders

Sarjas, H., Surzhenkov, A., Juhani, K., Antonov, M., Adoberg, E., Kulu, P., Viljus, M., Traksmaa, R., Matikainen, V. & Vuoristo, P., 2017, In : Journal of Thermal Spray Technology. 26, 8, p. 2020-2029 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Photophysical properties of porphyrin dimer-single-walled carbon nanotube linked systems

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Research output: Contribution to journal > Article > Scientific > peer-review

Effect of finish rolling and quench stop temperatures on impact-abrasive wear resistance of 0.35 % carbon direct-quenched steel

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Research output: Contribution to journal > Article > Scientific > peer-review

Superamphiphobic overhang structured coating on a biobased material

Tuominen, M., Teisala, H., Haapanen, J., Mäkelä, J. M., Honkanen, M., Vippola, M., Bardage, S., Wälinder, M. E. P. & Swerin, A., 15 Dec 2016, In : Applied Surface Science. 389, p. 135-143 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Optimization of HVOF Cr₃C₂-NiCr coating for increased fatigue performance

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Research output: Contribution to journal > Article > Scientific > peer-review

Improvement of actuation performance of dielectric elastomers by barium titanate and carbon black fillers

Poikelispää, M., Shakun, A., Das, A. & Vuorinen, J., 10 Nov 2016, In : Journal of Applied Polymer Science. 133, 42, 44116.

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Experimental and numerical investigation of fretting fatigue behavior in bolted joints

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Research output: Contribution to journal > Article > Scientific > peer-review

Erosion–corrosion resistance of various stainless steel grades in high-temperature sulfuric acid solution

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Research output: Contribution to journal › Article › Scientific › peer-review

A comparison of relative displacement fields between numerical predictions and experimental results in fretting contact

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RF measurements to pinpoint defects in inkjet-printed, thermally and mechanically stressed coplanar waveguides

Myllymäki, S., Putaala, J., Hannu, J., Kunnari, E. & Mäntysalo, M., 1 Oct 2016, In : *Microelectronics Reliability*. 65, p. 142-150 9 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Photocatalytic and antibacterial properties of ZnO films with different surface topographies on stainless steel substrate

Heinonen, S., Kannisto, M., Nikkanen, J-P., Huttunen-Saarivirta, E., Karp, M. & Levänen, E., 1 Oct 2016, In : *Thin Solid Films*. 616, p. 842-849 8 p.
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Polyarginine Interacts More Strongly and Cooperatively than Polylysine with Phospholipid Bilayers

Robison, A. D., Sun, S., Poyton, M. F., Johnson, G. A., Pellois, J. P., Jungwirth, P., Vazdar, M. & Cremer, P. S., 8 Sep 2016, In : *Journal of Physical Chemistry Part B*. 120, 35, p. 9287-9296 10 p.
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Detergent impurity effect on recycled HDPE: Properties after repetitive processing

Mylläri, V., Hartikainen, S., Poliakova, V., Anderson, R., Jönkkäri, I., Pasanen, P., Andersson, M. & Vuorinen, J., 15 Aug 2016, In : *Journal of Applied Polymer Science*. 133, 31, 43766.
Research output: Contribution to journal › Article › Scientific › peer-review

Reinforced chloroprene rubber by in situ generated silica particles: Evidence of bound rubber on the silica surface

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Research output: Contribution to journal › Article › Scientific › peer-review

The red, purple and blue modifications of polymeric unsymmetrical hydroxyalkadiynyl-N-arylcarbamate derivatives in Langmuir-Schaefer films

Alekseev, A., Ihalainen, P., Ivanov, A., Domnin, I., Klechkovskaya, V., Orekhov, A., Lemmetyinen, H., Vuorimaa-Laukkanen, E., Peltonen, J. & Vyaz'min, S., 1 Aug 2016, In : *Thin Solid Films*. 612, p. 463-471 9 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Sliding and abrasive wear behaviour of HVOF- and HVAF-sprayed Cr₃C₂-NiCr hardmetal coatings

Bolelli, G., Berger, L. M., Börner, T., Koivuluoto, H., Matikainen, V., Lusvarghi, L., Lyphout, C., Markocsan, N., Nylén, P., Sassatelli, P., Trache, R. & Vuoristo, P., 15 Jul 2016, In : *Wear*. 358-359, p. 32-50 19 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Erosion wear of vinylester matrix composites in aqueous and acidic environments at elevated temperatures

Suihkonen, R., Lindgren, M., Siljander, S., Sarlin, E. & Vuorinen, J., 15 Jul 2016, In : *Wear*. 358-359, p. 7-16 10 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Characterization of High-Velocity Single Particle Impacts on Plasma-Sprayed Ceramic Coatings

Kiilakoski, J., Lindroos, M., Apostol, M., Koivuluoto, H., Kuokkala, V-T. & Vuoristo, P., 24 Jun 2016, In : *Journal of Thermal Spray Technology*. 25, p. 1127-1137 11 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Microstructure and Sliding Wear Behavior of Fe-Based Coatings Manufactured with HVOF and HVAF Thermal Spray Processes

Milanti, A., Matikainen, V., Bolelli, G., Koivuluoto, H., Lusvarghi, L. & Vuoristo, P., Jun 2016, In : Journal of Thermal Spray Technology. 25, 5, p. 1040–1055 16 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Influence of As/group-III flux ratio on defects formation and photovoltaic performance of GaInNAs solar cells

Polojärvi, V., Aho, A., Tukiainen, A., Raappana, M., Aho, T., Schramm, A. & Guina, M., 1 May 2016, In : Solar Energy Materials and Solar Cells. 149, p. 213-220 8 p.

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Effect of Hole Transporting Material on Charge Transfer Processes in Zinc Phthalocyanine Sensitized ZnO Nanorods

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Influence of heat treatment on the abrasive wear resistance of a Cr₃C₂NiCr coating deposited by an ethene-fuelled HVOF spray process

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Wetting hysteresis induced by temperature changes: Supercooled water on hydrophobic surfaces

Heydari, G., Sedighi Moghaddam, M., Tuominen, M., Fielden, M., Haapanen, J., Mäkelä, J. M. & Claesson, P. M., 15 Apr 2016, In : Journal of Colloid and Interface Science. 468, p. 21-33 13 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Stability and Function at High Temperature. What Makes a Thermophilic GTPase Different from Its Mesophilic Homologue

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Research output: Contribution to journal › Article › Scientific › peer-review

Piezoresistive natural rubber-multiwall carbon nanotube nanocomposite for sensor applications

Selvan, N. T., Eshwaran, S. B., Das, A., Stöckelhuber, K. W., Wießner, S., Pötschke, P., Nando, G. B., Chervanyov, A. I. & Heinrich, G., 1 Mar 2016, In : Sensors and Actuators, A: Physical. 239, p. 102-113 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Ambient-Pressure XPS Study of a Ni-Fe Electrocatalyst for the Oxygen Evolution Reaction

Ali-Löytty, H., Louie, M. W., Singh, M. R., Li, L., Sanchez Casalongue, H. G., Ogasawara, H., Crumlin, E. J., Liu, Z., Bell, A. T., Nilsson, A. & Friebel, D., 4 Feb 2016, In : Journal of Physical Chemistry C. 120, 4, p. 2247-2253 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Guanidinium Pairing Facilitates Membrane Translocation

Allolio, C., Baxova, K., Vazdar, M. & Jungwirth, P., 14 Jan 2016, In : Journal of Physical Chemistry Part B. 120, 1, p. 143-153 11 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Static friction measurements on steel against uncoated and coated cast iron

Andersson, P., Kilpi, L., Holmberg, K., Vaajoki, A. & Oksanen, V., 1 Jan 2016, In : Tribologia. 34, 1-2, p. 5-40 36 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Normal displacements in non-Coulomb friction conditions during fretting

Hintikka, J., Lehtovaara, A. & Mäntylä, A., 2016, In : Tribology International. 94, p. 633-639

Research output: Contribution to journal › Article › Scientific › peer-review

Influence of temperature-induced copper diffusion on degradation of selective chromium oxy-nitride solar absorber coatings

Kotilainen, M., Honkanen, M., Mizohata, K. & Vuoristo, P., 2016, In : Solar Energy Materials and Solar Cells. 145, p. 323-332 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Wear and impact behaviour of High Velocity Air-Fuel sprayed Fe-Cr-Ni-B-C alloy coatings

Bolelli, G., Milanti, A., Lusvarghi, L., Trombi, L., Koivuluoto, H. & Vuoristo, P., 2016, In : Tribology International. 95, p. 372-390

Research output: Contribution to journal › Article › Scientific › peer-review

The role of edge-concentrated wear in impact-abrasion testing

Ratia, V., Valtonen, K., Kempainen, A. & Kuokkala, V. T., 2016, In : Tribology Online. 11, 2, p. 410-416 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Microstructural and abrasion wear characteristics of laser-clad tool steel coatings

Tuominen, J., Näkki, J., Pajukoski, H., Hyvärinen, L. & Vuoristo, P., 2016, In : Surface Engineering. 32, 12, p. 923-933 11 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Rapid and sensitive detection of norovirus antibodies in human serum with a bilayer interferometry biosensor

Auer, S., Koho, T., Uusi-Kerttula, H., Vesikari, T., Blazevic, V. & Hytönen, V. P., 31 Dec 2015, In : Sensors and Actuators B: Chemical. 221, p. 507-514 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Comparison of laboratory rolling-sliding wear tests with in-service wear of nodular cast iron rollers against wire ropes

Oksanen, V., Valtonen, K., Andersson, P., Vaajoki, A., Laukkanen, A., Holmberg, K. & Kuokkala, V. T., 15 Oct 2015, In : Wear. 340-341, p. 73-81 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Production of sulfonated polyetheretherketone/polypropylene fibers for photoactive textiles

Mylläri, V., Fatarella, E., Ruzzante, M., Pogni, R., Baratto, M. C., Skrifvars, M., Syrjälä, S. & Järvelä, P., 1 Oct 2015, In : Journal of Applied Polymer Science. 132, 39, 42595.

Research output: Contribution to journal › Article › Scientific › peer-review

ESD qualification data used as the basis for building electrostatic discharge protected areas

Tamminen, P., Viheriäkoski, T., Sydänheimo, L. & Ukkonen, L., 1 Oct 2015, In : Journal of Electrostatics. 77, p. 174-181 8 p., 3024.

Research output: Contribution to journal › Article › Scientific › peer-review

PIP2 and Talin Join Forces to Activate Integrin

Orlowski, A., Kukkurainen, S., Pöyry, A., Rissanen, S., Vattulainen, I., Hytönen, V. P. & Róg, T., 24 Sep 2015, In : Journal of Physical Chemistry Part B. 119, 38, p. 12381-12389 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Wear Properties of Thermally Sprayed Tungsten-Carbide Coatings in Paper Machine Environments

Kiilakoski, J., Eronen, V. & Vuoristo, P., 21 Sep 2015, In : Tribologia - Finnish Journal of Tribology. 33, 2, p. 29 35 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Construction of an Interconnected Nanostructured Carbon Black Network: Development of Highly Stretchable and Robust Elastomeric Conductors

Bhagavatheswaran, E. S., Parsekar, M., Das, A., Le, H. H., Wiessner, S., Stöckelhuber, K. W., Schmaucks, G. & Heinrich, G., 17 Sep 2015, In : Journal of Physical Chemistry C. 119, 37, p. 21723-21731 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Effect of spraying parameters on the microstructural and corrosion properties of HVOF-sprayed Fe-Cr-Ni-B-C coatings

Milanti, A., Matikainen, V., Koivuluoto, H., Bolelli, G., Lusvarghi, L. & Vuoristo, P., 15 Sep 2015, In : Surface and Coatings Technology. 277, p. 81-90 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Superatom Model for Ag-S Nanocluster with Delocalized Electrons

Goh, J. Q. & Akola, J., 10 Sep 2015, In : Journal of Physical Chemistry C. 119, 36, p. 21165-21172 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Electrospun Black Titania Nanofibers: Influence of Hydrogen Plasma-Induced Disorder on the Electronic Structure and Photoelectrochemical Performance

Lepcha, A., Maccato, C., Mettenbörger, A., Andreu, T., Mayrhofer, L., Walter, M., Olthof, S., Ruoko, T. P., Klein, A., Moseler, M., Meerholz, K., Morante, J. R., Barreca, D. & Mathur, S., 20 Aug 2015, In : Journal of Physical Chemistry C. 119, 33, p. 18835-18842 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Effect of Phosphatidic Acid on Biomembrane: Experimental and Molecular Dynamics Simulations Study

Kwolek, U., Kulig, W., Wydro, P., Nowakowska, M., Róg, T. & Kepczynski, M., 6 Aug 2015, In : Journal of Physical Chemistry Part B. 119, 31, p. 10042-10051 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Evaluation of crushing strength of spray-dried MgAl₂O₄ granule beds

Kanerva, U., Suhonen, T., Lagerbom, J. & Levänen, E., 1 Aug 2015, In : Ceramics International. 41, 7, p. 8494-8500 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Nonlinear Optical Properties of Fluorescent Dyes Allow for Accurate Determination of Their Molecular Orientations in Phospholipid Membranes

Timr, Š., Brabec, J., Bondar, A., Ryba, T., Železný, M., Lazar, J. & Jungwirth, P., 30 Jul 2015, In : Journal of Physical Chemistry Part B. 119, 30, p. 9706-9716 11 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Photoinduced Electron Transfer in CdSe/ZnS Quantum Dot-Fullerene Hybrids

Virkki, K., Demir, S., Lemmetyinen, H. & Tkachenko, N. V., 23 Jul 2015, In : Journal of Physical Chemistry C. 119, 31, p. 17561-17572 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Role of Internal Water on Protein Thermal Stability: The Case of Homologous G Domains

Rahaman, O., Kalimeri, M., Melchionna, S., Hénin, J. & Sterpone, F., 23 Jul 2015, In : Journal of Physical Chemistry Part B. 119, 29, p. 8939-8949 11 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Fretting-induced friction and wear in large flat-on-flat contact with quenched and tempered steel

Hintikka, J., Lehtovaara, A. & Mäntylä, A., 2 Jul 2015, In : Tribology International. 92, p. 191-202 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

A comparison of rheology and FTIR in the study of polypropylene and polystyrene photodegradation

Mylläri, V., Ruoko, T-P. & Syrjälä, S., 1 Jul 2015, In : Journal of Applied Polymer Science. 132, 28, 6 p., 42246.

Research output: Contribution to journal > Article > Scientific > peer-review

Synthesis and Photophysical Properties of Two Diazaporphyrin-Porphyrin Hetero Dimers in Polar and Nonpolar Solutions

Abou-Chahine, F., Fujii, D., Imahori, H., Nakano, H., Tkachenko, N. V., Matano, Y. & Lemmetyinen, H., 18 Jun 2015, In : Journal of Physical Chemistry Part B. 119, 24, p. 7328-7337 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Passive resonance sensor based method for monitoring particle suspensions

Salpavaara, T., Järveläinen, M., Seppälä, S., Yli-Hallila, T., Verho, J., Viikko, M., Lekkala, J. & Levänen, E., 8 Jun 2015, In : Sensors and Actuators B: Chemical. 219, p. 324-330 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

PEGylated liposomes as carriers of hydrophobic porphyrins

Dzieciuch, M., Rissanen, S., Szydłowska, N., Bunker, A., Kumorek, M., Jamróz, D., Vattulainen, I., Nowakowska, M., Róg, T. & Kepczynski, M., 4 Jun 2015, In : Journal of Physical Chemistry Part B. 119, 22, p. 6646-6657 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Hydration of hydroxyl and amino groups examined by molecular dynamics and neutron scattering

Hladílková, J., Fischer, H. E., Jungwirth, P. & Mason, P. E., 28 May 2015, In : Journal of Physical Chemistry Part B. 119, 21, p. 6357-6365 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Effect of melting state on the thermal shock resistance and thermal conductivity of APS ZrO₂-7.5wt.% Y₂O₃ coatings

Song, X., Liu, Z., Suhonen, T., Varis, T., Huang, L., Zheng, X. & Zeng, Y., 25 May 2015, In : Surface and Coatings Technology. 270, p. 132-138 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

The effect of impact conditions on the wear and deformation behavior of wear resistant steels

Lindroos, M., Ratia, V., Apostol, M., Valtonen, K., Laukkanen, A., Molnar, W., Holmberg, K. & Kuokkala, V. T., 5 Apr 2015, In : Wear. 328-329, p. 197-205 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Erosive wear of various stainless steel grades used as impeller blade materials in high temperature aqueous slurry

Lindgren, M., Suihkonen, R. & Vuorinen, J., 5 Apr 2015, In : Wear. 328-329, p. 391-400 10 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Oxidation of cholesterol does not alter significantly its uptake into high-density lipoprotein particles

Karilainen, T., Timr, Š., Vattulainen, I. & Jungwirth, P., 2 Apr 2015, In : Journal of Physical Chemistry Part B. 119, 13, p. 4594-4600 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Tribology of HVOF- and HVOF-sprayed WC-10Co4Cr hardmetal coatings: A comparative assessment

Bolelli, G., Berger, L. M., Börner, T., Koivuluoto, H., Lusvardi, L., Lyphout, C., Markocsan, N., Matikainen, V., Nylén, P., Sassatelli, P., Trache, R. & Vuoristo, P., 15 Mar 2015, In : Surface and Coatings Technology. 265, p. 125-144 20 p.

Research output: Contribution to journal › Article › Scientific › peer-review

High temperature corrosion of thermally sprayed NiCr and FeCr coatings covered with a KCl-K₂SO₄ salt mixture

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Research output: Contribution to journal › Article › Scientific › peer-review

Exploring the role of stearic acid in modified zinc aluminum layered double hydroxides and their acrylonitrile butadiene rubber nanocomposites

Eshwaran, S. B., Basu, D., Vaikuntam, S. R., Kutlu, B., Wiessner, S., Das, A., Naskar, K. & Heinrich, G., 1 Mar 2015, In : Journal of Applied Polymer Science. 132, 9, 41539.

Research output: Contribution to journal › Article › Scientific › peer-review

Sulfonated polyetheretherketone/polypropylene polymer blends for the production of photoactive materials

Fatarella, E., Mylläri, V., Ruzzante, M., Pogni, R., Baratto, M. C., Skrifvars, M., Syrjäälä, S. & Järvelä, P., 1 Feb 2015, In : Journal of Applied Polymer Science. 132, 8, 41509.

Research output: Contribution to journal › Article › Scientific › peer-review

Silver sulfide nanoclusters and the superatom model

Goh, J-Q., Malola, S., Häkkinen, H. & Akola, J., 22 Jan 2015, In : Journal of Physical Chemistry C. 119, 3, p. 1583-1590 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Effect of Multiple Impacts on the Deformation of Wear-Resistant Steels

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Research output: Contribution to journal > Article > Scientific > peer-review

Aryl end-capped quaterthiophenes applied as anode interfacial layers in inverted organic solar cells

Heiskanen, J. P., Manninen, V. M., Pankov, D., Omar, W. A. E., Kastinen, T., Hukka, T. I., Lemmetyinen, H. J. & Hormi, O. E. O., 1 Jan 2015, In : Thin Solid Films. 574, p. 196-206 11 p.
Research output: Contribution to journal > Article > Scientific > peer-review

The correlation between gear contact friction and ball on disc friction measurements

Björling, M., Miettinen, J., Marklund, P., Lehtovaara, A. & Larsson, R., 2015, In : Tribology International. 83, p. 114-119 6 p.
Research output: Contribution to journal > Article > Scientific > peer-review

Dielectric Breakdown Strength of Thermally Sprayed Ceramic Coatings: Effects of Different Test Arrangements

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Research output: Contribution to journal > Article > Scientific > peer-review

Digital correction of frequency response mismatches in 2-channel time-interleaved ADCs using adaptive I/Q signal processing

Singh, S., Valkama, M., Epp, M., Anttila, L., Schlecker, W. & Ingber, E., 2015, In : Analog Integrated Circuits and Signal Processing. 82, 3, p. 543-555 13 p.
Research output: Contribution to journal > Article > Scientific > peer-review

The deformation, strain hardening, and wear behavior of chromium-alloyed hadfield steel in abrasive and impact conditions

Lindroos, M., Apostol, M., Heino, V., Valtonen, K., Laukkanen, A., Holmberg, K. & Kuokkala, V. T., 2015, In : Tribology Letters. 57, 3, 24.
Research output: Contribution to journal > Article > Scientific > peer-review

Influence of the Spray Gun Type on Microstructure and Properties of HVOF Sprayed Fe-Based Corrosion Resistant Coatings

Milanti, A., Koivuluoto, H. & Vuoristo, P., 2015, In : Journal of Thermal Spray Technology. 24, 7, p. 1312-1322 11 p.
Research output: Contribution to journal > Article > Scientific > peer-review

DNA lesion can facilitate base ionization: Vertical ionization energies of aqueous 8-oxoguanine and its nucleoside and nucleotide

Palivec, V., Pluharová, E., Unger, I., Winter, B. & Jungwirth, P., 4 Dec 2014, In : Journal of Physical Chemistry Part B. 118, 48, p. 13833-13837 5 p.
Research output: Contribution to journal > Article > Scientific > peer-review

Fabrication and Characterization of Amorphous Alumina-Yttria-Stabilized Zirconia Coatings by Air Plasma Spraying

Song, X., Suhonen, T., Varis, T., Huang, L., Zheng, X. & Zeng, Y., 25 Nov 2014, In : Journal of Thermal Spray Technology. 23, 8, p. 1302-1311 10 p.
Research output: Contribution to journal > Article > Scientific > peer-review

Rapid, Brushless Self-assembly of a PS-b-PDMS Block Copolymer for Nanolithography

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Research output: Contribution to journal > Article > Scientific > peer-review

Effects of composition and microstructure on the abrasive wear performance of quenched wear resistant steels

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Research output: Contribution to journal > Article > Scientific > peer-review

Effect of silane integrated sol-gel derived in situ silica on the properties of nitrile rubber

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Research output: Contribution to journal > Article > Scientific > peer-review

Performance testing of iron based thermally sprayed HVOF coatings in a biomass-fired fluidised bed boiler

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Accurate description of calcium solvation in concentrated aqueous solutions

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Research output: Contribution to journal > Article > Scientific > peer-review

Surface behavior of hydrated guanidinium and ammonium ions: A comparative study by photoelectron spectroscopy and molecular dynamics

Werner, J., Wernersson, E., Ekholm, V., Ottosson, N., Öhrwall, G., Heyda, J., Persson, I., Söderström, J., Jungwirth, P. & Björneholm, O., 26 Jun 2014, In : Journal of Physical Chemistry Part B. 118, 25, p. 7119-7127 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Carbon nanotubes-filled thermoplastic polyurethane-urea and carboxylated acrylonitrile butadiene rubber blend nanocomposites

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Damage mechanisms and cracking behavior of thermal sprayed WC-CoCr coating under scratch testing

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Research output: Contribution to journal > Article > Scientific > peer-review

Composition dependent growth dynamics in molecular beam epitaxy of GaInNAs solar cells

Aho, A., Polojärvi, V., Korpijärvi, V. M., Salmi, J., Tukiainen, A., Laukkanen, P. & Guina, M., May 2014, In : Solar Energy Materials and Solar Cells. 124, p. 150-158 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Microphase mechanism of "superquenching" of luminescent probes in aqueous solutions of DNA and some other polyelectrolytes

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Research output: Contribution to journal > Article > Scientific > peer-review

Fabrication of ssDNA/oligo(ethylene glycol) monolayers by promoted exchange reaction with thiol and disulfide substituents

Khan, M. N. & Zharnikov, M., 13 Feb 2014, In : Journal of Physical Chemistry C. 118, 6, p. 3093-3101 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Both zundel and eigen isomers contribute to the IR spectrum of the gas-phase H₉O⁺ cluster

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Research output: Contribution to journal > Article > Scientific > peer-review

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Research output: Contribution to journal > Article > Scientific > peer-review

Release of halide ions from the buried active site of the haloalkane dehalogenase LinB revealed by stopped-flow fluorescence analysis and free energy calculations

Hladilkova, J., Prokop, Z., Chaloupkova, R., Damborsky, J. & Jungwirth, P., 21 Nov 2013, In : Journal of Physical Chemistry Part B. 117, 46, p. 14329-14335 7 p.

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How conformational flexibility stabilizes the hyperthermophilic elongation factor G-domain

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Spectroscopic study of a DNA brush synthesized in situ by surface initiated enzymatic polymerization

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Research output: Contribution to journal > Article > Scientific > peer-review

Irradiation promoted exchange reaction with disulfide substituents

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Reversal of the Hofmeister series: Specific ion effects on peptides

Paterová, J., Rembert, K. B., Heyda, J., Kurra, Y., Okur, H. I., Liu, W. R., Hilty, C., Cremer, P. S. & Jungwirth, P., 11 Jul 2013, In : Journal of Physical Chemistry Part B. 117, 27, p. 8150-8158 9 p.

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Cation-specific effects on enzymatic catalysis driven by interactions at the tunnel mouth

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Research output: Contribution to journal > Article > Scientific > peer-review

The sensitivity of random polymer brush-lamellar polystyrene-b-polymethylmethacrylate block copolymer systems to process conditions

Borah, D., Rasappa, S., Senthamarakannan, R., Shaw, M. T., Holmes, J. D. & Morris, M. A., 1 Mar 2013, In : Journal of Colloid and Interface Science. 393, 1, p. 192-202 11 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Ab initio study of the surface properties of austenitic stainless steel alloys

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Aqueous guanidinium-carbonate interactions by molecular dynamics and neutron scattering: Relevance to ion-protein interactions

Vazdar, M., Jungwirth, P. & Mason, P. E., 14 Feb 2013, In : Journal of Physical Chemistry Part B. 117, 6, p. 1844-1848 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

Transforming anion instability into stability: Contrasting photoionization of three protonation forms of the phosphate ion upon moving into water

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Research output: Contribution to journal > Article > Scientific > peer-review

Block copolymer lithography: Feature size control and extension by an over-etch technique

Rasappa, S., Borah, D., Senthamarakannan, R., Faulkner, C. C., Shaw, M. T., Gleeson, P., Holmes, J. D. & Morris, M. A., 1 Nov 2012, In : Thin Solid Films. 522, p. 318-323 6 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Cysteine-tagged chimeric avidin forms high binding capacity layers directly on gold

Vikholm-Lundin, I., Auer, S., Paakkunainen, M., Määttä, J. A. E., Munter, T., Leppiniemi, J., Hytönen, V. P. & Tappura, K., Aug 2012, In : Sensors and Actuators B: Chemical. 171-172, p. 440-448 9 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Accurate description of aqueous carbonate ions: An effective polarization model verified by neutron scattering

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Behavior of 4-hydroxynonenal in phospholipid membranes

Vazdar, M., Jurkiewicz, P., Hof, M., Jungwirth, P. & Cwiklik, L., 7 Jun 2012, In : Journal of Physical Chemistry Part B. 116, 22, p. 6411-6415 5 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Surface-relief gratings and stable birefringence inscribed using light of broad spectral range in supramolecular polymer-bisazobenzene complexes

Koskela, J. E., Vapaavuori, J., Hautala, J., Priimagi, A., Faul, C. F. J., Kaivola, M. & Ras, R. H. A., 26 Jan 2012, In : Journal of Physical Chemistry C. 116, 3, p. 2363-2370 8 p.

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Printable and flexible macroporous organosilica film with high protein adsorption capacity

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Oriental dependence of the affinity of guanidinium ions to the water surface

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Thermally evaporated single-crystal Germanium on Silicon

Sorianello, V., Colace, L., Nardone, M. & Assanto, G., 1 Sep 2011, In : Thin Solid Films. 519, 22, p. 8037-8040 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

Towards universal enrichment nanocoating for IR-ATR waveguides

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Detection of 3,4-methylenedioxymethamphetamine (MDMA, ecstasy) by displacement of antibodies

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Research output: Contribution to journal › Article › Scientific › peer-review

Urea and guanidinium induced denaturation of a Trp-cage miniprotein

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Optimised selection of new protective coatings for biofuel boiler applications

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Plasma etch technologies for the development of ultra-small feature size transistor devices

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Micro-Raman characterization of Germanium thin films evaporated on various substrates

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Thermal evaporation of Ge on Si for near infrared detectors: Material and device characterization

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Ionization of purine tautomers in nucleobases, nucleosides, and nucleotides: From the gas phase to the aqueous environment

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Interfacial design and structure of protein/polymer films on oxidized AlGaN surfaces

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