

**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

**Slurry and dry particle erosion wear properties of WC-10Co4Cr and Cr<sub>3</sub>C<sub>2</sub>-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

**A comparison of five optical surface topography measurement methods**

Mettänen, M. & Hirn, U., 1 Jan 2015, In : TAPPI Journal. 14, 1, p. 27-38 12 p.

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

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

Juoksukangas, J., Lehtovaara, A. & Mäntylä, A., 1 Oct 2016, In : Proceedings of the institution of Mechanical Engineers Part J: Journal of Engineering Tribology. 230, 10, p. 1273-1287 15 p.

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

**Adaptive and nonlinear control of discharge pressure for variable displacement axial piston pumps**

Koivumäki, J. & Mattila, J., 1 Oct 2017, In : Journal of Dynamic Systems, Measurement and Control: Transactions of the ASME. 139, 10, 101008.

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

**A fractional representation approach to the robust regulation problem for SISO systems**

Laakkonen, P. & Quadrat, A., 1 May 2017, In : Systems and Control Letters. 103, p. 32-37 6 p.

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

**Analysing traffic fluency from bus data**

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

**Analysis of common rail pressure signal of dual-fuel large industrial engine for identification of injection duration of pilot diesel injectors**

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

**Analysis of thermo-active pile structures and their performance under groundwater flow conditions**

Gashti, E. H. N., Malaska, M. & Kujala, K., 11 Aug 2015, In : Energy and Buildings. 105, p. 1-8 8 p.

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

**An Artificial Nocturnal Flower via Humidity-Gated Photoactuation in Liquid Crystal Networks**

Wani, O. M., Verpaalen, R., Zeng, H., Priimagi, A. & Schenning, A. P. H. J., Jan 2019, In : Advanced Materials. 31, 2, 1805985.

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

**A near-infrared optoelectronic approach to detection of road conditions**

Colace, L., Santoni, F. & Assanto, G., May 2013, In : Optics and Lasers in Engineering. 51, 5, p. 633-636 4 p.

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

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

Schoeppner, R. L., Mohanty, G., Polyakov, M. N., Petho, L., Maeder, X. & Michler, J., 2020, In : Materials and Design. 195, 9 p., 108907.

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

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

Sanchez-Guevara, C., Núñez Peiró, M., Taylor, J., Mavrogianni, A. & Neila González, J., 1 May 2019, In : Energy and Buildings. 190, p. 132-143 12 p.

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**Assessment of pitting corrosion in bare and passivated (wet scCO<sub>2</sub>-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.

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**Asymptotics and approximation of large systems of ordinary differential equations**

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**Avoiding the high friction peak in fretting contact**

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**Barkhausen noise response of three different welded duplex stainless steels**

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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. & Carpén, L., 2019, In : Tribology International. 129, p. 257-271 15 p.

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

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

Vuornos, K., Ojansivu, M., Koivisto, J. T., Häkkänen, H., Belay, B., Montonen, T., Huhtala, H., Kääriäinen, M., Hupa, L., Kellomäki, M., Hyttinen, J., Ihalainen, J. A. & Miettinen, S., 1 Jun 2019, In : Materials Science and Engineering C. 99, p. 905-918 14 p.

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

Olin, M. & Dal Maso, M., 2020, In : Journal of Aerosol Science. 150, 10 p., 105618.

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

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

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**Characterization of the microstructure and corrosion performance of Ce-alloyed Nd-Fe-B magnets**

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

**Chemically tailored dielectric-to-metal transition for the design of metamaterials from nanoimprinted colloidal nanocrystals**  
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**Chemical synthesis of WC-Co from water-soluble precursors: The effect of carbon and cobalt additions to WC synthesis**  
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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**

Belardini, A., Leahu, G., Petronijevic, E., Hakkarainen, T., Koivusalo, E., Piton, M. R., Talmila, S., Guina, M. & Sibilica, C., 1 Feb 2020, In : Micromachines. 11, 2, p. 1-8 8 p.

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**Co-electrospun blends of PU and PEG as potential biocompatible scaffolds for small-diameter vascular tissue engineering**

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**Comparative environmental impacts of additive and subtractive manufacturing technologies**

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**Computational design of a novel medium-carbon, low-alloy steel microalloyed with niobium**

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**Conductivity control via minimally invasive anti-Frenkel defects in a functional oxide**

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**Conjugated Heat Transfer Simulation of a Fin-and-Tube Heat Exchanger**

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**Consideration of energy consumption, energy costs, and space occupancy in Finnish daycare centres and school buildings**

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**Controlling liquid spreading using microfabricated undercut edges**

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**Corrosion mechanisms of sintered Nd-Fe-B magnets in the presence of water as vapour, pressurised vapour and liquid**  
Isotahdon, E., Huttunen-Saarivirta, E., Heinonen, S., Kuokkala, V. T. & Paju, M., 25 Mar 2015, In : Journal of Alloys and Compounds. 626, p. 349-359 11 p.

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**Cost optimal and nearly zero (nZEB) energy performance calculations for residential buildings with REHVA definition for nZEB national implementation**

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**Defined-size DNA triple crossover construct for molecular electronics: Modification, positioning and conductance properties**

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**Deposition of dry particles on a fin-and-tube heat exchanger by a coupled soft-sphere DEM and CFD**

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**Detection beyond Debye's length with an electrolyte-gated organic field-effect transistor**

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

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**Development of expanded graphite filled natural rubber vulcanizates in presence and absence of carbon black: Mechanical, thermal and morphological properties**

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**Differential basal-to-apical accessibility of lamin A/C epitopes in the nuclear lamina regulated by changes in cytoskeletal tension**

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**Digital hydraulic multi-pressure actuator – the concept, simulation study and first experimental results**

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**Dissolution, bioactivity and osteogenic properties of composites based on polymer and silicate or borosilicate bioactive glass**

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#### **Divertor remote handling for DEMO: Concept design and preliminary FMECA studies**

Carfora, D., Di Gironimo, G., Järvenpää, J., Huhtala, K., Määttä, T. & Siuko, M., 9 Jul 2015, In : Fusion Engineering and Design. 98-99, p. 1437-1441 5 p.

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#### **Do properties of bioactive glasses exhibit mixed alkali behavior?**

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#### **Dynamic speckle analysis with smoothed intensity-based activity maps**

Stoykova, E., Berberova, N., Kim, Y., Nazarova, D., Ivanov, B., Gotchev, A., Hong, J. & Kang, H., 1 Jun 2017, In : Optics and Lasers in Engineering. 93, p. 55-65 11 p.

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#### **Effect of energy measures on the values of energy efficiency indicators in Finnish daycare and school buildings**

Sekki, T., Airaksinen, M. & Saari, A., 15 Mar 2017, In : Energy and Buildings. 139, p. 124-132 9 p.

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

Haiko, O., Miettunen, I., Porter, D., Ojala, N., Ratia, V., Heino, V. & Kemppainen, A., 2017, In : Tribologia. 35, 1-2, p. 5-21 17 p.

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

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

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#### **Effects of strain rate and confining pressure on the compressive behavior of Kuru granite**

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#### **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**

Thomas, K., Mohanty, G., Wehrs, J., Taylor, A. A., Pathak, S., Casari, D., Schwiedrzik, J., Mara, N., Spolenak, R. & Michler, J., 15 Aug 2019, In : Journal of Materials Science. 54, 15, p. 10884-10901 18 p.

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#### **Employing Knowledge on Causal Relationship to Assist Multidisciplinary Design Optimization**

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**Enhanced multiaxial fatigue criterion that considers stress gradient effects**

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

**Enhanced resonant nonlinear absorption and optical limiting in Er<sup>3+</sup> ions doped multicomponent tellurite glasses**

Sajna, M. S., Perumbilavil, S., Prakashan, V. P., Sanu, M. S., Joseph, C., Biju, P. R. & Unnikrishnan, N. V., 1 Aug 2018, In : Materials Research Bulletin. 104, p. 227-235 9 p.  
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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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**Erosive-abrasive wear behavior of carbide-free bainitic and boron steels compared in simulated field conditions**

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**Estimation of the largest expected photovoltaic power ramp rates**

Lappalainen, K., Wang, G. C. & Kleissl, J., 15 Nov 2020, In : Applied Energy. 278, 13 p., 115636.  
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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 and numerical investigation of fretting fatigue behavior in bolted joints**

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**Experimental and numerical study of wall layer development in a tribocharged fluidized bed**

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**Experimental study on the behavior of wear resistant steels under high velocity single particle impacts**

Lindroos, M., Apostol, M., Kuokkala, V. T., Laukkanen, A., Valtonen, K., Holmberg, K. & Oja, O., 2015, In : International Journal of Impact Engineering. 78, p. 114-127 14 p.  
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**Fabrication of a sub-10 nm silicon nanowire based ethanol sensor using block copolymer lithography**

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**Feed-hopper level estimation and control in cone crushers**

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

#### **FEM-based wear simulation for fretting contacts**

Mäntylä, A., Juoksukangas, J., Hintikka, J., Frondelius, T. & Lehtovaara, A., 2020, In : Rakenteiden Mekaniikka. 53, 1, p. 20-27 8 p.

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#### **Fe<sub>2</sub>O<sub>3</sub>-TiO<sub>2</sub> Nano-heterostructure Photoanodes for Highly Efficient Solar Water Oxidation**

Bañreca, 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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#### **Fin-and-tube heat exchanger enhancement with a combined herringbone and vortex generator design**

Välikangas, T., Singh, S., Sørensen, K. & Condra, T., 2018, In : International Journal of Heat and Mass Transfer. 118, p. 602-616 15 p.

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#### **Fluorine losses in Er<sup>3+</sup> oxyfluoride phosphate glasses and glass-ceramics**

Szczodra, A., Mardoukhi, A., Hokka, M., Boetti, N. G. & Petit, L., 15 Aug 2019, In : Journal of Alloys and Compounds. 797, p. 797-803 7 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.

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

Mohammed, W. M., Ramis Ferrer, B., Iarovyj, S., Negri, E., Fumagalli, L., Lobov, A. & Martinez Lastra, J. L., 4 Mar 2018, In : International Journal of Computer Integrated Manufacturing. p. 1-13 13 p.

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#### **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

#### **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**

Lisjak, D., Lintunen, P., Hujanen, A., Varis, T., Bolelli, G., Lusvarghi, L., Jagodič, M. & Drogenik, M., 15 Feb 2011, In : Materials Letters. 65, 3, p. 534-536 3 p.

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#### **Highly conducting polychloroprene composites based on multi-walled carbon nanotubes and 1-butyl 3-methyl imidazolium bis(trifluoromethylsulphonyl)imide**

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

Tzounis, L., Debnath, S., Rooj, S., Fischer, D., Mäder, E., Das, A., Stamm, M. & Heinrich, G., 2014, In : *Materials and Design*. 58, p. 1-11 11 p.

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Koivusalo, L., Karvinen, J., Sorsa, E., Jönkkäri, I., Väliäho, J., Kallio, P., Ilmarinen, T., Miettinen, S., Skottman, H. & Kellomäki, M., Apr 2018, In : *Materials Science and Engineering C*. 85, p. 68-78 11 p.

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

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

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

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**Improving the toughness of thermally sprayed Cr<sub>3</sub>C<sub>2</sub>-NiCr hardmetal coatings by laser post-treatment**

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

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**Kirigami-Based Light-Induced Shape-Morphing and Locomotion**

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

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**Potential of renewable fuel to reduce diesel exhaust particle emissions**

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