

List of publications

Univ.-Prof. Dr.-Ing. habil. Dipl.-Phys. Matthias Hackert-Oschätzchen

Standardisations

VDE SPEC 90028 V1.0 (de): *Methode zur Erstellung digitaler Zwillinge von Prozessenergiequellen für das elektrochemische Präzisionsabtragen*

DIN SPEC 91481:2024-02: *Classification of recycled plastics of polyamides by Data Quality Levels for use and (digital) trading*

<https://dx.doi.org/10.31030/3515186>

DIN SPEC 17028:2021-04: *Additive Fertigung - Methode zur zerstörungsfreien Ermittlung von mechanischen Eigenschaften von additiv gefertigten Kunststoffteilen*

<https://dx.doi.org/10.31030/3244819>

DIN SPEC 91399:2018-12: *Methode zur Bestimmung von Prozesseingangsgrößen für das elektrochemische Präzisionsabtragen - Anforderungen, Kriterien, Festlegungen*

<https://dx.doi.org/10.31030/3007935>

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V. Artiushenko, S. Lang, C. Lerez, T. Reggelin, **M. Hackert-Oschätzchen**: *Resource-efficient Edge AI solution for predictive maintenance*, *Procedia Computer Science*, 232, 2024
[10.1016/j.procs.2024.01.034](https://doi.org/10.1016/j.procs.2024.01.034)

A. Riefer, **M. Hackert-Oschätzchen**, P. Plänitz, G. Meichsner: *Characterization of iron(III) in aqueous and alkaline environments with ab initio and ReaxFF potentials*, *The Journal of Chemical Physics*, 160, 2024

<https://dx.doi.org/10.1063/5.0182460>

C. Michaelis, E. Koslowski, **M. Hackert-Oschätzchen**, A. Giese, C. Hamers, C. Schwarz: *Gas/hydrogen blends as fuel to produce secondary aluminium*, *International Aluminium Journal*, 1-2, 2024

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A. Martin, T. Berger, S. Loebel, R. Schulze, A. Thielecke, **M. Hackert-Oschätzchen**, A. Schubert: *Accuracy of pulsed electrochemical machining of NdFeB rotor magnets*, In: *Proceedings of the 19th International Symposium on Electrochemical Machining Technology*, Editors: D. Bähre, T. Hall, M. Zeiner, 2023

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J. Hülsmann, T. Fraune, B. Dodawatta, F. Reuter, M. Beutner, V. Beck, **M. Hackert-Oschätzchen**, C. D. Ohi, K. Bettenbrock, G. Janiga, J. Wippermann, M. Wacker: *Integrated biophysical matching of bacterial nanocellulose coronary artery bypass grafts towards bioinspired artery typical functions*, In: *Scientific Reports*, Volume 13, 2023

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A. Riefer, **M. Hackert-Oschätzchen**, G. Meichsner, P. Plänitz: *Derivation of parameter sets for the ReaxFF+ method for modeling an electrochemical machining process*, In: *Procedia CIRP*, Volume 117, 2023

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<https://doi.org/10.1016/j.procir.2023.03.039>

P. Damm, G. Meichsner, C. Lerez, **M. Hackert-Oschätzchen**: *Design of a user-friendly human machine interface for jet electrochemical machining*, In: *Materials research proceedings*, Volume 28, 2023

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A. Thielecke, G. Meichsner, **M. Hackert-Oschätzchen**: *Digital twin for the determination of process input variables for electrochemical precision machining according to DIN SPEC 91399*, In: *Materials research proceedings*, Volume 28, 2023

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- J. Döring, V. Voropai, A. Thielecke, O. Maiß, M. Müller, G. Meichsner, **M. Hackert-Oschätzchen**, J. Häberle, C. H. Lohmann, J. Bertrand: *Steigerung des Torsionswiderstands der Konussteckverbindung durch einen angepassten Fertigungsprozess der CoCrMo Hüftkugel*, In: 12. Kongress der Deutschen Gesellschaft für Biomechanik (DGfB), 2022
- J. Hülsmann, F. Reuter, M. Beutner, T. Fraune, V. Beck, M. Wacker, **M. Hackert-Oschätzchen**, C.-D. Ohl, K. Bettenbrock, M. Scherner, J. Wippermann: *Improving the Biofunctionality of Bacterial Nanocellulose Hydrogel Scaffolds by Bioprocessing Strategies*, In: 32nd Annual Conference of the European Society for Biomaterials (ESB), 2022
- J. Hülsmann, F. Reuter, M. Beutner, M. Wacker, **M. Hackert-Oschätzchen**, C.-D. Ohl, K. Bettenbrock, G. Janiga, M. P. Scherner, J. Wippermann: *How to optimize coronary artery bypass graft prosthesis based on bacterial nanocellulose*, In: 5th International Symposium on Bacterial Cellulose, 2022
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- I. Schaarschmidt, **M. Hackert-Oschätzchen**, G. Meichsner, P. Steinert, M. Zinecker, A. Schubert: *Working Gap Analysis in Electrochemical Precision Machining of External Geometries with Ring Cathodes*, In: Procedia CIRP, Volume 95, 2020
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- I. Danilov, R. Paul, **M. Hackert-Oschätzchen**, M. Zinecker, S. Quitzke, A. Schubert: *Random Sequential Simulation of the Resulting Surface Roughness in Plasma Electrolytic Polishing of Stainless Steel*, In: Procedia CIRP, Volume 95, 2020
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- T. Petzold, **M. Hackert-Oschätzchen**, A. Martin, A. Schubert: *Deburring and Edge Shaping by Electrochemical Machining with Differentially Switched Currents*, In: Proceedings of the 15th International Symposium on Electrochemical Machining Technology, Editors: D. Bähre, A. Ernst, 2019
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S. Loebel, **M. Hackert-Oschätzchen**, G. Meichsner, T. Petzold, M. Zinecker, A. Schubert: *Modelling of Precise Electrochemical Machining for Nickel-based Centrifugal Impellers*, In: Proceedings of the 15th International Symposium on Electrochemical Machining Technology, Editors: D. Bähre, A. Ernst, 2019
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V. Artiushenko, S. Lang, C. Lerez, T. Reggelin, **M. Hackert-Oschätzchen**: *Resource-efficient Edge AI solution for predictive maintenance*, 5th International Conference on Industry 4.0 and Smart Manufacturing (ISM), Lisbon, Portugal, 23.11.2023

A. Martin, T. Berger, S. Loebel, R. Schulze, A. Thielecke, **M. Hackert-Oschätzchen**, A. Schubert: *Accuracy of pulsed electrochemical machining of NdFeB rotor magnets*, 19th International Symposium on Electrochemical Machining Technology (INSECT), Saarbrücken, Germany, 14.11.2023

A. Riefer, **M. Hackert-Oschätzchen**, G. Meichsner, P. Plänitz: *Derivation of parameter sets for the ReaxFF+ method for modeling an electrochemical machining process*, 19th CIRP Conference on Modelling of Machining Operations (CMMO), Karlsruhe, Germany, 31.05.2023

A. Thielecke, **M. Hackert-Oschätzchen**, N. Komilov, G. Meichsner, T. Petzold, S. Loebel, A. Martin, R. Schulze, A. Schubert: *Simulation-based analysis of electrical current induction in electrochemical precision machining of Nd-Fe-B permanent magnets*, 19th CIRP Conference on Modelling of Machining Operations (CMMO), Karlsruhe, Germany, 31.05.2023

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- M. Yahyavi Zanjani, **M. Hackert-Oschätzchen**, A. Martin, A. Schubert: *Evaluation of On-Machine Gap Measurement Strategies in Jet-Electrochemical Machining*, 13th International Symposium on Electrochemical Machining Technology (INSECT), Dresden, Germany, 01.12.2017
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