

Barkhausen Noise Probes and Modelling: A Review

Santa-aho, S., Laitinen, A., Sorsa, A. & Vippola, M., 1 Dec 2019, In : *Journal of Nondestructive Evaluation*. 38, 4, 94.
Research output: Contribution to journal > Review Article > Scientific > peer-review

A framework for building behavioral models for design-stage failure identification using dimensional analysis

Coatanéa, E., Ritola, T., Tumer, I. Y. & Jensen, D., 2010, *Proceedings of the ASME Design Engineering Technical Conference*. AMER SOC MECHANICAL ENGINEERS, Vol. 5. p. 591-601 11 p.

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

An origami inspired reconfigurable spiral antenna

Saintsing, C. D., Cook, B. S. & Tentzeris, M. M., 2014, *38th Mechanisms and Robotics Conference*. The American Society of Mechanical Engineers ASME, Vol. 5B.

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

A Reduced-Order Two-Degree-of-Freedom Composite Nonlinear Feedback Control for a Rotary DC Servo Motor

Pyrhönen, V-P., Koivisto, H. & Viikko, M., 12 Dec 2017, *Proceedings of the 56th IEEE Conference on Decision and Control*. Melbourne, Australia, p. 2065-2071 7 p.

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

A system for real-time detection and tracking of vehicles from a single car-mounted camera

Caraffi, C., Vojir, T., Trefný, J., Šochman, J. & Matas, J., 2012, *2012 15th International IEEE Conference on Intelligent Transportation Systems, ITSC 2012*. p. 975-982 8 p. 6338748

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

Biomimetic hemo-compatible surfaces of polyurethane by grafting copolymer brushes of poly(ethylene glycol) and poly(phosphorylcholine methacrylate)

Yang, D., Feng, Y., Behl, M., Lendlein, A., Zhao, H., Khan, M. & Guo, J., 2012, *Multifunctional Polymer-Based Materials*. Vol. 1403. p. 171-176 6 p.

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

Block copolymer self-assembly on ethylene glycol (EG) self-assembled monolayer (SAM) for nanofabrication

Borah, D., Rasappa, S., Kosmala, B., Holmes, J. D. & Morris, M. A., 2012, *Nanoscale Materials Modification by Photon, Ion, and Electron Beams*. Vol. 1450. p. 8-13 6 p.

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

Branched thiophene oligomer/polymer bulk heterojunction organic solar cell

Martinez, F., Neculqueo, G., Vasquez, S. O., Lemmetyinen, H., Efimov, A. & Vivo, P., 2015, *Materials Research Society Symposium Proceedings*. MATERIALS RESEARCH SOCIETY, Vol. 1737. p. 19-25 7 p.

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

Complete Odometry Estimation of a Vehicle Using Single Automotive Radar and a Gyroscope

Ghabcheloo, R. & Siddiqui, S., 20 Aug 2018, *MED 2018 - 26th Mediterranean Conference on Control and Automation*. IEEE, p. 855-860 6 p. 8442474

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

Deformability analysis and improvement in stretchable electronics systems through finite element analysis

Di Vito, D., Mosallaei, M., Vahed, B. K., Kanerva, M. & Mäntysalo, M., 2020, *Proceedings of XXIV AIMETA Conference 2019*. Carcaterra, A., Graziani, G. & Paolone, A. (eds.). Springer, p. 755-763 9 p. (Lecture Notes in Mechanical Engineering).

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

Design and Control of a Flexible Joint as a Hydraulic Series Elastic Actuator for Manipulation Applications

Cao, X., Aref, M. M. & Mattila, J., 2019, *Proceedings of the IEEE 2019 9th International Conference on Cybernetics and Intelligent Systems and Robotics, Automation and Mechatronics, CIS and RAM 2019*. IEEE, p. 553-558 6 p. 9095773. (IEEE International Conference on Cybernetics and Intelligent Systems).

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

Development and numerical implementation of an anisotropic continuum damage model for concrete

Hartikainen, J., Kolari, K. & Kouhia, R., 2016, *Advances in Fracture and Damage Mechanics XV*. Trans Tech Publications Ltd, p. 115-118 4 p. (Key Engineering Materials; vol. 713).

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

DIC measurements of the human heart during cardiopulmonary bypass surgery

Hokka, M., Mirow, N., Nagel, H., Vogt, S. & Kuokkala, V.-T., 2016, *Conference Proceedings of the Society for Experimental Mechanics Series*. Springer New York LLC, Vol. 6. p. 51-59 9 p.

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

Digital image correlation study of the deformation and functioning of the human heart during open-heart surgery

Soltani, A., Curtze, S., Lahti, J., Järvelä, K., Laurikka, J., Hokka, M. & Kuokkala, V. T., 2018, *Mechanics of Biological Systems, Materials and other topics in Experimental and Applied Mechanics - Proceedings of the 2017 Annual Conference on Experimental and Applied Mechanics*. Springer New York LLC, Vol. 4. p. 19-27 9 p. (Conference Proceedings of the Society for Experimental Mechanics).

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

Dimension reduction and decomposition using causal graph and qualitative analysis for aircraft concept design optimization

Wu, D., Coatanea, E. & Wang, G. G., 2017, *43rd Design Automation Conference*. The American Society of Mechanical Engineers ASME

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

Direct model predictive power control of a series-connected modular rectifier

Rossi, M., Liegmann, E., Karamanakos, P., Castelli-Dezza, F. & Kennel, R., 1 May 2019, *PRECEDE 2019: 2019 IEEE International Symposium on Predictive Control of Electrical Drives and Power Electronics*. IEEE, p. 1-6 6 p.

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

Effect of air gap on the adhesion of PET layer on cardboard substrate in extrusion coating

Suokas, E., 1 Jan 2017, *16th TAPPI European PLACE Conference 2017*. TAPPI Press, p. 529-544 16 p.

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

Effect of polyolefin molecular structure on product properties in extrusion coating

Suokas, E., 2019, *17th Biennial TAPPI European PLACE Conference 2019*. TAPPI Press, p. 89-98 10 p.

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

Effect of pre-treatments on barrier properties of layers applied by atomic layer deposition onto polymer-coated substrates

Vähä-Nissi, M., Hirvikorpi, T., Sievänen, J., Salo, E., Harlin, A., Johansson, P. & Kuusipalo, J., 2011, *13th European PLACE Conference 2011*. Vol. 1. p. 447 1 p.

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

Effect of rotor pole-shoe construction on losses of inverter-fed synchronous motors

Rasilo, P., Belahcen, A. & Arkkio, A., 2012, *Proceedings - 2012 20th International Conference on Electrical Machines, IECM 2012*. p. 1282-1286 5 p.

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

Effects of adiabatic heating estimated from tensile tests with continuous heating

Vazquez Fernandez, N., Isakov, M., Hokka, M. & Kuokkala, V. T., 2018, *Dynamic Behavior of Materials - Proceedings of the 2017 Annual Conference on Experimental and Applied Mechanics*. Springer New York LLC, Vol. 1. p. 1-7 7 p. (Conference Proceedings of the Society for Experimental Mechanics).

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

End-plate connections in Bi-axial bending - Measurements

Mäkinen, J., Fränti, K., Korhonen, M., Fillion, J. & Heinisuo, M., 2016, *13th International Aluminium Conference, Sustainability, Durability and Structural Advantages, : INALCO 2016; Naples; Italy; 21 September 2016 through 23 September 2016*. Mazzolani, F. M., Squillace, A., Faggiano, B. & Bellucci, F. (eds.). Trans Tech Publications Ltd, Vol. 710

. p. 275-280 6 p. (Key Engineering Materials; vol. 710).

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

Evaluating the electrode measurement sensitivity of subdermal electroencephalography electrodes

Mendes, M. R., Subramaniam, N. P. & Wendel-Mitoraj, K., 1 Jul 2015, *International IEEE/EMBS Conference on Neural Engineering, NER*. IEEE COMPUTER SOCIETY PRESS, Vol. 2015-July. p. 1092-1095 4 p.

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

Evaluation of parts of a boat cabin based on exergy - Focusing on environmental and economic assessments

Medyna, G., Coatanea, E. & Millet, D., 2011, *ASME 2011 International Mechanical Engineering Congress and Exposition, IMECE 2011. PARTS A AND B* ed. AMER SOC MECHANICAL ENGINEERS, Vol. 4. p. 1083-1092 10 p.

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

Fabrication of soft devices with buried fluid channels by using sacrificial 3D printed molds

Koivikko, A. & Sariola, V., 24 May 2019, *2019 2nd IEEE International Conference on Soft Robotics (RoboSoft)*. IEEE, p. 509-513 5 p.

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

Flux-Weakening Control for IPMSM Employing Model Order Reduction

Far, M. F., Mustafa, B., Martin, F., Rasilo, P. & Belahcen, A., 24 Oct 2018, *2018 23rd International Conference on Electrical Machines, ICEM 2018*. IEEE, p. 1510-1516 7 p.

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

FORMI: A Fast Holonomic Path Planning and Obstacle Representation Method Based on Interval Analysis

Mäenpää, P., Aref, M. M. & Mattila, J., 1 Nov 2019, *Proceedings of the IEEE 2019 9th International Conference on Cybernetics and Intelligent Systems and Robotics, Automation and Mechatronics, CIS and RAM 2019*. IEEE, p. 398-403 6 p. (IEEE International Conference on Cybernetics and Intelligent Systems).

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

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Ellman, A., Wendrich, R. & Tiainen, T., 21 Aug 2016, *Proceedings of the ASME 2016 Computers and Information in Engineering Conference IDETC/CIE 2016*. Charlotte, North Carolina: ASME, 7 p. DETC2016-59886

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

Graph based representation and analyses for conceptual stages

Coatanea, E., Nonsiri, S., Christophe, F. & Mokammel, F., 2014, *34th Computers and Information in Engineering Conference*. The American Society of Mechanical Engineers ASME, Vol. 1A.

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

Heat Transfer of Impinging Jet: Effect of Compressibility and Turbulent Kinetic Energy Production

Mikkonen, A. & Karvinen, R., 2017, *IX International Conference on Computational Heat and Mass Transfer (ICCHMT 2016)*.

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

High Temperature Tension HSB Device Based on Direct Electrical Heating

Hokka, M., Östman, K., Rämö, J. & Kuokkala, V. T., 2015, *Dynamic Behavior of Materials, Volume 1: Proceedings of the 2014 Annual Conference on Experimental and Applied Mechanics*. Song, B., Casem, D. & Kimberley, J. (eds.). Springer, Vol. 65. p. 227-233 7 p. (Conference Proceedings of the Society for Experimental Mechanics Series).

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

Improving the effect of a nanoscale barrier coating on BOPP film properties by surface pretreatments

Lahtinen, K., Lahti, J., Johansson, P., Seppänen, T. & Cameron, D. C., 2013, *14th European PLACE Conference 2013*. TAPPI Press, Vol. 1. p. 469-493 25 p.

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

Improving the effect of nanoscale barrier coating on BOPP film properties: Influence of substrate contamination, web handling and pretreatments

Lahti, J., Johansson, P., Lahtinen, K., Cameron, D. C. & Seppänen, T., 2014, *TAPPI PLACE Conference 2014*. TAPPI Press, Vol. 2. p. 1039-1061 23 p.

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

Inertial Sensor-Based State Estimation of Flexible Links Subject to Bending and Torsion

Mäkinen, P., Mononen, T. & Mattila, J., 27 Aug 2018, *2018 14th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications, MESA 2018*. IEEE, 8 p. 8449188

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

Introducing Multi-Convexity in Path Constrained Trajectory Optimization for Mobile Manipulators

Singh, A. K., Ahonen, A., Ghabcheloo, R. & Mueller, A., 2020, *European Control Conference 2020, ECC 2020*. IEEE, p. 1178-1185 8 p.

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

Knowledge-based artificial neural network (KB-ANN) in engineering: Associating functional architecture modeling, dimensional analysis and causal graphs to produce optimized topologies for KB-ANNs

Coatanéa, E., Wu, D., Tsarkov, V., Gary Wang, G., Modi, S. & Jafarian, H., 2018, *38th Computers and Information in Engineering Conference*. The American Society of Mechanical Engineers ASME, Vol. 1B-2018. 12 p.

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

Locomotion of light-driven soft microrobots through a hydrogel via local melting

Palagi, S., Mark, A. G., Melde, K., Qiu, T., Zeng, H., Parmeggiani, C., Martella, D., Wiersma, D. S. & Fischer, P., 3 Aug 2017, *International Conference on Manipulation, Automation and Robotics at Small Scales, MARSS 2017 - Proceedings*. IEEE

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

Market implementation of active and intelligent packaging-opportunities from a socio-economic perspective

Lahti, J., 2019, *17th Biennial TAPPI European PLACE Conference 2019*. TAPPI Press, p. 419-427 9 p.

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

Materials for electronics by thermal spraying

Ronkainen, H., Kanerva, U., Varis, T., Ruusuvuori, K., Turunen, E., Peräntie, J., Putaala, J., Juuti, J. & Jantunen, H., 2013, *Physical and Numerical Simulation of Materials Processing VII*. Vol. 762. p. 451-456 6 p. (Materials Science Forum; vol. 762).

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

Measurements and Modeling of Frost Depth in Railway Tracks

Pylkkänen, K., Nurmikolu, A., Guthrie, W. S. & Argyle, H. M., 2015, *Proceedings of the International Conference on Cold Regions Engineering: 16th International Conference on Cold Regions Engineering 2015*. American Society of Civil Engineers ASCE, p. 123-134 12 p.

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

Measurement theory and dimensional analysis: Methodological impact on the comparison and evaluation process

Coatanéa, E., Yannou, B., Honkala, S., Lajunen, A., Saarelainen, T. & Makkonen, P., 2008, *19th International Conference on Design Theory and Methodology and 1st International Conference on Micro and Nano Systems, presented at - 2007 ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, IDETC/CIE2007*. AMER SOC MECHANICAL ENGINEERS, p. 173-182 10 p.

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

M-Estimator Application in Real-Time Sensor Fusion for Smooth Position Feedback of Heavy-Duty Field Robots

Liikanen, H., Aref, M. M. & Mattila, J., 2019, *Proceedings of the IEEE 2019 9th International Conference on Cybernetics and Intelligent Systems (CIS) and IEEE Conference on Robotics, Automation and Mechatronics (RAM)*. IEEE, p. 368-373 6 p. (IEEE International Conference on Cybernetics and Intelligent Systems).

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

Modeling of steels and steel surfaces using quantum mechanical first principles methods

Alatalo, M., Pitkänen, H., Ropo, M., Kokko, K. & Vitos, L., 2013, *Physical and Numerical Simulation of Materials Processing VII*. Vol. 762. p. 445-450 6 p. (Materials Science Forum; vol. 762).

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

Model Order Reduction of Bearingless Reluctance Motor Including Eccentricity

Far, M. F., Mukherjee, V., Martin, F., Rasilo, P. & Belahcen, A., 24 Oct 2018, *2018 23rd International Conference on Electrical Machines, ICEM 2018*. IEEE, p. 2243-2249 7 p.

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

Moving Web and Dynamic Problem of Aerothermoelastic Vibrations and Instability

Banichuk, N., Ivanova, S. & Jeronen, J., 2020, *Advanced Problems in Mechanics: Proceedings of the 47th International Summer School-Conference on Advanced Problems in Mechanics, APM 2019*. Indeitsev, D. A. & Krivtsov, A. M. (eds.). Springer, p. 66-71 6 p. (Lecture Notes in Mechanical Engineering).

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

Nanocellulose and Polylactic Acid Based Multilayer Coatings for Barrier Applications

Lahti, J., 2019, *17th Biennial TAPPI European PLACE Conference 2019*. TAPPI Press, p. 446-455 10 p.

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

Nanoparticle deposition on packaging materials by the liquid flame spray

Teisala, H., Tuominen, M., Aromaa, M., Mäkelä, J. M., Stepien, M., Saarinen, J. J., Toivakka, M. & Kuusipalo, J., 2011, *13th European PLACE Conference 2011*. Vol. 1. 2 p.

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

Nanoscale barrier coating on BOPP packaging film by ALD

Lahti, J., 2016, *TAPPI PLACE Conference 2016: Exploring New Frontiers*. TAPPI Press, p. 493-505 13 p.

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

Novel bio-based materials for active and intelligent packaging

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

Novel equipment to simulate hot air heat sealability of packaging materials

Lahti, J., Kuusipalo, J. & Auvinen, S., 1 Jan 2017, *16th TAPPI European PLACE Conference 2017*. TAPPI Press, p. 237-248 12 p.

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

On the threshold based neuronal spike detection, and an objective criterion for setting the threshold

Tanskanen, J. M. A., Kapucu, F. E. & Hyttinen, J. A. K., 1 Jul 2015, *International IEEE/EMBS Conference on Neural Engineering, NER*. IEEE COMPUTER SOCIETY PRESS, p. 1016-1019 4 p.

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

Operating point dependent variable switching point predictive current control for PMSM drives

Wendel, S., Karamanakos, P., Dietz, A. & Kennel, R., 1 May 2019, *PRECEDE 2019: 2019 IEEE International Symposium on Predictive Control of Electrical Drives and Power Electronics*. IEEE, p. 1-6 6 p.

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

Pneumatically actuated elastomeric device for simultaneous mechanobiological studies & live-cell fluorescent microscopy

Kreutzer, J., Viehrig, M., Maki, A.-J., Kallio, P., Rahikainen, R. & Hytönen, V., 3 Aug 2017, *International Conference on Manipulation, Automation and Robotics at Small Scales, MARSS 2017 - Proceedings*. IEEE

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

Position Estimation for Drones based on Visual SLAM and IMU in GPS-denied Environment

Motlagh, H. D. K., Lotfi, F., Taghirad, H. D. & Gerami, S. B., 1 Nov 2019, *ICRoM 2019 - 7th International Conference on Robotics and Mechatronics*. IEEE, p. 120-124 5 p.

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

Real-time and Robust Collaborative Robot Motion Control with Microsoft Kinect © v2

Teke, B., Lanz, M., Kämäräinen, J.-K. & Hietanen, A., 27 Aug 2018, *2018 14th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications, MESA 2018*. IEEE, 6 p. 8449156

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

Recurrence network analysis of wide band oscillations of local field potentials from the primary motor cortex reveals rich dynamics.

Subramaniyam, N. P., Hyttinen, J., Hatsopoulos, N. G. & Takahashi, K., 1 Jul 2015, *International IEEE/EMBS Conference on Neural Engineering, NER*. IEEE COMPUTER SOCIETY PRESS, p. 960-963 4 p.

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

Redundant robotic manipulator path planning for real-time obstacle and self-collision avoidance

Kivelä, T., Mattila, J., Puura, J. & Launis, S., 21 Jun 2017, *Advances in Service and Industrial Robotics: Proceedings of the 26th International Conference on Robotics in Alpe-Adria-Danube Region, RAAD 2017*. Ferraresi, C. & Quaglia, G. (eds.). Springer International Publishing, p. 208-216 9 p. (Mechanisms and Machine Science; vol. 49).

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

Resilient Cooperative Voltage Control for Distribution Network with High Penetration Distributed Energy Resources

Gusrialdi, A., Xu, Y., Qu, Z. & Simaan, M. A., 2020, *European Control Conference 2020, ECC 2020*. IEEE, p. 1533-1539 7 p.

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

Role-based visualization of industrial IoT-based systems

Mahmoodpour, M., Lobov, A., Lanz, M., Mäkelä, P. & Rundas, N., 27 Aug 2018, *2018 14th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications, MESA 2018*. IEEE, 8 p. 8449183

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

Roll-to-roll coating by liquid flame spray nanoparticle deposition

Mäkelä, J. M., Haapanen, J., Aromaa, M., Teisala, H., Tuominen, M., Stepien, M., Saarinen, J. J., Toivakka, M. & Kuusipalo, J., 2015, *Materials Research Society Symposium Proceedings*. MATERIALS RESEARCH SOCIETY, Vol. 1747 . p. 37-42 6 p.

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

Semantic analysis of function-solution duality

Christophe, F., Ritola, T., Coatanéa, E. & Bernard, A., 2011, *ASME 2011 International Mechanical Engineering Congress and Exposition, IMECE 2011*. Vol. 3. p. 611-619 9 p.

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

Solar Panel Breakage During Heavy Rain Caused by Thermal Stress

Mikkonen, A. & Karvinen, R., Oct 2016, *Engineered Transparency 2016: Glass in Architecture and Structural Engineering*. Wiley

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

Statistical modeling of water vapor transmission rates for extrusion-coated papers

Lahtinen, K. & Kuusipalo, J., 2008, *TAPPI 2008 PLACE Conference: Innovations in Flexible Consumer Packaging*.

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

Structures and properties of laser-assisted cold-sprayed aluminum coatings

Koivuluoto, H., Milanti, A., Bolelli, G., Latokartano, J., Marra, F., Pulci, G., Vihinen, J., Lusvarghi, L. & Vuoristo, P., 2017, *THERMEC 2016*. Trans Tech Publications Ltd, Vol. 879. p. 984-989 6 p. (Materials Science Forum; vol. 879).

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

Tampere University of Technology, laboratory of materials science, paper converting and packaging technology Tampere, Finland

Kuusipalo, J. & Lahti, J., 1 Jan 2017, *16th TAPPI European PLACE Conference 2017: Basel; Switzerland; 22 May 2017 through 24 May 2017*. TAPPI Press, Vol. May-2017. 1 p.

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

The effects of corona and flame treatment: Part 2. PE-HD and PP coated papers

Lahti, J., Tuominen, M., Penttinen, T., Räsänen, J. P. & Kuusipalo, J., 2009, *TAPPI Press - 12th European PLACE Conference 2009*. Vol. 1. p. 278-314 37 p.

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

Towards an approach for evaluating the quality of requirements

Mokammel, F., Coatanea, E., Christophe, F., Ba Khouya, M. & Medyna, G., 2013, *33rd Computers and Information in Engineering Conference*. American Society of Mechanical Engineers, Vol. 2 B. V02BT02A024

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

Simulating the Drag Coefficient of a Spherical Autonomous Underwater Vehicle

Heininen, A., Aaltonen, J. & Koskinen, K. T., 9 Oct 2017, *Proceedings of the 2nd Annual SMACC Research Seminar 2017*. Aaltonen, J., Virkkunen, R., Koskinen, K. T. & Kuivanen, R. (eds.). Tampere: Tampere University of Technology, Vol. 2. p. 53-56 4 p. 14

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

Enablers and barriers of smart data-based asset management services in industrial business networks

Ahonen, T., Hanski, J., Hyvärinen, M., Kortelainen, H., Uusitalo, T., Vainio, H., Kunttu, S. & Koskinen, K., 2019, *Lecture Notes in Mechanical Engineering*. Pleiades Publishing, p. 51-60 10 p. (Lecture Notes in Mechanical Engineering).

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

Towards dependable automation

Seppälä, J. & Salmenperä, M., 2015, *Cyber Security: Analytics, Technology and Automation: Part IV*. Springer International Publishing, p. 229-249 21 p. (Intelligent Systems, Control and Automation: Science and Engineering; vol. 78).

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

Special Issue: From Responsive Materials to Interactive Materials

Priimägi, A. (ed.) & Hecht, S. (ed.), 2020, In : *Advanced Materials*. 32, 20

Research output: Contribution to journal > Special issue > Scientific > peer-review

From Responsive Molecules to Interactive Materials

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Research output: Contribution to journal > Editorial > Scientific

Superhydrophobic Coatings on Cellulose-Based Materials: Fabrication, Properties, and Applications

Teisala, H., Tuominen, M. & Kuusipalo, J., 1 Feb 2014, In : *Advanced Materials Interfaces*. 1, 1, p. 1-20 20 p., 1300026.

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

Waves in hyperbolic and double negative metamaterials including rogues and solitons

Boardman, A. D., Alberucci, A., Assanto, G., Grimalsky, V. V., Kibler, B., McNiff, J., Nefedov, I. S., Rapoport, Y. G. & Valagiannopoulos, C. A., 9 Oct 2017, In : *Nanotechnology*. 28, 44, 444001.

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

A comparison of five optical surface topography measurement methods

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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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An exploratory study on strengthening and thermal stability of magnetron sputtered W nanoparticles at the interface of Cu/Ni multilayer films

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Assessing population vulnerability towards summer energy poverty: Case studies of Madrid and London

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

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Bioactive glass ions induce efficient osteogenic differentiation of human adipose stem cells encapsulated in gellan gum and collagen type I hydrogels

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CFD modeling the diffusional losses of nanocluster-sized particles and condensing vapors in 90° bends of circular tubes

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Chip-by-chip configurable interconnection using digital printing techniques

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Circular dichroism in the second harmonic field evidenced by asymmetric Au coated GaAs nanowires

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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

Electrolyte-gated organic field-effect transistor sensors based on supported biotinylated phospholipid bilayer

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Elevated and cryogenic temperature micropillar compression of magnesium–niobium multilayer films

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Employing Knowledge on Causal Relationship to Assist Multidisciplinary Design Optimization

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Enhanced resonant nonlinear absorption and optical limiting in Er³⁺ ions doped multicomponent tellurite glasses

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Erbium-doped borosilicate glasses containing various amounts of P2O5 and Al2O3: Influence of the silica content on the structure and thermal, physical, optical and luminescence properties

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Evaluating retrofit options in a historical city center: Relevance of bio-based insulation and the need to consider complex urban form in decision-making
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Experimental study on the behavior of wear resistant steels under high velocity single particle impacts
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Fe₂O₃-TiO₂ Nano-heterostructure Photoanodes for Highly Efficient Solar Water Oxidation
Bařreca, D., Carraro, G., Gasparotto, A., Maccato, C., Warwick, M. E. A., Kaunisto, K., Sada, C., Turner, S., Gönüllü, Y., Ruoko, T-P., Borgese, L., Bontempi, E., Van Tendeloo, G., Lemmetyinen, H. & Mathur, S., 2015, In : Advanced Materials Interfaces. 2, 17
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Fretting-induced friction and wear in large flat-on-flat contact with quenched and tempered steel

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Generic platform for manufacturing execution system functions in knowledge-driven manufacturing systems

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Graphoepitaxial Directed Self-Assembly of Polystyrene-Block-Polydimethylsiloxane Block Copolymer on Substrates Functionalized with Hexamethyldisilazane to Fabricate Nanoscale Silicon Patterns

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Hexaferrite/polyethylene Composite coatings prepared with flame spraying

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High performance natural rubber composites with a hierarchical reinforcement structure of carbon nanotube modified natural fibers

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Hydrazone crosslinked hyaluronan-based hydrogels for therapeutic delivery of adipose stem cells to treat corneal defects

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Hyperspectral phase imaging based on denoising in complex-valued eigensubspace

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

Icephobicity of Slippery Liquid Infused Porous Surfaces under Multiple Freeze–Thaw and Ice Accretion–Detachment Cycles

Niemelä-Anttonen, H., Koivuluoto, H., Tuominen, M., Teisala, H., Juuti, P., Haapanen, J., Harra, J., Stenroos, C., Lahti, J., Kuusipalo, J., Mäkelä, J. M. & Vuoristo, P., Oct 2018, In : *Advanced Materials Interfaces*. 5, 20

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

ILC1 drive intestinal epithelial and matrix remodelling

Jowett, G. M., Norman, M. D. A., Yu, T. T. L., Rosell Arévalo, P., Hoogland, D., Lust, S. T., Read, E., Hamrud, E., Walters, N. J., Niazi, U., Chung, M. W. H., Marciano, D., Omer, O. S., Zabinski, T., Danovi, D., Lord, G. M., Hilborn, J., Evans, N. D., Dreiss, C. A., Bozec, L., Oommen, O. P., Lorenz, C. D., da Silva, R. M. P., Neves, J. F. & Gentleman, E., 2020, In : *Nature Materials*. 22 p.

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

Impact of building usage and occupancy on energy consumption in Finnish daycare and school buildings

Sekki, T., Airaksinen, M. & Saari, A., 18 Aug 2015, In : *Energy and Buildings*. 105, p. 247-257 11 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

Implementation of a direct procedure for critical point computations using preconditioned iterative solvers

Kouhia, R., Tüma, M., Mäkinen, J., Fedoroff, A. & Marjamäki, H., Oct 2012, In : *Computers & Structures*. 108-109, p. 110-117 8 p.

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

Improved dimensional stability with bioactive glass fibre skeleton in poly(lactide-co-glycolide) porous scaffolds for tissue engineering

Haaparanta, A-M., Uppstu, P., Hannula, M., Ellä, V., Rosling, A. & Kellomäki, M., 20 Jul 2015, In : *Materials Science and Engineering C: Materials for Biological Applications*. 56, p. 457-466 10 p., 5584.

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

Improving the thermal performance of concrete-sandwich envelopes in relation to the moisture behaviour of building structures in boreal conditions

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

Improving the toughness of thermally sprayed Cr₃C₂-NiCr hardmetal coatings by laser post-treatment

Janka, L., Norpoth, J., Eicher, S., Rodríguez Ripoll, M. & Vuoristo, P., 15 May 2016, In : *Materials and Design*. 98, p. 135-142 8 p.

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

Influence of specimen type and reinforcement on measured tension-tension fatigue life of unidirectional GFRP laminates

Korkiakoski, S., Brøndsted, P., Sarlin, E. & Saarela, O., 1 Apr 2016, In : *International Journal of Fatigue*. 85, p. 114-129 16 p.

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

Investigating the kinetics and biofuel properties of *Alstonia congensis* and *Ceiba pentandra* via torrefaction

Oluoti, K., Doddapaneni, T. R. K. C. & Richards, T., 1 May 2018, In : *Energy*. 150, p. 134-141 8 p.

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Investigation on positioning control strategy and switching optimization of an equal coded digital valve system

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

Käyräviivaiset koordinaatitot kontinuumimekaniikassa

Holopainen, S., 2020, In : Rakenteiden Mekaniikka. 53, 2, p. 53-66 14 p.

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

Kinetics and thermochemistry of the reaction of 3-methylpropargyl radical with molecular oxygen

Pekkanen, T. T., Timonen, R. S., Lendvay, G., Rissanen, M. P. & Eskola, A. J., 1 Jan 2019, In : PROCEEDINGS OF THE COMBUSTION INSTITUTE. 37, 1, p. 299-306 8 p.

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

Kirigami-Based Light-Induced Shape-Morphing and Locomotion

Cheng, Y. C., Lu, H. C., Lee, X., Zeng, H. & Priimagi, A., 2019, In : Advanced Materials. 1906233.

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

Less Is More: Enhancement of Second-Harmonic Generation from Metasurfaces by Reduced Nanoparticle Density

Czaplicki, R., Kiviniemi, A., Huttunen, M. J., Zang, X., Stolt, T., Vartiainen, I., Butet, J., Kuittinen, M., Martin, O. J. F. & Kauranen, M., 12 Dec 2018, In : Nano Letters. 18, 12, p. 7709-7714 6 p.

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

Light Robots: Bridging the Gap between Microrobotics and Photomechanics in Soft Materials

Zeng, H., Wasylyczyk, P., Wiersma, D. S. & Priimagi, A., 2018, In : Advanced Materials. 30, 24, 1703554.

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

Lithography-free oxide patterns as templates for self-catalyzed growth of highly uniform GaAs nanowires on Si(111)

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

Low temperature afterglow from SrAl₂O₄: Eu, Dy, B containing glass

Vitola, V., Lahti, V., Bite, I., Spustaka, A., Millers, D., Lastusaari, M., Petit, L. & Smits, K., 2020, In : Scripta Materialia. 190, p. 86-90 5 p.

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

Luminescence of Er³⁺ doped oxyfluoride phosphate glasses and glass-ceramics

Nommeots-Nomm, A., Boetti, N. G., Salminen, T., Massera, J., Hokka, M. & Petit, L., 30 Jun 2018, In : Journal of Alloys and Compounds. 751, p. 224-230 7 p.

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Mass balance control of crushing circuits

Itävuo, P., Hulthén, E., Yahyaei, M. & Vilkkö, M., May 2019, In : Minerals Engineering. 135, p. 37-47 11 p.

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

Measured energy consumption of educational buildings in a Finnish city

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Mechanically Switchable Elastomeric Microfibrillar Adhesive Surfaces for Transfer Printing

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Multicriteria selection in concept design of a divertor remote maintenance port in the EU DEMO reactor using an AHP participative approach

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Multi-sensor next-best-view planning as matroid-constrained submodular maximization

Lauri, M., Pajarinen, J., Peters, J. & Frintrop, S., 2020, In : IEEE Robotics and Automation Letters. 5, 4, p. 5323-5330 8 p.

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Naturally occurring amino acids: A suitable substitute of N-N/-di-phenyl guanidine (DPG) in silica tyre formulation?

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New design of textile light diffusers for photodynamic therapy

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Noncovalent functionalization of reduced graphene oxide with pluronic F127 and its nanocomposites with gum arabic

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Nonlinear model predictive energy management of hydrostatic drive transmissions

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

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

Observation of Coexistence of Yu-Shiba-Rusinov States and Spin-Flip Excitations

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On the effect of deformation twinning and microstructure to strain hardening of high manganese austenitic steel 3D microstructure aggregates at large strains

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Optical interference lithography using azobenzene-functionalized polymers for micro-and nanopatterning of silicon

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Optimised selection of new protective coatings for biofuel boiler applications

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Optimizing ammonium adsorption on natural zeolite for wastewaters with high loads of ammonium and solids

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Persistent luminescent borosilicate glasses using direct particles doping method

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

Phosphate/oxyfluorophosphate glass crystallization and its impact on dissolution and cytotoxicity

Nommeots-Nomm, A., Houaoui, A., Pradeepan Packiyathanar, A., Chen, X., Hokka, M., Hill, R., Pauthe, E., Petit, L., Boissière, M. & Massera, J., 2020, In : Materials Science and Engineering C. 117, 15 p., 111269.

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Pneumatic unidirectional cell stretching device for mechanobiological studies of cardiomyocytes

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Potential of renewable fuel to reduce diesel exhaust particle emissions

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

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

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Probabilistic approach to physical object disentangling

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

Redox-active, organometallic surface-relief gratings from azobenzene-containing polyferrocenylsilane block copolymers

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

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

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Second-Harmonic Generation from Metal Nanoparticles: Resonance Enhancement versus Particle Geometry

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

Second-harmonic generation imaging of semiconductor nanowires with focused vector beams

Bautista, G., Mäkitalo, J., Chen, Y., Dhaka, V., Grasso, M., Karvonen, L., Jiang, H., Huttunen, M. J., Huhtio, T., Lipsanen, H. & Kauranen, M., 6 Feb 2015, In : Nano Letters. 15, 3, p. 1564-1569 6 p.

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Self-alignment in the stacking of microchips with mist-induced water droplets

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Self-alignment of RFID dies on four-pad patterns with water droplet for sparse self-assembly

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Shape-dependent plasmonic response and directed self-assembly in a new semiconductor building block, indium-doped cadmium oxide (ICO)

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Shedding frequency in cavitation erosion evolution tracking

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Smart Skins: Could they be the ultimate sensing tool? Today's uFFFDs industry and personal medical care both strongly demand accurate, reliable, robust, low

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Soft robotic gripper with compliant cell stacks for industrial part handling

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Solvothermal synthesis derived Co-Ga codoped ZnO diluted magnetic degenerated semiconductor nanocrystals

Šutka, A., Käämbre, T., Joost, U., Kooser, K., Kook, M., Duarte, R. F., Kisand, V., Maiorov, M., Döbelin, N. & Smits, K., 30 Sep 2018, In : Journal of Alloys and Compounds. 763, p. 164-172 9 p.

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Spodumene tailings for porcelain and structural materials: Effect of temperature (1050–1200°C) on the sintering and properties

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Spontaneous formation of three-dimensionally ordered Bi-rich nanostructures within GaAs_{1-x}Bi_x/GaAs quantum wells

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

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Statistical analysis of E-jet print parameter effects on Ag-nanoparticle ink droplet size

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

Synchronous Full-Field Strain and Temperature Measurement in Tensile Tests at Low, Intermediate and High Strain Rates

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Syndecan-4 tunes cell mechanics by activating the kindlin-integrin-RhoA pathway

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Tailoring Second-Harmonic Emission from (111)-GaAs Nanoantennas

Sautter, J. D., Xu, L., Miroschnichenko, A. E., Lysevych, M., Volkovskaya, I., Smirnova, D. A., Camacho-Morales, R., Zangeneh Kamali, K., Karouta, F., Vora, K., Tan, H. H., Kauranen, M., Staude, I., Jagadish, C., Neshev, D. N. & Rahmani, M., 12 Jun 2019, In : Nano Letters. 19, 6, p. 3905-3911 7 p.
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Techno-economic evaluation of integrating torrefaction with anaerobic digestion

Doddapaneni, T. R. K. C., Praveenkumar, R., Tolvanen, H., Rintala, J. & Kontinen, J., 2018, In : Applied Energy. 213, p. 272-284 13 p.
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The correlation between gear contact friction and ball on disc friction measurements

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

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The effect of initial microstructure on the final properties of press hardened 22MnB5 steels

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The effect of phosphorous and arsenic on the fracture behaviour of a 2,25% Cr-1% Mo Steel

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

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The potential of electric trucks – An international commodity-level analysis

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Thermal, structural and in vitro dissolution of antimicrobial copper-doped and slow resorbable iron-doped phosphate glasses

Mishra, A., Petit, L., Pihl, M., Andersson, M., Salminen, T., Rocherullé, J. & Massera, J., 2017, In : Journal of Materials Science. 52, 15, p. 8957–8972 16 p.

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The role of niobium in improving toughness and corrosion resistance of high speed steel laser hardfacings

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

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TOpt: a flexible framework for optimising energy management for various ship machinery topologies

Jaurola, M., Hedin, A., Tikkanen, S. & Huhtala, K., 2018, In : Journal of Marine Science and Technology (Japan).

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Toward the Atomically Abrupt Interfaces of SiO₂/Semiconductor Junctions

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Transfer printing of metallic microstructures on adhesion-promoting hydrogel substrates

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Transparent microelectrode arrays fabricated by ion beam assisted deposition for neuronal cell in vitro recordings

Ryynänen, T., Mzezewa, R., Meriläinen, E., Hyvärinen, T., Lekkala, J., Narkilahti, S. & Kallio, P., 1 May 2020, In : Micromachines. 11, 5, 497.

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

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

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Ultrafast Processing of Hierarchical Nanotexture for a Transparent Superamphiphobic Coating with Extremely Low Roll-Off Angle and High Impalement Pressure

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

Vapor Phase Fabrication of Nanoheterostructures Based on ZnO for Photoelectrochemical Water Splitting

Barreca, D., Carraro, G., Gasparotto, A., Maccato, C., Altantzis, T., Sada, C., Kaunisto, K., Ruoko, T-P. & Bals, S., 2017, In : *Advanced Materials Interfaces*. 4, 18, 1700161.

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

Variable speed digital hydraulic transformer-based servo drive

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

Variable speed drive with hydraulic boost

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Viewpoint: Pavlovian Materials—Functional Biomimetics Inspired by Classical Conditioning

Zhang, H., Zeng, H., Priimägi, A. & Ikkala, O., 2020, In : *Advanced Materials*. 9 p., 1906619.

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

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

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

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Research output: Contribution to journal › Article › Scientific

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

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Research output: Contribution to journal › Article › Scientific