

Publikationen aus der Technologieplattform »Leistungselektronik« der Forschungsfabrik Mikroelektronik Deutschland (2021)

- Vanselow F., Poongodan P., Sakolski O., Maurer L. (2021): A New Switching Scheme for High-Voltage Switched Capacitor DC-DC Converter. In: 2021 10th International Conference on Modern Circuits and Systems Technologies, MOCAS T 2021, Art.9493344 (Conference Paper). DOI:10.1109/MOCAS T52088.2021.9493344.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85112229442&doi=10.1109%2fMOCAS T52088.2021.9493344&partnerID=40&md5=ce76a20f991ef5e9180404fc01ac2a9d>
- Selbmann F., Baum M., Bobinger M., Gottwald M., Wiemer M., Kuhn H. (2021): Investigation of biocompatible Parylene as triboelectric layer for wearable energy harvesting. In: Current Directions in Biomedical Engineering, Vol.7, No.2, pp.771-774 (Article). DOI:10.1515/cdbme-2021-2197.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85121918446&doi=10.1515%2fcd bme-2021-2197&partnerID=40&md5=6047feeacdb8768c4a36318b3ef9c535>
- Mathew A., Dudek R., Otto A., Scherf C., Rzepka S., Subbiah N., Rane K.A., Wilde J. (2021): Lifetime modelling of sintered silver interconnected power devices by FEM and experiment. In: 2021 22nd International Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in Microelectronics and Microsystems, EuroSimE 2021, Art.9410877 (Conference Paper). DOI:10.1109/EuroSimE52062.2021.9410877.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85105600135&doi=10.1109%2fEuroSimE52062.2021.9410877&partnerID=40&md5=6b957e419518a91a49db40396d468dec>
- Selbmann F., Baum M., Bobinger M., Gottwald M., Wiemer M., Kuhn H. (2021): Investigation of biocompatible Parylene as triboelectric layer for wearable energy harvesting. In: Current Directions in Biomedical Engineering, Vol.7, No.2, pp.771-774 (Article). DOI:10.1515/cdbme-2021-2197.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85121918446&doi=10.1515%2fcd bme-2021-2197&partnerID=40&md5=6047feeacdb8768c4a36318b3ef9c535>
- Mathew A., Dudek R., Otto A., Scherf C., Rzepka S., Subbiah N., Rane K.A., Wilde J. (2021): Lifetime modelling of sintered silver interconnected power devices by FEM and experiment. In: 2021 22nd International Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in Microelectronics and Microsystems, EuroSimE 2021, Art.9410877 (Conference Paper). DOI:10.1109/EuroSimE52062.2021.9410877.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85105600135&doi=10.1109%2fEuroSimE52062.2021.9410877&partnerID=40&md5=6b957e419518a91a49db40396d468dec>
- Cancellara L., Markurt T., Schulz T., Albrecht M., Hagedorn S., Walde S., Weyers M., Washiyama S., Collazo R., Sitar Z. (2021): Role of oxygen diffusion in the dislocation reduction of epitaxial AlN on sapphire during high-temperature annealing. In: Journal of Applied Physics, Vol.130, No.20, Art.203101 (Article). DOI:10.1063/5.0065935.

Forschungsfabrik Mikroelektronik Deutschland – Leistungselektronik
Publikationen aus der Technologieplattform »Leistungselektronik« der Forschungsfabrik Mikroelektronik Deutschland (2021)

Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85120315326&doi=10.1063%2f5.0065935&partnerID=40&md5=1e55d68d7d6c3efd107d068b0df5ad30>

- Netzel C., Knauer A., Brunner F., Mogilatenko A., Weyers M. (2021): Temperature Dependence of Dark Spot Diameters in GaN and AlGaIn. In: *Physica Status Solidi (B) Basic Research*, Vol.258, No.11, Art.2100358 (Article). DOI:10.1002/pssb.202100358.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85114338699&doi=10.1002%2fpssb.202100358&partnerID=40&md5=174047380e459b739de4ea5a4db84db9>
- Paszuk A., Supplie O., Brückner S., Barrigón E., May M.M., Nandy M., Gieß A., Dobrich A., Kleinschmidt P., Rey-Stolle I., Hannappel T. (2021): Atomic surface control of Ge(100) in MOCVD reactors coated with (Ga)As residuals. In: *Applied Surface Science*, Vol.565, Art.150513 (Article). DOI:10.1016/j.apsusc.2021.150513.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85110163937&doi=10.1016%2fj.apsusc.2021.150513&partnerID=40&md5=f15d530b751281619b155797a6251078>
- Geng X., Kuring C., Wolf M., Hilt O., Wurfl J., Dleckerhoff S. (2021): Study on the Optimization of the Common Source Inductance for GaN Transistors. In: *2021 23rd European Conference on Power Electronics and Applications, EPE 2021 ECCE Europe (Conference Paper)*. DOI:.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85119065021&partnerID=40&md5=838dc12e2f389dff6aa48029491c5c02>
- Huhn F., Wentzel A., Heinrich W. (2021): Digital PA Modulator with Phase Shifter for Phased Array Transmitters. In: *IEEE MTT-S International Microwave Symposium Digest*, Vol.2021-June, pp.780-783 (Conference Paper). DOI:10.1109/IMS19712.2021.9574956.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85118576246&doi=10.1109%2fIMS19712.2021.9574956&partnerID=40&md5=800623b90519fd9658518a8cd963bae7>
- Tsao Y.-F., Hsu H.-T. (2021): A 52-58 GHz Power Amplifier with 18.6-dBm Saturated Output Power for Space Applications. In: *IEEE Transactions on Circuits and Systems II: Express Briefs*, Vol.68, No.6, Art.9286509, pp.1927-1931 (Article). DOI:10.1109/TCSII.2020.3043343.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85097923153&doi=10.1109%2fTCSII.2020.3043343&partnerID=40&md5=7d3dc8e9913089f232ab2673e58af3b6>
- Tong R., Bengtsson O., Olsson J., Backlund A., Dancila D. (2021): Kilowatt Power Amplifier With Improved Power Back-Off Efficiency for Cyclotron Application. In: *IEEE Transactions on Microwave Theory and Techniques (Article)*. DOI:10.1109/TMTT.2021.3134957.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85122070677&doi=10.1109%2fTMTT.2021.3134957&partnerID=40&md5=441976d77e30a52285389414b8221131>
- Meissner E., Besendörfer S., Faraji S., Bahat-Treidel E., Würfl J. (2021): The long journey from crystal growth to power devices, the role of material development for iii-nitride semiconductors. In: *PCIM Europe Conference Proceedings*, Vol.2021-May, pp.316-322 (Conference Paper). DOI:.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85117727221&partnerID=40&md5=c0b59c31ae139c84c6e90cbb4994b36f>

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Publikationen aus der Technologieplattform »Leistungselektronik« der Forschungsfabrik Mikroelektronik Deutschland (2021)

- Treidel E.B., Hilt O., Hoffmann V., Brunner F., Bickel N., Thies A., Tetzner K., Gargouri H., Huber C., Donimirski K., Wurfl J. (2021): On the Conduction Properties of Vertical GaN n-Channel Trench MISFETs. In: IEEE Journal of the Electron Devices Society, Vol.9, Art.9345762, pp.215-228 (Article). DOI:10.1109/JEDS.2021.3056697.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85100706187&doi=10.1109%2fJEDS.2021.3056697&partnerID=40&md5=db7cb5d8e757be56c222c0827f98ebf7>
- Basler M., Reiner R., Moench S., Waltereit P., Quay R., Kallfass I., Ambacher O. (2021): A GaN-Based Active Diode Circuit for Low-Loss Rectification. In: Proceedings of the International Symposium on Power Semiconductor Devices and ICs, Vol.2021-May, Art.9452218, pp.59-62 (Conference Paper). DOI:10.23919/ISPSD50666.2021.9452218.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85112512067&doi=10.23919%2fISPSD50666.2021.9452218&partnerID=40&md5=9e57dbf9b3eb1231a51958163076d41d>
- Basler M., Reiner R., Moench S., Benkhelifa F., Doring P., Waltereit P., Quay R., Ambacher O. (2021): Building Blocks for GaN Power Integration. In: IEEE Access, Vol.9, pp.163122-163137 (Article). DOI:10.1109/ACCESS.2021.3132667.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85120847951&doi=10.1109%2fACCESS.2021.3132667&partnerID=40&md5=14df7ee32d2254470d45599320f30861>
- Reiner R., Benkhelifa F., Moench S., Basler M., Waltereit P., Mikulla M., Quay R., Ambacher O. (2021): Design of low-resistance and area-efficient gan-hemts for low-voltage power applications. In: PCIM Europe Conference Proceedings, Vol.2021-May, pp.401-408 (Conference Paper). DOI:
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85117711947&partnerID=40&md5=92a588e64bca5851442a66b4c35371b7>
- Basler M., Moench S., Reiner R., Benkhelifa F., Weidinger G., Weis G., Quay R., Kallfass I., Ambacher O. (2021): High-power density dc-dc converters using highly-integrated half-bridge gan ics. In: PCIM Europe Conference Proceedings, Vol.2021-May, pp.1014-1021 (Conference Paper). DOI:
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85117693533&partnerID=40&md5=b18c6fc52daf8d45d61c4bd975f1b630>
- Manz C., Leone S., Kirste L., Ligl J., Frei K., Fuchs T., Prescher M., Waltereit P., Verheijen M.A., Graff A., Simon-Najasek M., Altmann F., Fiederle M., Ambacher O. (2021): Improved AlScN/GaN heterostructures grown by metal-organic chemical vapor deposition. In: Semiconductor Science and Technology, Vol.36, No.3, Art.034003 (Article). DOI:10.1088/1361-6641/abd924.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85100343311&doi=10.1088%2f1361-6641%2fabd924&partnerID=40&md5=24b733177754a9a897afdefb38013fb0>
- Neining P., John L., Thome F., Friesicke C., Bruckner P., Quay R., Zwick T. (2021): Limitations and Implementation Strategies of Interstage Matching in a 6-W, 28-38-GHz GaN Power Amplifier MMIC. In: IEEE Transactions on Microwave Theory and Techniques, Vol.69, No.5, Art.9382837, pp.2541-2553 (Article). DOI:10.1109/TMTT.2021.3065108.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85103289406&doi=10.1109%2fTMTT.2021.3065108&partnerID=40&md5=f87b39cbb0512e717b8cfe0583b3cbfe>

Forschungsfabrik Mikroelektronik Deutschland – Leistungselektronik
Publikationen aus der Technologieplattform »Leistungselektronik« der Forschungsfabrik Mikroelektronik Deutschland (2021)

- Doering P., Driad R., Reiner R., Waltereit P., Mikulla M., Ambacher O. (2021): Metal organic chemical vapour deposition regrown large area GaN-on-GaN current aperture vertical electron transistors with high current capability. In: Electronics Letters, Vol.57, No.3, pp.145-147 (Letter). DOI:10.1049/ell2.12068.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85108906424&doi=10.1049%2fell2.12068&partnerID=40&md5=0f6893882cafb4b4a800e2bc7b467576>
- Moench S., Müller S., Reiner R., Waltereit P., Czap H., Basler M., Hüchelheim J., Kirste L., Kallfass I., Quay R., Ambacher O. (2021): Monolithic Integrated AlGaIn/GaN Power Converter Topologies on High-Voltage AlN/GaN Superlattice Buffer. In: Physica Status Solidi (A) Applications and Materials Science, Vol.218, No.3, Art.2000404 (Article). DOI:10.1002/pssa.202000404.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85091731932&doi=10.1002%2fpssa.202000404&partnerID=40&md5=c2b14bc12eb1fa1ff36111e9806a816c>
- Moench S., Reiner R., Waltereit P., Benkhelifa F., Huckelheim J., Meder D., Zink M., Kaden T., Noll S., Mansfeld S., Mingirulli N., Quay R., Kallfass I. (2021): PCB-Embedded GaN-on-Si Half-Bridge and Driver ICs with On-Package Gate and DC-Link Capacitors. In: IEEE Transactions on Power Electronics, Vol.36, No.1, Art.9127829, pp.83-86 (Article). DOI:10.1109/TPEL.2020.3005621.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85091166826&doi=10.1109%2fTPEL.2020.3005621&partnerID=40&md5=ab3677955c94dcdcf07ba604d24a25e0>
- Doring P., Driad R., Reiner R., Waltereit P., Leone S., Mikulla M., Ambacher O. (2021): Technology of GaN-Based Large Area CAVETs with Co-Integrated HEMTs. In: IEEE Transactions on Electron Devices, Vol.68, No.11, pp.5547-5552 (Article). DOI:10.1109/TEDE.2021.3109840.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85114751205&doi=10.1109%2fTEDE.2021.3109840&partnerID=40&md5=2697f2436e32224d0591111f68b3841f>
- Bucher T., Grzyb J., Hillger P., Rucker H., Heinemann B., Pfeiffer U.R. (2021): A 239-298 GHz Power Amplifier in an Advanced 130 nm SiGe BiCMOS Technology for Communications Applications. In: ESSCIRC 2021 - IEEE 47th European Solid State Circuits Conference, Proceedings, pp.369-372 (Conference Paper). DOI:10.1109/ESSCIRC53450.2021.9567853.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85118454872&doi=10.1109%2fESSCIRC53450.2021.9567853&partnerID=40&md5=e6ccbc1e0ac4472e320a39e6054e00a8>
- Ilic S.D., Andjelkovic M.S., Carvajal M.A., Lallena A.M., Krstic M., Stankovic S., Ristic G.S. (2021): Power silicon carbide schottky diodes as current mode γ -radiation detectors. In: Proceedings of the International Conference on Microelectronics, ICM, Vol.2021-September, pp.337-340 (Conference Paper). DOI:10.1109/MIEL52794.2021.9569076.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85118457713&doi=10.1109%2fMIEL52794.2021.9569076&partnerID=40&md5=7e11d693ef3ab08383bbc3909a7fc5f8>
- Murphy R., McCloskey P., Cao Z., Mathuna C.O., O'Driscoll S. (2021): High frequency magnetic sheet materials - Performance factor comparisons and design of toroidal inductors embedded in PCB. In: Conference Proceedings - IEEE Applied Power Electronics Conference and Exposition - APEC, pp.2897-2904 (Conference Paper). DOI:10.1109/APEC42165.2021.9487131.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85115673331&doi=10.1109%2fAPEC42165.2021.9487131&partnerID=40&md5=e0924487fb86cf19b61cee20f6d1cdc1>

Forschungsfabrik Mikroelektronik Deutschland – Leistungselektronik
Publikationen aus der Technologieplattform »Leistungselektronik« der Forschungsfabrik Mikroelektronik Deutschland (2021)

- Speulmanns J., Kia A.M., Bönhardt S., Weinreich W., Adelhelm P. (2021): Atomic Layer Deposition of Textured Li₄Ti₅O₁₂: A High-Power and Long-Cycle Life Anode for Lithium-Ion Thin-Film Batteries. In: Small, Vol.17, No.34, Art.2102635 (Article). DOI:10.1002/smll.202102635.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85110269464&doi=10.1002%2fsmll.202102635&partnerID=40&md5=c472b5dc4cac8404081b5cc5f6edca06>
- M. Kia A., Speulmanns J., Bönhardt S., Emara J., Kühnel K., Haufe N., Weinreich W. (2021): Spectroscopic analysis of ultra-thin TiN as a diffusion barrier for lithium-ion batteries by ToF-SIMS, XPS, and EELS. In: Applied Surface Science, Vol.564, Art.150457 (Article). DOI:10.1016/j.apsusc.2021.150457.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85109431071&doi=10.1016%2fj.apsusc.2021.150457&partnerID=40&md5=a11bdfc1c7214a806c51979b4a6e4e77>
- Richter M., Lüdecke A., Lee Y.-C., Stanitzki A., Utz A., Grau G., Kappert H., Kokozinski R. (2021): A RISC-V-based system on chip for high-speed control in safety-critical 650 V GaN-applications. In: SMACD / PRIME 2021 - International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design and 16th Conference on PhD Research in Microelectronics and Electronics, pp.280-283 (Conference Paper). DOI:
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85117399770&partnerID=40&md5=56c44c5431ddfbfb87c2b85a06199752>
- Breiling, Marco; Reichel, Peter; Reichenbach, Marc (2021): AI goes Ultra Low Power - Teil 1. Energieeffizientes Ki-System. In: Elektronik, Nr.19, S.22-25 (Zeitschriftenaufsatz; Elektronische Publikation). DOI:
Link: <http://publica.fraunhofer.de/documents/N-642647.html>
- Breiling, Marco; Reichel, Peter; Reichenbach, Marc (2021): AI goes Ultra Low Power - Teil 2. Energieeffizientes Ki-System. In: Elektronik, Nr.20, S.44-49 (Zeitschriftenaufsatz; Elektronische Publikation). DOI:
Link: <http://publica.fraunhofer.de/documents/N-642648.html>
- Boettcher N., Erlbacher T. (2021): A monolithically integrated SiC circuit breaker. In: IEEE Electron Device Letters, Vol.42, No.10, pp.1516-1519 (Article). DOI:10.1109/LED.2021.3102935.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85112245377&doi=10.1109%2fLED.2021.3102935&partnerID=40&md5=5cdd1830e1f8faf53b9e50953396ce9d>
- Bärman A., Martin A., Schneider O. (2021): Efficient formulations and decomposition approaches for power peak reduction in railway traffic via timetabling. In: Transportation Science, Vol.55, No.3, pp.747-767 (Article). DOI:10.1287/trsc.2020.1021.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85107631692&doi=10.1287%2ftrsc.2020.1021&partnerID=40&md5=b339789651b3326891456f8d7cf7e>
- Arzig M., Künecke U., Salamon M., Uhlmann N., Wellmann P.J. (2021): Influence of the growth conditions on the formation of macro-steps on the growth interface of SiC-Crystals. In: Journal of Crystal Growth, Vol.576, Art.126361 (Article). DOI:10.1016/j.jcrysgro.2021.126361.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85117124835&doi=10.1016%2fj.jcrysgro.2021.126361&partnerID=40&md5=3679b7af297cfc4a969733375d1c7636>

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Publikationen aus der Technologieplattform »Leistungselektronik« der Forschungsfabrik Mikroelektronik Deutschland (2021)

- Aigner K.-M., Clarner J.-P., Liers F., Martin A. (2021): Robust approximation of chance constrained DC optimal power flow under decision-dependent uncertainty. In: European Journal of Operational Research (Article). DOI:10.1016/j.ejor.2021.10.051.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85119191974&doi=10.1016%2fj.ejor.2021.10.051&partnerID=40&md5=a232c141766fb4c86081d6139904f7a7>
- Zimmermann, F.; Beyer, J.; Beyer, F.C.; Gärtner, G.; Gamov, I.; Irmscher, K.; Richter, E.; Weyers, M.; Heitmann, J. (2021): A carbon-doping related luminescence band in GaN revealed by below bandgap excitation. In: Journal of applied physics Vol.130, Nr.5, Art. 055703, 8 S. (Zeitschriftenaufsatz). DOI:10.1063/5.0053940.
Link: <http://publica.fraunhofer.de/documents/N-641759.html>
- Fritsch B., Hutzler A., Wu M., Khadivianazar S., Vogl L., Jank M.P.M., März M., Spiecker E. (2021): Accessing local electron-beam induced temperature changes during: In situ liquid-phase transmission electron microscopy. In: Nanoscale Advances, Vol.3, No.9, pp.2466-2474 (Article). DOI:10.1039/d0na01027h.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85105488667&doi=10.1039%2fd0na01027h&partnerID=40&md5=26d3d775e308e957a3418c65cc37dd15>
- Jach F., Wassner M., Bamberg M., Brendler E., Frisch G., Wunderwald U., Friedrich J. (2021): A Low-Cost Al-Graphite Battery with Urea and Acetamide-Based Electrolytes. In: ChemElectroChem, Vol.8, No.11, pp.1928 (Article). DOI:10.1002/celec.202100544.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85108313887&doi=10.1002%2fcelc.202100544&partnerID=40&md5=f82061556c1ea585139f29ef2e05e261>
- Schnick W., Cordes N., Mallmann M., Niewa R., Meissner E. (2021): Ammonothermal Materials. In: Springer Series in Materials Science, Vol.304, pp.329-336 (Book Chapter). DOI:10.1007/978-3-030-56305-9_18.
Link: https://www.scopus.com/inward/record.uri?eid=2-s2.0-85101069774&doi=10.1007%2f978-3-030-56305-9_18&partnerID=40&md5=3489d95ffd05143396066ae1ef1880a9
- Boettcher N., Erlbacher T. (2021): A monolithically integrated SiC circuit breaker. In: IEEE Electron Device Letters, Vol.42, No.10, pp.1516-1519 (Article). DOI:10.1109/LED.2021.3102935.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85112245377&doi=10.1109%2fLED.2021.3102935&partnerID=40&md5=5cdd1830e1f8faf53b9e50953396ce9d>
- Meissner E., Jockel D., Koch M., Niewa R. (2021): A New Perspective on Growth of GaN from the Basic Ammonothermal Regime. In: Springer Series in Materials Science, Vol.304, pp.77-103 (Book Chapter). DOI:10.1007/978-3-030-56305-9_6.
Link: https://www.scopus.com/inward/record.uri?eid=2-s2.0-85101108904&doi=10.1007%2f978-3-030-56305-9_6&partnerID=40&md5=f506a51f4782cd7da7277e4c9e94813d
- Kranert C., Ghosh M., Hamacher M., Bähr T., Reimann C., Friedrich J. (2021): Assessment of residual melt removal as approach to reduce the top redzone of cast silicon ingots. In: Journal of Crystal Growth, Vol.571, Art.126261 (Article). DOI:10.1016/j.jcrysgr.2021.126261.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85111315106&doi=10.1016%2fj.jcrysgr.2021.126261&partnerID=40&md5=bb88c767e881bf18abbb3a79a3202d8c>

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Publikationen aus der Technologieplattform »Leistungselektronik« der Forschungsfabrik Mikroelektronik Deutschland (2021)

- Geiling J., Steinberger M., Ortner F., Seyfried R., Nuß A., Uhrig F., Lange C., Öchsner R., Wasserscheid P., März M., Preuster P. (2021): Combined dynamic operation of PEM fuel cell and continuous dehydrogenation of perhydro-dibenzyltoluene. In: International Journal of Hydrogen Energy, Vol.46, No.72, pp.35662-35677 (Article). DOI:10.1016/j.ijhydene.2021.08.034. Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85115809036&doi=10.1016%2fj.ijhydene.2021.08.034&partnerID=40&md5=b408b06304ce27f4917e3ed5fa2aa923>
- Horauf P., Endruschat A., Marz M. (2021): Comparison between forced ccm and dcm on low load efficiency of a sic based dc/dc converter. In: PCIM Europe Conference Proceedings, Vol.2021-May, pp.556-562 (Conference Paper). DOI: Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85117691657&partnerID=40&md5=7d46fc3adc7ebdde8be851dc1b0358d9>
- Mai A., Wagner B., Arenz S. (2021): Comparison of control algorithms for the suppression of current harmonics in pmsms. In: PCIM Europe Conference Proceedings, Vol.2021-May, pp.1792-1799 (Conference Paper). DOI: Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85117697175&partnerID=40&md5=b8223e8cc2d77d1d4e405c05912d6f47>
- Zimmermann F., Beyer J., Röder C., Beyer F.C., Richter E., Irmischer K., Heitmann J. (2021): Current Status of Carbon-Related Defect Luminescence in GaN. In: Physica Status Solidi (A) Applications and Materials Science, Vol.218, No.20, Art.2100235 (Review). DOI:10.1002/pssa.202100235. Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85113747775&doi=10.1002%2fpssa.202100235&partnerID=40&md5=68d8b3762d57e998a2144a19d69fbc65>
- Mehler M., Schmid A., Zuschlag A., Trempa M., Hahn G. (2021): Delay of Regeneration by Adding Aluminum in Boron-Doped Crystalline Si. In: Physica Status Solidi (A) Applications and Materials Science, Vol.218, No.22, Art.2100603 (Article). DOI:10.1002/pssa.202100603. Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85116898274&doi=10.1002%2fpssa.202100603&partnerID=40&md5=6e39d895ad7a8c7cb308173346c9e2f2>
- Kranert C., Raming G., Miller A., Reimann C., Friedrich J. (2021): Facet growth and geometry of the growth ridge during dynamic Czochralski processes. In: Journal of Crystal Growth, Vol.568-569, Art.126174 (Article). DOI:10.1016/j.jcrysgro.2021.126174. Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85107719046&doi=10.1016%2fj.jcrysgro.2021.126174&partnerID=40&md5=613541c41dd3041cea0acc87d75b9b3>
- Hirsch A., Schulze M., Sturm F., Trempa M., Reimann C., Friedrich J. (2021): Factors influencing the gas bubble evolution and the cristobalite formation in quartz glass Cz crucibles for Czochralski growth of silicon crystals. In: Journal of Crystal Growth, Vol.570, Art.126231 (Article). DOI:10.1016/j.jcrysgro.2021.126231. Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85108636054&doi=10.1016%2fj.jcrysgro.2021.126231&partnerID=40&md5=099083e6ea33d016009e1687059b2d1d>
- Ehrlich S., Rossmann H., Sauer M., Joffe C., Marz M. (2021): Fast Numerical Power Loss Calculation for High-Frequency Litz Wires. In: IEEE Transactions on Power Electronics, Vol.36, No.2, Art.9138752, pp.2018-2032 (Article). DOI:10.1109/TPEL.2020.3008564. Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85092594941&doi=10.1109%2fTPEL.2020.3008564&partnerID=40&md5=8356033850a34991ab2bbe84d3623d32>

Forschungsfabrik Mikroelektronik Deutschland – Leistungselektronik
Publikationen aus der Technologieplattform »Leistungselektronik« der Forschungsfabrik Mikroelektronik Deutschland (2021)

- Gerwig M., Ali A.S., Neubert D., Polster S., Böhme U., Franze G., Rosenkranz M., Popov A., Ponomarev I., Jank M.P.M., Viehweger C., Brendler E., Frey L., Kroll P., Kroke E. (2021): From Cyclopentasilane to Thin-Film Transistors. In: *Advanced Electronic Materials*, Vol.7, No.2, Art.2000422 (Article). DOI:10.1002/aelm.202000422.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85097948018&doi=10.1002%2faelm.202000422&partnerID=40&md5=69cf54f4e865d1047c78d47eae3cb2bb>
- Chen W., Zimmermann V., Bayer C.F. (2021): Frontier review of the importance to revise existing European environmental classification standards. In: *Corrosion Engineering Science and Technology*, Vol.56, No.7, pp.605-609 (Review). DOI:10.1080/1478422X.2021.1935086.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85107459924&doi=10.1080%2f1478422X.2021.1935086&partnerID=40&md5=f271f3e1e63832478ecd23795c790461>
- Bianchini, Isabella; Kuhlmann, Timm; Wunder, Bernd; Unru, Alexander , S... (2021): Hierarchical Network Management of Industrial DC-Microgrids. In: *IEEE Fourth International Conference on DC Microgrids, ICDCM 2021*, S.174-179 (Konferenzbeitrag). DOI:10.1109/ICDCM50975.2021.9504619.
Link: <http://publica.fraunhofer.de/documents/N-640867.html>
- Liu Z., Zhang Q., Wolff U., Blum C.G.F., He R., Bahrami A., Beier-Ardizzon M., Reimann C., Friedrich J., Reith H., Schierner G., Nielsch K. (2021): High-Performance n-Type Ge-Free Silicon Thermoelectric Material from Silicon Waste. In: *ACS Applied Materials and Interfaces*, Vol.13, No.40, pp.47912-47920 (Article). DOI:10.1021/acsami.1c12200.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85117293491&doi=10.1021%2facami.1c12200&partnerID=40&md5=f58711d299d327008fbdc13cb98dd924>
- Schwanke S., Trempa M., Reimann C., Kuczynski M., Schroll G., Sans J., Heitmann J., Friedrich J. (2021): Influence of crucible properties and Si₃N₄-coating composition on the oxygen concentration in multi-crystalline silicon ingots. In: *Journal of Crystal Growth*, Vol.568-569, Art.126178 (Article). DOI:10.1016/j.jcrysgro.2021.126178.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85107723781&doi=10.1016%2fj.jcrysgro.2021.126178&partnerID=40&md5=a8b1f6b8ea98fcf757074deb87791058>
- Yang, F.; Lixin, J.; Wang, L. (2021): Interleaved Planar Packaging Method of Multichip SiC Power Module for Thermal and Electrical Performance Improvement. In: *IEEE transactions on power electronics* Vol.37, Nr.2, S.1615-1629 (Zeitschriftenaufsatz). DOI:10.1109/TPEL.2021.3106316 .
Link: <http://publica.fraunhofer.de/documents/N-642079.html>
- Hilpert F., Bentheimer C., Müller T., Eckardt B. (2021): Investigation of novel multi-phase field-oriented drive inverter control with fail-operational capabilities for aircraft applications. In: *PCIM Europe Conference Proceedings*, Vol.2021-May, pp.1325-1331 (Conference Paper). DOI: .
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85117724176&partnerID=40&md5=df76b31277a44eafabacd417e0db2f0c>
- Erlekampf J., Rommel M., Rosshirt-Lilla K., Kallinger B., Berwian P., Friedrich J., Erlbacher T. (2021): Lifetime limiting defects in 4H-SiC epitaxial layers: The influence of substrate originated defects. In: *Journal of Crystal Growth*, Vol.560-561, Art.126033 (Article). DOI:10.1016/j.jcrysgro.2021.126033.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85100629249&doi=10.1016%2fj.jcrysgro.2021.126033&partnerID=40&md5=3a398cd35d7a313d627edf460dfb699a>

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Publikationen aus der Technologieplattform »Leistungselektronik« der Forschungsfabrik Mikroelektronik Deutschland (2021)

- Wu J., Xu Z., Zhao J., Rommel M., Nordlund K., Ren F., Fang F. (2021): MD simulation of two-temperature model in ion irradiation of 3C-SiC: Effects of electronic and nuclear stopping coupling, ion energy and crystal orientation. In: Journal of Nuclear Materials, Vol.557, Art.153313 (Review). DOI:10.1016/j.jnucmat.2021.153313.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85116068499&doi=10.1016%2Fj.jnucmat.2021.153313&partnerID=40&md5=2ec4712d6f38f0af36d6b81260584a92>
- Wu J., Xu Z., Liu L., Hartmaier A., Rommel M., Nordlund K., Wang T., Janisch R., Zhao J. (2021): MD simulation study on defect evolution and doping efficiency of p-type doping of 3C-SiC by Al ion implantation with subsequent annealing. In: Journal of Materials Chemistry C, Vol.9, No.7, pp.2258-2275 (Article). DOI:10.1039/d0tc05374k.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85101803505&doi=10.1039%2Fd0tc05374k&partnerID=40&md5=5fa5695816dfb36262e7f0a80c8db0ba>
- Fan Y., Song Y., Xu Z., Dong B., Wu J., Rommel M., Zhang K., Zhao J., Zhu R., Li B., Li Q., Fang F. (2021): Molecular dynamics simulation of color centers in silicon carbide by helium and dual ion implantation and subsequent annealing. In: Ceramics International, Vol.47, No.17, pp.24534-24544 (Article). DOI:10.1016/j.ceramint.2021.05.172.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85107634779&doi=10.1016%2Fj.ceramint.2021.05.172&partnerID=40&md5=fb8a1ed77cacf45261c7fa3b9300e6d6>
- Voltaire, A.; Schanen, J.; Ferrieux, J.; Sarrazin, B.; Gautier, C. (2021): Predesign Methodology of Voltage Inverters Using a Gradient-Based Optimization Algorithm. In: IEEE journal of emerging and selected topics in power electronics Vol.9, Nr.5, S.5895-5905 (Zeitschriftenaufsatz). DOI:10.1109/JESTPE.2021.3092576.
Link: <http://publica.fraunhofer.de/documents/N-642085.html>
- Meissner E., Besendörfer S., Faraji S., Bahat-Treidel E., Würfl J. (2021): The long journey from crystal growth to power devices, the role of material development for iii-nitride semiconductors. In: PCIM Europe Conference Proceedings, Vol.2021-May, pp.316-322 (Conference Paper). DOI:.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85117727221&partnerID=40&md5=c0b59c31ae139c84c6e90cbb4994b36f>
- Rafaja D., Fischer P., Barchuk M., Motylenko M., Röder C., Besendörfer S., Meissner E. (2021): X-Ray diffraction analysis and modeling of the depth profile of lattice strains in AlGaN stacks. In: Thin Solid Films, Vol.732, Art.138777 (Article). DOI:10.1016/j.tsf.2021.138777.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85109073614&doi=10.1016%2Fj.tsf.2021.138777&partnerID=40&md5=17f2e5f6e6bc95a37a5885fa52d61b1c>
- Schulz M., Ditze S. (2021): Analysis and Experimental Verification of an Isolated Half-Bridge Bidirectional DC-DC Converter. In: IEEE Transactions on Power Electronics (Article). DOI:10.1109/TPEL.2021.3127125.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85120046152&doi=10.1109%2FTPEL.2021.3127125&partnerID=40&md5=dd9ddbfb0ba464a0d0ece36965e16e77>
- Lupan O., Krüger H., Siebert L., Ababii N., Kohlmann N., Buzdugan A., Bodduluri M.T., Magariu N., Terasa M.-I., Strunskus T., Kienle L., Adelung R., Hansen S. (2021): Additive manufacturing as a means of gas sensor development for battery health monitoring. In: Chemosensors, Vol.9, No.9, Art.252 (Article). DOI:10.3390/chemosensors9090252.
Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0->

Forschungsfabrik Mikroelektronik Deutschland – Leistungselektronik
Publikationen aus der Technologieplattform »Leistungselektronik« der Forschungsfabrik Mikroelektronik Deutschland (2021)

85115018331&doi=10.3390%2fchemosensors9090252&partnerID=40&md5=6184cb0a565377d165a26423062d93b1

- Mertens C., Berlinecke J., Plikat R., Schnack J., Gördes J.-P., Stol-Ley J., Schümann U., Eisele R., Bicakci A., Olesen K., Osterwald F., Päsler M., Gorodnichev A., Brückner S. (2021): Bearing shield integrated sic-based traction inverter for a dual three phase pmsm drive system. In: PCIM Europe Conference Proceedings, Vol.2021-May, pp.1029-1036 (Conference Paper). DOI:. Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85117731826&partnerID=40&md5=fb75cf5a0bdabf92cc52ce2cae0dcf2a>
- Röben F., Schäfers H., Meißner A., de Haan J. (2021): Smart balancing of electrical power in germany: Fuzzy logic model to simulate market response. In: Energies, Vol.14, No.8, Art.2309 (Article). DOI:10.3390/en14082309. Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85106296209&doi=10.3390%2fen14082309&partnerID=40&md5=22c3e4cd68a99faecf5b8b86f90d94ff>
- Elia G.A., Acevedo C.I., Kazemi R., Fantini S., Lin R., Hahn R. (2021): A Gel Polymer Electrolyte for Aluminum Batteries. In: Energy Technology, Vol.9, No.8, Art.2100208 (Article). DOI:10.1002/ente.202100208. Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85108969203&doi=10.1002%2fente.202100208&partnerID=40&md5=b850f8c4cd2009be8b8975bf200f1bca>
- Elia G.A., Hoepfner K., Hahn R. (2021): Comparison of Chloroaluminate Melts for Aluminum Graphite Dual-Ion Battery Application. In: Batteries and Supercaps, Vol.4, No.2, pp.368-373 (Article). DOI:10.1002/batt.202000244. Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85104347594&doi=10.1002%2fbatt.202000244&partnerID=40&md5=a8c2c58a07c923a29d4c6b0f211a0a68>
- Hoene, Eckart (2021): Verbindungsmethode für Leistungsmodul mit einer Zwischenkreisverschaltung. In: (Patent; Elektronische Publikation). DOI:. Link: <http://publica.fraunhofer.de/documents/N-635838.html>