

1. C. Pauly, K. Woll, I. Gallino, M. Stüber, H. Leiste, R. Busch, F. Mücklich
Ignition in ternary Ru/Al-based reactive multilayers – Effects of chemistry and stacking sequence
(2018) *Journal of Applied Physics*, 124, 195301
DOI: 10.1063/1.5046452
2. C. De Melo Sánchez, M. Julien, J. Ghanbaja, F. Montaigne, J.-F. Pierson, F. Soldera, F. Rigoni, N. Almqvist, A. Vomiero, F. Mücklich, D. Horwat
Local structure and point defects-dependent area-selective atomic layer deposition approach for facile synthesis of p-Cu₂O/n-ZnO segmented nano-junctions
(2018) *ACS Applied Materials & Interfaces*
DOI: 10.1021/acsami.8b12584
3. Y. Wang, J. Ghanbaja, F. Soldera, P. Boulet, D. Horwat, F. Mücklich, J.-F. Pierson
Local homoepitaxial growth in sputtered NiO thin films: An effective approach to tune the crystallization, preferred growth orientation, and electrical properties
(2018) *Phys. Status Solidi*, 12, 1800191
DOI: 10.1002/pssr.201800191
4. H. Aboulfadl, F. Seifried, M. Stübner, F. Mücklich
Interdiffusion in as-deposited Ni/Ti multilayer thin films analyzed by atom probe tomography
(2018) *Materials Letters*, 236, pp. 92-95
DOI: 10.1016/j.matlet.2018.10.085
5. M. A. Guitar, S. Suárez, O. Prat, M. Duarte Guigoi, V. Gari, G. Pereira, F. Mücklich
High Chromium Cast Irons: Destabilized-Subcritical Secondary Carbide Precipitation and its Effect on Hardness and Wear Properties
(2018) *Journal of Materials Engineering and Performance*, 27, pp. 3877-3885
DOI: 10.1007/s11665-018-3347-1
6. M. A. Guitar, A. Scheid, S. Suárez, D. Britz, M. Duarte Guigou, F. Mücklich
Secondary carbides in high chromium cast irons: An alternative approach to their morphological and spatial distribution characterization
(2018) *Materials Characterization* 144, pp. 621-630
DOI: 10.1016/j.matchar.2018.08.020
7. F. Mücklich, M. Engstler, D. Britz, J. Gola
Serial Sectioning Techniques – a Versatile Method for Three-Dimensional Microstructural Imaging
(2018) *Practical Metallography*, 55, 8, pp. 569
DOI: 10.3139/147.110535
8. Giba, P. Pigeat, S. Bruyère, H. Rinnert, F. Soldera, F. Mücklich, D. Horwat
From Blue to White Luminescence in Cerium-Doped Aluminum Oxynitride: Electronic Structure and Local Chemistry Perspectives
(2018) *The Journal of Physical Chemistry*
DOI: 10.1021/acs.jpcc.8b06992
9. J. Weibel, J. Gola, D. Britz, F. Mücklich
A new analysis approach based on Haralick texture features for the characterization of microstructure on the example of low-alloy steels
(2018) *Materials Characterization*, 144, 10, pp. 584 - 596
DOI: 10.1016/j.matchar.2018.08.009
10. F. Forouzan, M. A. Guitar, E. Vuorinen, F. Mücklich
Effect of carbon partitioning, carbide precipitation, and grain size on brittle fracture of ultra-high-strength, low carbon steel after welding by a quenching and partitioning process
(2018) *Metals*, 8
DOI: 10.3390/met8100747

11. S. Fang, F. Soldera, A. Rosenkranz, T. Herrmann, D. Bähre, L. Llanes, F. Mücklich
Microstructural and Metallurgical Assessment of the Laser-Patterned Cemented Tungsten Carbide (WC-CoNi)
(2018) *Procedia Manufacturing*, 26, pp. 198-204
DOI: 10.1016/j.promfg.2018.07.027
12. K. Khurana, F. Müller, K. Jacobs, T. Faidt, J.-U. Neurohr, S. Grandthyll, F. Mücklich, C. Canal, M. Pau Ginebra
Plasma polymerized bioceramics for drug delivery: Do surface changes alter biological behaviour?
(2018) *European Polymer Journal*, 107, pp. 25-33
DOI: 10.1016/j.eurpolymj.2018.07.016
13. P. Grützmacher, A. Rosenkranz, A. Szurdak, F. König, G. Jacobs, G. Hirt, F. Mücklich
From lab to application – Improved frictional performance of journal bearings induced by single- and multi-scale surface patterns
(2018) *Tribology International*, 127, pp. 500-508
DOI: 10.1016/j.triboint.2018.06.036
14. E. Roitero, M. Anglada, F. Mücklich, E. Jiménez-Piqué
Mechanical reliability of dental grade zirconia after laser patterning
(2018) *Journal of the Mechanical Behavior of Biomedical Materials*, 86, pp. 257-263
DOI: 10.1016/j.jmbbm.2018.06.039
15. L. Zea, Z. Nisar, P. Rubin, M. Cortesao, J. Luo, S. A. McBride, R. Moeller, D. Klaus, D. Müller, K. K. Varanasi, F. Mücklich, L. Stodieck
Design of a spaceflight biofilm experiment
(2018) *Acta Astronautica*, 148, pp. 294-300
DOI: 10.1016/j.actaastro.2018.04.039
16. L. Reinert, I. Green, S. Gimmler, B. Lechthaler, F. Mücklich, S. Suárez
Tribological behavior of self-lubricating carbon nanoparticle reinforced metal matrix composites
(2018) *Wear*, 408-409, pp. 72-85
DOI: 10.1016/j.wear.2018.05.003
17. C. Schäfer, L. Reinert, T. MacLucas, P. Grützmacher, R. Merz, F. Mücklich, S. Suárez
Influence of surface design on the solid lubricity of carbon nanotubes-coated steel surfaces
Tribology letters 2018, pp. 66-89
DOI: 10.1007/s11249-018-1044-8
18. J. Gola, D. Britz, T. Staudt, M. Winter, A. S. Schneider, M. Ludovici, F. Mücklich
Advanced Microstructure Classification by Data Mining Methods
(2018) *Computational Materials Science*, 148, pp. 324-335.
DOI: 10.1016/j.commatsci.2018.03.004
19. L. Reinert, M. Varenberg, F. Mücklich, S. Suárez
Dry friction and wear of self-lubricating carbon nanotube-containing surfaces
(2018) *Wear*, 406-407, pp. 33-42
DOI: 10.1016/j.wear.2018.03.021
20. I. El Azhari, J. Garcia, M. Zamanzade, F. Soldera, C. Pauly, L. Llanes, F. Mücklich
Investigations on micro-mechanical properties of polycrystalline Ti(C,N) and Zr(C,N) coatings
(2018) *Acta Materialia*, 149, pp. 364-376
DOI: 10.1016/j.actamat.2018.02.053
21. M. Linz, M. Rodríguez Ripoll, C. Pauly, J. Bernardi, A. Steiger-Thirsfeld, F. Franek, F. Mücklich, C. Gachot
Heterogeneous Strain Distribution and Saturation of Geometrically Necessary Dislocations in a Ferritic–Pearlitic Steel during Lubricated Sliding
(2018) *Advanced Engineering Materials*, Wiley Online Library
DOI: 10.1002/adem.201700810

22. S. M. Azimi, D. Britz, M. Engstler, M. Fritz, F. Mücklich
Advanced Steel Microstructural Classification by Deep Learning Methods
(2018) *Scientific Reports*, 8, 1, 2128
DOI: 10.1038/s41598-018-20037-5
23. E. Roitero, M. Ochoa, M. Anglada, F. Mücklich, E. Jiménez-Piqué
Low Temperature Degradation of Laser Patterned 3Y-TZP: Enhancement of Resistance after Thermal Treatment
(2018) *Journal of the European Ceramic Society*, 38, pp. 1742-1749
DOI: 10.1016/j.jeurceramsoc.2017.10.044
24. K. Aristizabal, A. Katzensteiner, A. Bachmaier, F. Mücklich, S. Suárez
On the Reinforcement Homogenization in CNT/Metal Matrix Composites during Severe Plastic Deformation
(2018) *Materials Characterization*, 136, pp. 375-381
DOI: 10.1016/j.matchar.2018.01.007
25. L. Reinert, S. Schütz, S. Suárez, F. Mücklich
Influence of Surface Roughness on the Lubrication Effect of Carbon Nanoparticle-Coated Steel Surfaces
(2018) *Tribol. Lett.*, 66, 45
DOI: 10.1007/s11249-018-1001-6
26. S. Fang, C.-J. Hsu, S. Klein, L. Llanes, D. Bähre, F. Mücklich
Influence of Laser Pulse Number on the Ablation of Cemented Tungsten Carbides (WC-CoNi) with Different Grain Size
(2018) *Lubricants*, 6, 1, 11
DOI: 10.3390/lubricants6010011
27. B. Reinsch, S. Nufer, F. Soldera, F. Mücklich
Metallographic Evaluation of Selective Oxidation for the Temperature Measurement on Spark Plug Electrodes
(2018) *Practical Metallography*, 55, 1, pp. 19-36
DOI: 10.3139/147.110490
28. E. Ramos-Moore, P. Leibenguth, S. Slawik, S. Coelho, D. Horwat, S. Migot, B. Lechthaler, F. Mücklich
Estimation of residual stresses in perovskite films for capacitor applications
(2018) *Thin Solid Films*, 648, pp. 21-25
DOI: 10.1016/j.tsf.2018.01.011
29. A.E. Giba, P. Pigeat, S. Bruyere, H. Rinnert, F. Mücklich, R. Gago, D. Horwat
Ultraviolet optical excitation of near infrared emission of Yb-doped crystalline aluminum oxynitride thin films
(2018) *J. Appl. Phys.* 124 33102
DOI: 10.1063/1.5040340
30. M. Cortesao, C. Hellweg, R. Hemmersbach, R. Moeller, F. Mücklich, Z. Nisar, J. Luo, L. Zea, D. Mueller, P. Rubin
Biofilm in Space (BFS): designing a spaceflight experiment
(2018) *Cosp.* 42 F4--4
31. T. MacLucas, S. Schütz, S. Suarez, F. Mücklich
Surface protection of austenitic steels by carbon nanotube coatings
(2018) *Surf. Topogr. Metrol. Prop.* 6 14005
DOI: 10.1088/2051-672X/aab145

32. T. Herzog, M. Sartison, S. Kolatschek, S. Hepp, A. Bommer, C. Pauly, F. Mücklich, C. Becher, M. Jetter, S. L. Portalupi, P. Michler
Pure single-photon emission from In (Ga) As QDs in a tunable fiber-based external mirror microcavity
(2018) *Quantum Sci. Technol.* 3 34009
DOI: 10.1088/2058-9565/aac64d
33. P. G. Grützmacher, A. Rosenkranz, A. Szurdak, C. Gachot, G. Hirt, F. Mücklich
Effects of multi-scale patterning on the run-in behavior of steel--alumina pairings under lubricated conditions
(2018) *Adv. Eng. Mater.* 20 1700521
DOI: 10.1002/adem.201700521
34. P. G. Grützmacher, A. Rosenkranz, E. Atalay, A. Szurdak, C. Gachot, G. Hirt, F. Mücklich
Guiding lubricant on stainless steel surfaces by channel-like structures fabricated by roller-and micro-coining
(2018) *Phys. A Stat. Mech. Its Appl.* 505 482– 489
DOI: 10.1016/j.physa.2018.03.035
35. D. Britz, J. Webel, J. Gola, Y. Steimer, F. Mücklich
Practical Metallography of Low Carbon Steels--New approaches in Preparation, Imaging and Analysis of Microstructures
(2018) *Microsc. Microanal.* 24 2226–2227
DOI: 10.1017/S1431927618011613
36. K. Siems, D. Müller, F. Mücklich, E. Grohmann, R. L. Mancinelli, J. Krause, R. Demets, N. Caplin, A. Koehler, A. Tortora, R. Hemmersbach, C. E. Hellweg, R. Moeller
Copper kills microbes-the microbial struggle addressed in the upcoming ESA space experiment BIOFILMS
(2018) EANA 2018
https://elib.dlr.de/124510/1/ME-SBA-2018-Siems-Hemmersbach-Hellweg-EANA2018_AbstractBook.pdf
37. C. Hahn, M. Hans, C. Hein, A. Dennstedt, F. Mücklich, P. Rettberg, C. E. Hellweg, L. I. Leichert, C. Rensing, R. Moeller
Antimicrobial properties of ternary eutectic aluminum alloys
(2018) *Biometals.* 31 759–770
DOI: 10.1007/s10534-018-0119-1
38. P. G. Grützmacher, A. Rosenkranz, A. Szurdak, C. Gachot, G. Hirt, F. Mücklich
Lubricant migration on stainless steel induced by bio-inspired multi-scale surface patterns
(2018) *Mater. Des.* 150 55–63
DOI: 10.1016/j.matdes.2018.04.035
39. A. E. Giba, Advisor: F. Mücklich
Rare earth-doped aluminum nitride thin films for optical applications
(2018)
DOI: 10.22028/D291-27059
40. A. Rosenkranz, A. Szurdak, P. G. Grützmacher, G. Hirt, F. Mücklich
Friction reduction induced by elliptical surface patterns under lubricated conditions
(2018) *Adv. Eng. Mater.* 20 1700731
DOI: 10.1002/adem.201700731
41. S. Suarez, L. Reinert, M. Zeiger, P. Miska, S. Grandthyll, F. Müller, V. Presser, F. Mücklich
In-situ nanodiamond to carbon onion transformation in metal matrix composites
(2018) *Carbon N. Y.* 129 631–636
DOI: 10.1016/j.carbon.2017.12.072