

## Publikationen aus der Technologieplattform "Extended CMOS" der Forschungsfabrik Mikroelektronik Deutschland (2025)

- Janssen, M.; Murkina, A.D.; Hann, J.; Klös, G.; Moebius, M.; Meinecke, C.R.; Morschhauser, A.; Cortajarena, A.L.; Reuter, D. (2025): A Methodology for Validation of DNA Origami–Quantum Dot Hybridization. In: Applied Nano (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105025824828&doi=10.3390%2Faplnano6040030&partnerID=40&md5=8e5d09433972485a2fa3c7fe130f6332>. DOI: 10.3390/aplnano6040030
- da Silva, L.A.; Hartmann, M.; Böttger, S.; Hermann, S. (2025): High-Performance CNT-Based FETs on 200 mm Si Wafers With Low Drift and aM-Level Biosensing Sensitivity. In: IEEE Sensors Letters (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105017401639&doi=10.1109%2FLESENS.2025.3612488&partnerID=40&md5=8942f6900896caa0533a93ec914cbf28>. DOI: 10.1109/LESENS.2025.3612488
- Selbmann, F.; Schaller, F.; Song, S.; Kühn, M.; Roscher, F.; Zimmermann, S.; Kuhn, H. (2025): Parylene C based memristors for the realization of ultra-thin and flexible smart systems. In: 2025 Smart Systems Integration Conference and Exhibition, SSI 2025 (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105015435918&doi=10.1109%2FSSI65953.2025.11107190&partnerID=40&md5=86564ba4d332bd0f2be77ef2ecf09ddc>. DOI: 10.1109/SSI65953.2025.11107190
- Rincon-Ruiz, C.; Jöhrmann, N.; Grosse-Kockert, C.; Zschenderlein, U.; Wunderle, B. (2025): Three-Omega Method for Characterization of Thermal Conductivity of Samples at Cryogenic Temperatures. In: 31st International Workshop on Thermal Investigations of ICs and Systems, THERMINIC 2025 - Proceedings (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105023639991&doi=10.1109%2FTHERMINIC65879.2025.11216875&partnerID=40&md5=48d1067a97ddaee0937e1685c453465f>. DOI: 10.1109/THERMINIC65879.2025.11216875
- Liu, Y.; Ostermay, I.; Thies, A. (2025): Physical modeling of side wall deposition by inclined electron beam evaporation. In: Journal of Vacuum Science and Technology B (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105021613117&doi=10.1116%2F6.0004846&partnerID=40&md5=cbc392c6bd1771fe42062af17db6a1aa>. DOI: 10.1116/6.0004846
- Chevtchenko, S.; Brusaterra, E.; Ostermay, I.; Sudau, D.; Hilt, O. (2025): Effective control of active interface traps in GaN HEMT epitaxial layers by stress tuning of SiNx passivation layers. In: Semiconductor Science and Technology (0). Link:

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-105017506054&doi=10.1088%2F1361-6641%2Fae03e5&partnerID=40&md5=f25fbc3cd62f8e257fcef2283c4e7a90>. DOI: 10.1088/1361-6641/ae03e5

- Koyucuoglu, A.; Ostermay, I.; Krueger, O. (2025): Stress modulation in silicon nitride layers grown by plasma-enhanced chemical vapor deposition. In: *Thin Solid Films* (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105008796174&doi=10.1016%2Fj.tsf.2025.140729&partnerID=40&md5=0b8fc54e6129de50d34473746cbf496b>. DOI: 10.1016/j.tsf.2025.140729
- Kern, L.-M.; Kuchkin, V.M.; Deinhart, V.; Klose, C.; Sidiropoulos, T.; Auer, M.; Gaebel, S.; Gerlinger, K.; Battistelli, R.; Wittrock, S.; Karaman, T.; Schneider, M.; Günther, C.M.; Engel, D.; Will, I.; Wintz, S.; Weigand, M.; Büttner, F.; Höflich, K.; Eisebitt, S.; Pfau, B. (2025): Controlled Formation of Skyrmion Bags. In: *Advanced Materials* (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105005165248&doi=10.1002%2Fadma.202501250&partnerID=40&md5=26148544c0da1d65805394758bc7f86a>. DOI: 10.1002/adma.202501250
- Johnson, B.C.; de Vries, M.O.; Healey, A.J.; Capelli, M.; Manian, A.; Thalassinos, G.; Abraham, A.N.; Hapuarachchi, H.; Luo, T.; Mochalin, V.N.; Jeske, J.; Cole, J.H.; Russo, S.; Gibson, B.C.; Stacey, A.; Reineck, P. (2025): The Nitrogen-Vacancy-Nitrogen Color Center: A Ubiquitous Visible and Near-Infrared-II Quantum Emitter in Nitrogen-Doped Diamond. In: *ACS Nano* (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105005175491&doi=10.1021%2Facs.nano.4c18283&partnerID=40&md5=395b84e255a3d752603273be12bf36f7>. DOI: 10.1021/acs.nano.4c18283
- Islam, M.R.; Wolff, N.; Schönweger, G.; Kreutzer, T.-N.; Brown, M.; Gremmel, M.; Ollanescu-Orendi, E.S.; Straňák, P.; Kirste, L.; Brennecka, G.L.; Fichtner, S.; Kienle, L. (2025): Oxygen Doping in Ferroelectric Wurtzite-type Al<sub>0.73</sub>Sc<sub>0.27</sub>N: Improved Leakage and Polarity Control. In: *Advanced Electronic Materials* (9). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105000824806&doi=10.1002%2Faelm.202400874&partnerID=40&md5=361c4474a337213a8a92c4091233bba2>. DOI: 10.1002/aelm.202400874
- Lu, H.; Schönweger, G.; Wolff, N.; Ding, Z.; Petraru, A.; Streicher, I.; Kohlstedt, H.; Kübel, C.; Leone, S.; Kienle, L.; Fichtner, S.; Gruverman, A. (2025): Al<sub>1-x</sub>Sc<sub>x</sub>N-Based Ferroelectric Domain-Wall Memristors. In: *Advanced Functional Materials* (7). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105006774632&doi=10.1002%2Fadfm.202503143&partnerID=40&md5=cd3da0005ba3db3e23c1fe8d998c3a94>. DOI: 10.1002/adfm.202503143
- Duarte, T.; Streicher, I.; Straňák, P.; Kirste, L.; Prescher, M.; Wolff, N.; Beuer, S.; Kienle, L.; Quay, R.; Leone, S. (2025): AlScN/GaN Multichannel Heterostructures Grown by Metal–Organic Chemical Vapor Deposition. In: *Advanced Materials Interfaces* (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105019229087&doi=10.1002%2Fadmi.202500726&partnerID=40&md5=231ab618d292daa2328fc9e2970091a7>. DOI: 10.1002/admi.202500726
- Sundarapandian, B.; Raghuvanshi, M.; Straňák, P.; Yu, Y.; Lyu, H.; Prescher, M.; Kirste, L.; Ambacher, O. (2025): Structural and electrical properties of fiber textured and epitaxial molybdenum thin films prepared by magnetron sputter epitaxy. In: *Applied Physics Letters* (4). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0->

85215422899&doi=10.1063%2F5.0231694&partnerID=40&md5=4d5ef97a6f8406f5be002103ae332c81. DOI: 10.1063/5.0231694

- Huckemann, T.; Muster, P.; Langheinrich, W.; Brackmann, V.; Friedrich, M.; Komericki, N.D.; Diebel, L.K.; Stieb, V.; Bougeard, D.; Yamamoto, Y.; Reichmann, F.; Zoellner, M.H.; Dahl, C.; Schreiber, L.R.; Bluhm, H. (2025): Industrially Fabricated Single-Electron Quantum Dots in Si/Si - Ge Heterostructures. In: IEEE Electron Device Letters (8). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105000630266&doi=10.1109%2FLED.2025.3553672&partnerID=40&md5=1daf9c7844d110f5b2a83b35c424be8a>. DOI: 10.1109/LED.2025.3553672
- Yassine, A.; Yassine, M.; Streicher, I.; Driad, R.; Kirste, L.; Straňák, P.; Doering, P.; Leone, S.; Ambacher, O. (2025): Electrical properties of SiNy/Al1-xScxN/GaN-based metal-insulator-semiconductor structures. In: Journal of Applied Physics (4). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105005411284&doi=10.1063%2F5.0261467&partnerID=40&md5=fe757e149b45eefdc023b939caa9d3c1>. DOI: 10.1063/5.0261467
- Sundarapandian, B.; Yassine, A.; Raghuwanshi, M.; Straňák, P.; Fisslthaler, E.; Prescher, M.; Yassine, M.; Kirste, L.; Ambacher, O. (2025): Strategy to obtain epitaxial aluminum scandium nitride thin films with reduced defect densities by magnetron sputtering. In: Journal of Applied Physics (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105013243549&doi=10.1063%2F5.0275914&partnerID=40&md5=1d28841df4e43d6b8b298998c33baaa8>. DOI: 10.1063/5.0275914
- Vivona, M.; Streicher, I.; Kirste, L.; Mio, A.M.; Nicotra, G.; Fiorenza, P.; Giannazzo, F.; Roccaforte, F. (2025): Thermal annealing effects on the electrical and structural properties of Mo Schottky contacts to n-type 4H-SiC. In: Materials Science in Semiconductor Processing (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105008320294&doi=10.1016%2Fj.mssp.2025.109786&partnerID=40&md5=f0af63d533db76a0f03c629dfde9e824>. DOI: 10.1016/j.mssp.2025.109786
- Fichtner, S.; Uehara, M.; Streicher, I.; Yang, S.; Maria, J.-P.; Mi, Z.; Leone, S.; Funakubo, H. (2025): Growth of wurtzite ferroelectrics. In: MRS Bulletin (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105018492917&doi=10.1557%2Fs43577-025-00997-6&partnerID=40&md5=bc42883d65612249183b296ef66d0037>. DOI: 10.1557/s43577-025-00997-6
- Sundarapandian, B.; Kirste, L.; Straňák, P.; Prescher, M.; Münch, S.; Raghuwanshi, M. (2025): Optical Properties of Aluminum Nitride Thin Films Prepared by Magnetron Sputter Epitaxy. In: Physica Status Solidi (A) Applications and Materials Science (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105009463751&doi=10.1002%2Fpssa.202500243&partnerID=40&md5=c426cf4fd772fcc5cd97f2c7d81774da>. DOI: 10.1002/pssa.202500243
- Mack, S.; Krieg, K.; Tessmann, C.; Ourinson, D.; Polzin, J.-I.; Wolf, A. (2025): Development of Boron Emitters for Tunnel Oxide Passivated Contact Solar Cells with Current-Assisted Contact Formation. In: Solar RRL (3). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105001090792&doi=10.1002%2Fsolr.202400808&partnerID=40&md5=e46c50942453ff1cd77763b5380dad04>. DOI: 10.1002/solr.202400808

- Pérez, E.; Maldonado, D.; Pechmann, S.; Reddy, K.D.S.; Uhlmann, M.; Hagelauer, A.; Roldán, J.B.; Wenger, C. (2025): Impact of the Series Resistance on Switching Characteristics of 1T1R HfO<sub>2</sub>-based RRAM Devices. In: 2025 15th Spanish Conference on Electron Devices, CDE 2025 (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105010220458&doi=10.1109%2FCDE66381.2025.11038868&partnerID=40&md5=33f09d691fc1376672cbf1bb4b53537c>. DOI: 10.1109/CDE66381.2025.11038868
- Maldonado, D.; Reddy, K.D.S.; Pechmann, S.; Hagelauer, A.; Wenger, C.; Roldán, J.B.; Pérez, E. (2025): Effects of the compliance current on the switching of HfO<sub>2</sub> and Al:HfO<sub>2</sub> memristive devices: characterization and modeling. In: 2025 15th Spanish Conference on Electron Devices, CDE 2025 (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105010188696&doi=10.1109%2FCDE66381.2025.11038898&partnerID=40&md5=b0969d997c6bee51b9101b7d029b7832>. DOI: 10.1109/CDE66381.2025.11038898
- Hosseinzadeh, M.; Heimerl, J.; Lischke, S.; Goetz, F.; Cressler, J.D. (2025): Cryogenic Characterization of Surface-Illuminated Ge-on-Si Photodiodes for Free-Space Optical Sensing. In: 2025 Conference on Lasers and Electro-Optics, CLEO 2025 (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105021463722&partnerID=40&md5=8206fec0a62d5177ae1e369b8ae1b98b>. DOI: 10.1109/CLEO.2025.11038898
- Graziosi, P.; Marian, D.; Tomadin, A.; Roddaro, S.; Concepción, O.; Tiscareño-Ramírez, J.; Kaul, P.; Corley-Wiciak, A.A.; Buca, D.; Capellini, G.; Virgilio, M. (2025): Epitaxial SiGeSn Alloys for CMOS-Compatible Thermoelectric Devices. In: ACS Applied Energy Materials (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105008414388&doi=10.1021%2Facsam.5c00733&partnerID=40&md5=4837dcb1f27df07d18ea55bc9cddde37f>. DOI: 10.1021/acsam.5c00733
- Junk, Y.; Concepción, O.; Frauenrath, M.; Sun, J.; Bae, J.H.; Bärwolf, F.; Mai, A.; Hartmann, J.-M.; Grußmacher, D.; Buca, D.; Zhao, Q.-T. (2025): Enhancing Device Performance with High Electron Mobility GeSn Materials. In: Advanced Electronic Materials (10). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105003241867&doi=10.1002%2Faelm.202400561&partnerID=40&md5=f8f7ef31a20b37fa94e5d71458a0e366>. DOI: 10.1002/aelm.202400561
- Morales, C.; Gertig, M.; Kot, M.; Alvarado, C.; Schubert, M.A.; Zoellner, M.H.; Wenger, C.; Henkel, K.; Flege, J.I. (2025): In Situ X-Ray Photoelectron Spectroscopy Study of Atomic Layer Deposited Cerium Oxide on SiO<sub>2</sub>: Substrate Influence on the Reaction Mechanism During the Early Stages of Growth. In: Advanced Materials Interfaces (3). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-86000387442&doi=10.1002%2Fadmi.202400537&partnerID=40&md5=8a75cf359881c04ce7d0af23d295764e>. DOI: 10.1002/admi.202400537
- Franck, M.; Dabrowski, J.; Schubert, M.A.; Vignaud, D.; Achehboune, M.; Colomer, J.-F.; Henrard, L.; Wenger, C.; Lukosius, M. (2025): Investigating Impacts of Local Pressure and Temperature on CVD Growth of Hexagonal Boron Nitride on Ge(001)/Si. In: Advanced Materials Interfaces (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85210511529&doi=10.1002%2Fadmi.202400467&partnerID=40&md5=896c3215bb59ff8d472ab5644389b825>. DOI: 10.1002/admi.202400467
- Henriksson, A.; Neubauer, P.; Birkholz, M. (2025): Strategies to Realize AC Electrokinetic Enhanced Mass-Transfer in Silicon Based Photonic Biosensors.. In: Advanced Materials Technologies (3). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105003241867&doi=10.1002%2Fadmi.202400467&partnerID=40&md5=896c3215bb59ff8d472ab5644389b825>

85197936350&doi=10.1002%2Fadmt.202302191&partnerID=40&md5=929208fa0ca89248ec76efaed596a3c6. DOI: 10.1002/admt.202302191

- Schlipf, J.; Cutolo, M.A.; Manganelli, C.L.; Reiter, S.; Seibold, G.; Skibitzki, O.; Wenger, C.; Fischer, I.A. (2025): Fabrication and Optical Characterization of CMOS-Compatible Honeycomb-Like Large-Scale Lattices of Near-Field Coupled Plasmonic TiN Nanotriangles. In: *Advanced Optical Materials* (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105008516981&doi=10.1002%2Fadom.202403408&partnerID=40&md5=284be1b44760a627e4c631d689929941>. DOI: 10.1002/adom.202403408
- Strobel, C.; Chavarin, C.A.; Knaut, M.; Wenger, C.; Heinzig, A.; Mikolajick, T. (2025): Demonstration of a Graphene Adjustable-Barrier Phototransistor with Tunable Ultra-High Responsivity. In: *Advanced Optical Materials* (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105005415219&doi=10.1002%2Fadom.202500344&partnerID=40&md5=f47cce4ea4be1d149108555614957a1c>. DOI: 10.1002/adom.202500344
- Diebel, L.K.; Zinkl, L.G.; Höttinger, A.; Reichmann, F.; Lisker, M.; Yamamoto, Y.; Bougeard, D. (2025): Impact of biased cooling on the operation of undoped silicon quantum well field-effect devices. In: *AIP Advances* (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85219498554&doi=10.1063%2F5.0250968&partnerID=40&md5=d2dd2505bf758bdf31a45f2715408e2>. DOI: 10.1063/5.0250968
- Campagna, E.; Talamas-Simola, E.; Di Gaspare, L.; Marian, D.; Zoellner, M.H.; Berkmann, F.; Baldassarre, L.; Ortolani, M.; Capellini, G.; Virgilio, M.; De Seta, M. (2025): Challenges in modulation doping of n-type Ge/SiGe heterostructures: The role of epitaxial and thermal strain. In: *APL Materials* (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105007948423&doi=10.1063%2F5.0259848&partnerID=40&md5=9f7e310b9d92cb13f0eb3b4464854932>. DOI: 10.1063/5.0259848
- Tetzner, H.; Corley-Wiciak, A.A.; Devaiya, A.J.; Concepción, O.; Stolarek, D.; Schubert, M.A.; Yamamoto, Y.; Buca, D.; Capellini, G. (2025): Dislocations influence the background hole densities in Ge/Si virtual substrates. In: *Applied Physics Letters* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105025754650&doi=10.1063%2F5.0308836&partnerID=40&md5=babf36c55bf80cfcb72708014a5de55>. DOI: 10.1063/5.0308836
- Kafi, N.; Rodrigues, A.; Häusler, I.; Ma, H.; Netzel, C.; Hammud, A.; Skibitzki, O.; Schmidbauer, M.; Hatami, F. (2025): Broadband light emission from GaAsP and GaInP islands grown on silicon nanotip wafer via nanoheteroepitaxy. In: *Applied Physics Letters* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105021483764&doi=10.1063%2F5.0285546&partnerID=40&md5=33624d882e7da199a8e54e1ed07f8673>. DOI: 10.1063/5.0285546
- Mistrioni, A.; Lisker, M.; Yamamoto, Y.; Wen, W.-C.; Fidorra, F.; Tetzner, H.; Diebel, L.K.; Visser, L.; Anupam, S.; Mourik, V.; Schreiber, L.R.; Bluhm, H.; Bougeard, D.; Zoellner, M.H.; Capellini, G.; Reichmann, F. (2025): High yield, low disorder Si/SiGe heterostructures for spin qubit devices manufactured in a BiCMOS pilot line. In: *Applied Physics Letters* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105014120909&doi=10.1063%2F5.0285958&partnerID=40&md5=6c539fe4cf2e25579814c0f0b5da5c93>. DOI: 10.1063/5.0285958

- Batista-Pessoa, W.; Franck, M.; Nuns, N.; Dabrowski, J.; Achehboune, M.; Colomer, J.-F.; Henrard, L.; Lukosius, M.; Wallart, X.; Vignaud, D. (2025): Optimized two-step growth of large surface two-dimensional boron nitride on Ge (001) films by molecular beam epitaxy. In: Applied Surface Science (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105001798871&doi=10.1016%2Fj.apsusc.2025.163165&partnerID=40&md5=da61de684352590f0f5405a181b07656>. DOI: 10.1016/j.apsusc.2025.163165
- Kwiecień, K.; Raczyński, J.; Puchalska, A.; Nowak, E.; Chłopocka, E.; Kot, D.; Szybowicz, M.; Jurczyszyn, L.; Koczorowski, W. (2025): The effects of short-term air exposure of the monocrystal HfSe<sub>2</sub> surface. In: Applied Surface Science (3). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85216850166&doi=10.1016%2Fj.apsusc.2025.162546&partnerID=40&md5=c2e2c893a2667ed34a112ac3f4a68e80>. DOI: 10.1016/j.apsusc.2025.162546
- Maldonado, D.; Cantudo, A.; Guseinov, D.V.; Koryazhkina, M.N.; Okulich, E.V.; Tetelbaum, D.I.; Barteve, N.O.; Danchenko, N.G.; Pikar, V.A.; Teterevko, A.V.; Jiménez-Molinos, F.; Mikhaylov, A.N.; Roldán, J.B. (2025): A statistical and modeling study on the effects of radiation on Au/Ta/ZrO<sub>2</sub>(Y)/Pt/Ti memristive devices. In: Chaos, Solitons and Fractals (6). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85211979830&doi=10.1016%2Fj.chaos.2024.115909&partnerID=40&md5=1d93fc136a36ada3601179c7d6a258ba>. DOI: 10.1016/j.chaos.2024.115909
- Morales, C.; Tschammer, R.; Pożarowska, E.; Kosto, J.; Villar-Garcia, I.J.; Pérez-Dieste, V.; Favaro, M.; Starr, D.E.; Kapuścik, P.; Mazur, M.; Wojcieszak, D.; Domaradzki, J.; Alvarado, C.; Wenger, C.; Henkel, K.; Flege, J.I. (2025): Hydrogen Sensing via Heterolytic H<sub>2</sub> Activation at Room Temperature by Atomic Layer Deposited Ceria. In: ChemSusChem (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85217570608&doi=10.1002%2Fcsc.202402342&partnerID=40&md5=60278f452a3484179a0fa02b295f6f40>. DOI: 10.1002/cssc.202402342
- Subramanian, A.N.; Kabukcuoglu, M.P.; Richter, C.; Juda, U.; Kernke, R.; Bärwolf, F.; Hamann, E.; Zuber, M.; Abrosimov, N.V.; Sumathi, R.R. (2025): Growth of Boron-Doped Germanium Single Crystals by the Czochralski Method. In: Crystal Growth and Design (5). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85216355580&doi=10.1021%2Facs.cgd.4c01413&partnerID=40&md5=4d231aeca925e9f7263dc99d281cf77c>. DOI: 10.1021/acs.cgd.4c01413
- Yamamoto, Y.; Wen, W.-C.; Inomata, N.; Corley-Wiciak, A.A.; Ryzhak, D.; Corley-Wiciak, C.; Zhijian, Z.; Sorge, R.; Tillack, B.; Ono, T. (2025): Piezoresistivity of Epitaxial SiGe. In: ECS Journal of Solid State Science and Technology (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105001840117&doi=10.1149%2F2162-8777%2Fadc488&partnerID=40&md5=54ae871e286da83cb1b05d4fd944d8ea>. DOI: 10.1149/2162-8777/adc488
- Dersch, N.; Pérez, E.; Wenger, C.; Lanza, M.; Zhu, K.; Schwarz, M.; Iñiguez, B.; Kloes, A. (2025): Statistical Model for the Calculation of Conductance Variations of Memristive Devices. In: European Solid-State Circuits Conference (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105024551204&doi=10.1109%2FESSERC66193.2025.11213973&partnerID=40&md5=e2e336432847a26365a1d3759b9f8b07>. DOI: 10.1109/ESSERC66193.2025.11213973

- Lehniger, K.; Langendoerfer, P. (2025): Comment on "RIO: Return Instruction Obfuscation for Bare-Metal IoT Devices". In: IEEE Access (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105004821653&doi=10.1109%2FACCESS.2025.3568598&partnerID=40&md5=aba626c2895f351df35c42a3d3c55c5b>. DOI: 10.1109/ACCESS.2025.3568598
- Huckemann, T.; Muster, P.; Langheinrich, W.; Brackmann, V.; Friedrich, M.; Komericki, N.D.; Diebel, L.K.; Stieb, V.; Bougeard, D.; Yamamoto, Y.; Reichmann, F.; Zoellner, M.H.; Dahl, C.; Schreiber, L.R.; Bluhm, H. (2025): Industrially Fabricated Single-Electron Quantum Dots in Si/Si - Ge Heterostructures. In: IEEE Electron Device Letters (8). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105000630266&doi=10.1109%2FLED.2025.3553672&partnerID=40&md5=1daf9c7844d110f5b2a83b35c424be8a>. DOI: 10.1109/LED.2025.3553672
- Zaitsev, I.; Corley-Wiciak, A.A.; Corley-Wiciak, C.; Zoellner, M.H.; Richter, C.; Zatterin, E.; Virgilio, M.; Martín-García, B.; Spirito, D.; Manganelli, C.L. (2025): Thermo-opto-mechanical properties of GeSn micro-disks: a comprehensive analysis. In: IEEE International Conference on Group IV Photonics GFP (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105005829171&doi=10.1109%2FSiPhotonics64386.2025.10985018&partnerID=40&md5=b9e95aa99ed8ae532acdc60ca96a446f>. DOI: 10.1109/SiPhotonics64386.2025.10985018
- Liu, T.; Seidel, L.; Concepción, O.; Reboud, V.; Chelnokov, A.; Capellini, G.; Oehme, M.; Grützmacher, D.; Buca, D. (2025): Electrically Pumped GeSn Micro-Ring Lasers. In: IEEE Journal of Selected Topics in Quantum Electronics (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-86000378915&doi=10.1109%2FJSTQE.2024.3489712&partnerID=40&md5=a718aad8ee349bfaab3e670d96404721>. DOI: 10.1109/JSTQE.2024.3489712
- Baroni, A.; Pérez, E.; Reddy, K.D.S.; Pechmann, S.; Wenger, C.; Ielmini, D.; Zambelli, C. (2025): Enhancing RRAM Reliability: Exploring the Effects of Al Doping on HfO<sub>2</sub>-Based Devices. In: IEEE Transactions on Device and Materials Reliability (3). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105008822234&doi=10.1109%2FTDMR.2025.3581061&partnerID=40&md5=f936fc3767f093b32b0a675a4a8e1ee6>. DOI: 10.1109/TDMR.2025.3581061
- Petryk, D.; Langendoerfer, P.; Dyka, Z. (2025): Sensitivity of Logic Cells to Laser Fault Injections: An Overview of Experimental Results for IHP Technologies. In: IEEE Transactions on Device and Materials Reliability (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105012580393&doi=10.1109%2FTDMR.2025.3596380&partnerID=40&md5=fb5ae88aa5540ca6ebce25c532fcea0d>. DOI: 10.1109/TDMR.2025.3596380
- Yuan, Q.; Pęczek, A.; Frankel, J.; Rishavy, D.; Mai, C.; Christenson, E.; Pratap, D.; Zimmermann, L. (2025): Fully Automated Wafer-Level Edge Coupling Measurement System for Silicon Photonics Integrated Circuits. In: IEEE Transactions on Semiconductor Manufacturing (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105000812525&doi=10.1109%2FTSM.2025.3552349&partnerID=40&md5=dc5b9ef6d8fa69032a5b9a8c31a72e47>. DOI: 10.1109/TSM.2025.3552349
- Wen, J.; Baroni, A.; Wenger, C.; Krstič, M.; Maria Bolzani Pohls, L. (2025): RRAM-Based Spectral-Domain Convolution Accelerator for Reliable and Energy-Efficient CNN Inference. In: IEEE Transactions on Very Large Scale Integration (VLSI) Systems (0). Link:

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-105025665900&doi=10.1109%2FTVLSI.2025.3644141&partnerID=40&md5=cceadcf4f33ca61a60d4af629bf10626>. DOI: 10.1109/TVLSI.2025.3644141

- Fritscher, M.; Uhlmann, M.; Ostrovskyy, P.; Reiser, D.; Chen, J.; Wen, J.; Schulze, C.; Kahmen, G.; Fey, D.; Reichenbach, M.; Krstič, M.; Wenger, C. (2025): RISC-V CPU Design Using RRAM-CMOS Standard Cells. In: IEEE Transactions on Very Large Scale Integration (VLSI) Systems (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105002748245&doi=10.1109%2FTVLSI.2025.3554476&partnerID=40&md5=b68959a2a2d3a238cd265efd5faea325>. DOI: 10.1109/TVLSI.2025.3554476
- Cibella, S.; Gambelli, M.; Baldassarre, L.; Venanzi, T.; Berkmann, F.; Talamas-Simola, E.; Digaspere, L.; Campagna, E.; Corley-Wiciakh, C.; Capellini, G.; Virgilio, M.; Scalari, G.; Ortolani, M.; De Seta, M. (2025): Ultrastrong Coupling of Si1-xGex Parabolic Quantum Wells to Terahertz Microcavities. In: International Conference on Metamaterials, Photonic Crystals and Plasmonics (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105014434254&partnerID=40&md5=51fce351a41d77b30e515599674696dc>. DOI: 10.1109/ICMP.2025.105014434254
- Reiter, S.; Sengül, A.; Mai, C.; Chavarin, C.A.; Wenger, C.; Fischer, I.A. (2025): On-chip Refractive Index Sensors in 200 mm Wafer Silicon Technology. In: International Conference on Metamaterials, Photonic Crystals and Plasmonics (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105014332840&partnerID=40&md5=4af92ae7322bafbcff6b61ae3756414c>. DOI: 10.1109/ICMP.2025.105014332840
- Nikhil, U.; Stamenković, Z.; Raja, S.P. (2025): A Study of Elliptic Curve Cryptography and Its Applications. In: International Journal of Image and Graphics (5). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85187916713&doi=10.1142%2FS0219467825500627&partnerID=40&md5=17a04b8d7b60df174714762b355c1ce5>. DOI: 10.1142/S0219467825500627
- Ozaki, K.; Imai, Y.; Tsutsumi, T.; Imai, Y.; Takada, N.; Ishikawa, K.; Yamamoto, Y.; Wen, W.-C.; Makihara, K. (2025): Study on dry etching of epitaxially grown Si0.7Ge0.3 and Si using H2 diluted CF4 plasma. In: Japanese Journal of Applied Physics, Part 1: Regular Papers and Short Notes and Review Papers (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105011175379&doi=10.35848%2F1347-4065%2Fdea81&partnerID=40&md5=dc37382145d8a42d1fc491f2453b0aa0>. DOI: 10.35848/1347-4065/adea81
- Corley-Wiciak, A.A.; Zaitsev, I.; Concepción, O.; Buca, D.; Manganelli, C.L.; Capellini, G.; Spirito, D. (2025): Shedding light on epitaxial SiGeSn alloys with Raman spectroscopy: local order and thermomechanical properties. In: Journal of physics. Condensed matter : an Institute of Physics journal (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105023697153&doi=10.1088%2F1361-648X%2Fae1c0b&partnerID=40&md5=6354ef148e9b4b04e9affa1ec1303446>. DOI: 10.1088/1361-648X/ae1c0b
- Reiser, D.; Knödtel, J.; Almeeva, L.; Wen, J.; Baroni, A.; Krstič, M.; Reichenbach, M. (2025): HyRPF: Hybrid RRAM Prototyping on FPGA. In: Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105023697153&doi=10.1088%2F1361-648X%2Fae1c0b&partnerID=40&md5=6354ef148e9b4b04e9affa1ec1303446>

85218458594&doi=10.1007%2F978-3-031-78377-7\_14&partnerID=40&md5=274f8f215e9a2d8f42d75df961a7985d. DOI: 10.1007/978-3-031-78377-7\_14

- Maldonado, D.; Acal, C.; Ortiz, H.; Aguilera, A.M.; Ruíz-Castro, J.E.; Cantudo, A.; Baroni, A.; Dorai Swamy Reddy, K.; Pechmann, S.; Uhlmann, M.; Wenger, C.; Pérez, E.; Roldán, J.B. (2025): A comprehensive statistical study of the post-programming conductance drift in HfO<sub>2</sub>-based memristive devices. In: *Materials Science in Semiconductor Processing* (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105004877139&doi=10.1016%2Fj.mssp.2025.109668&partnerID=40&md5=c9966cb0238f8eb8074802f9f27b6557>. DOI: 10.1016/j.mssp.2025.109668
- Blumenstein, A.; Pérez, E.; Wenger, C.; Dersch, N.; Kloes, A.; Iñiguez, B.; Schwarz, M. (2025): Evaluating Device Variability in RRAM-Based Single- and Multi-Layer Perceptrons. In: *Mixed Design of Integrated Circuits and System, MIXDES 2025* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105013793582&doi=10.23919%2FMIXDES66264.2025.11092102&partnerID=40&md5=f759955e7e0934e324f8c92c9731ab51>. DOI: 10.23919/MIXDES66264.2025.11092102
- Dubey, P.K.; Raju, A.I.; Lukose, R.; Wenger, C.; Lukosius, M. (2025): Optimizing Graphene Ring Modulators: A Comparative Study of Straight, Bent, and Racetrack Geometries. In: *Nanomaterials* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105013255020&doi=10.3390%2Fnano15151158&partnerID=40&md5=474596bb2888b02fea56de226ca91988>. DOI: 10.3390/nano15151158
- Rodrigues, A.; Kamath, A.; Illner, H.-S.; Kafi, N.; Skibitzki, O.; Schmidbauer, M.; Hatami, F. (2025): Monolithically Integrated GaAs Nanoislands on CMOS-Compatible Si Nanotips Using GS-MBE. In: *Nanomaterials* (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105011635658&doi=10.3390%2Fnano15141083&partnerID=40&md5=b27d44a9f6ef0b75359f2a747467b43d>. DOI: 10.3390/nano15141083
- Makihara, K.; Yamamoto, Y.; Schubert, M.A.; Mai, A.; Miyazaki, S. (2025): Processing and Characterization of High-Density Fe-Silicide/Si Core–Shell Quantum Dots for Light Emission. In: *Nanomaterials* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105006525054&doi=10.3390%2Fnano15100733&partnerID=40&md5=0270616712a72b9cae7dd4a0dfef0f1e>. DOI: 10.3390/nano15100733
- Ryś, W.; Lutsyk, I.; Le Ster, M.; Przybysz, P.; Slawinska, J.; Dąbrowski, P.; Rogala, M.; Szałowski, K.; Sobol, T.; Partyka-Jankowska, E.; Szczepanik, M.; Pasternak, I.; Krajewska, A.; Lukosius, M.; Biang, G.; Kowalczyk, P.J. (2025): Correction: The coexistence of Dirac cones and Fermi arcs in a graphene/WTe<sub>2</sub>heterostructure. In: *Nanoscale* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105024686352&doi=10.1039%2Fd5nr90229k&partnerID=40&md5=186ff76cdd75ad2e0997764b29155eef>. DOI: 10.1039/d5nr90229k
- Ryś, W.; Lutsyk, I.; Le Ster, M.; Przybysz, P.; Slawinska, J.; Dąbrowski, P.; Rogala, M.; Szałowski, K.; Sobol, T.; Partyka-Jankowska, E.; Szczepanik, M.; Pasternak, I.; Krajewska, A.; Lukosius, M.; Biang, G.; Kowalczyk, P.J. (2025): The coexistence of Dirac cones and Fermi arcs in a graphene/WTe<sub>2</sub>heterostructure. In: *Nanoscale* (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0->

105023153606&doi=10.1039%2Fd5nr03824c&partnerID=40&md5=a6a12516e8d4071fd9ff1c9eb8791ce9. DOI: 10.1039/d5nr03824c

- Grillo, A.; Ahmad, T.I.; Wang, J.; Pelella, A.; Faella, E.; Capista, D.; Passacantando, M.; Di Bartolomeo, A.; Casiraghi, C. (2025): Electron field emission of water-based inkjet printed graphene films. In: *Nanoscale Advances* (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105010884833&doi=10.1039%2Fd5na00161g&partnerID=40&md5=d1f009cfd7f5ad2b6e604e726f252bc2>. DOI: 10.1039/d5na00161g
- Steckler, D.; Lischke, S.; Yamamoto, Y.; Wen, W.-C.; Pęczek, A.; Beyer, J.; Kroh, A.; Fursenko, O.; Bärwolf, F.; Marschmeyer, S.; Kulse, P.; Wolansky, D.; Zimmermann, L. (2025): Monolithic electro-optic platform on silicon with bandwidth of 100 GHz and beyond. In: *Nature Communications* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105023334957&doi=10.1038%2Fs41467-025-66566-2&partnerID=40&md5=fb79c985656be07b23e037d8c393be8>. DOI: 10.1038/s41467-025-66566-2
- Manganelli, C.L.; Spirito, D.; Farrell, P.; Frigerio, J.; De Iacovo, A.; Marian, D.; Virgilio, M. (2025): Strain Engineering in Semiconductor Materials. In: *Physica Status Solidi - Rapid Research Letters* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85214235652&doi=10.1002%2Fpssr.202400383&partnerID=40&md5=f301ab1d15198f7828665a02567f90d0>. DOI: 10.1002/pssr.202400383
- Zaitsev, I.; Spirito, D.; Frigerio, J.; Chavarin, C.A.; Luedge, A.; Lüdge, W.; Giani, R.; Virgilio, M.; Manganelli, C.L. (2025): On the Bulk Photovoltaic Effect in the Characterization of Strained Germanium Microstructures. In: *Physica Status Solidi - Rapid Research Letters* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85204205789&doi=10.1002%2Fpssr.202400220&partnerID=40&md5=68f6db8bde2a90d688a43f6a290cb554>. DOI: 10.1002/pssr.202400220
- Ryzhak, D.; Kissinger, G.; Ehlert, A.; Sattler, A.; Spirito, D.; Kot, D. (2025): Investigation of Dislocations Introduced in Si Wafer during Flash Lamp Annealing by Photoluminescence Spectroscopy. In: *Physica Status Solidi (A) Applications and Materials Science* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105003401817&doi=10.1002%2Fpssa.202400753&partnerID=40&md5=e7dbf7ad9a4d74bf949a5b30eba6fff2>. DOI: 10.1002/pssa.202400753
- Gougam, S.; de Angelis, F.; Meneghini, C.; Concepción, O.; Buca, D.; Capellini, G.; Zoellner, M.H. (2025): EXAFS sheds light on short-range ordering in Ge<sub>1-x</sub>Sn<sub>x</sub> heteroepitaxial layers grown by MBE and CVD. In: *Physical Review Materials* (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105007087966&doi=10.1103%2FPhysRevMaterials.9.064601&partnerID=40&md5=bdc aa383dad1dea4f22ba3f9c2b3dea6>. DOI: 10.1103/PhysRevMaterials.9.064601
- Reiter, S.; Ratzke, M.; Nitsch, P.-G.; Mai, C.; Spirito, D.; Corley-Wiciak, A.A.; Wenger, C.; Fischer, I.A. (2025): Optical Response of Titanium Nitride Plasmonic Nanohole Arrays: Impact of Square and Hexagonal Array Geometry, Pitch, and Nanohole Diameter. In: *Plasmonics* (3). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105002140733&doi=10.1007%2Fs11468-025-02934-4&partnerID=40&md5=6cd6e55cc00903d8712c316f185bd03f>. DOI: 10.1007/s11468-025-02934-4

- Wen, J.; Baroni, A.; Mistrioni, A.; Pérez, E.; Zambelli, C.; Wenger, C.; Krstič, M.; Bolzani, L.M. (2025): ReDiM: An Efficient Strategy for Read Disturb Mitigation in RRAM-Based Accelerators. In: Proceedings - 2025 IEEE 31st International Symposium on On-Line Testing and Robust System Design, IOLTS 2025 (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105015877525&doi=10.1109%2FIOLTS65288.2025.11117065&partnerID=40&md5=7a6d2c7d2916afd9f7f5e10460480ed7>. DOI: 10.1109/IOLTS65288.2025.11117065
- Pohls, L.M.B.; Chinazzo, A.L.; Benkhelifa, M.; Kar, A.; Amrouch, H.; Krstič, M. (2025): Heterogeneous Integration of Advanced CMOS and Emerging Devices: Challenges and Solutions. In: Proceedings of the European Test Workshop (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105011052831&doi=10.1109%2FETS63895.2025.11049636&partnerID=40&md5=4083042a8bae7f618af0fea0fda5455b>. DOI: 10.1109/ETS63895.2025.11049636
- Merchant, F.; Bende, A.; Fritscher, M.; Kvatinsky, S.; Singh, S.; Rana, V.; Dittmann, R.; Swamy Reddy, K.D.; Wenger, C.; Mir, F.J.; Taouil, M.; Gomony, M.D.; Hamdioui, S.; Corporaal, H. (2025): Dependable Neuromorphic Computing-in-Memory Architectures. In: Proceedings of the European Test Workshop (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105011032668&doi=10.1109%2FETS63895.2025.11049617&partnerID=40&md5=65cdfaf3b71591cafa52d7a905f14843>. DOI: 10.1109/ETS63895.2025.11049617
- Bikerouin, M.; Marzegalli, A.; Spirito, D.; Schaffar, G.J.K.; Bongiorno, C.; Rovaris, F.; Zaghloul, M.; Corley-Wiciak, A.A.; Miglio, L.; Maier-Kiener, V.; Capellini, G.; Mio, A.M.; Scalise, E. (2025): Formation of Micrometer-Sized Textured Hexagonal Silicon Crystals via Nanoindentation. In: Small Structures (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-86000058281&doi=10.1002%2Fsstr.202400552&partnerID=40&md5=424b3839ba05453d0b90eae2040d7c24>. DOI: 10.1002/ssstr.202400552
- Dersch, N.; Pérez, E.; Wenger, C.; Schwarz, M.; Iñiguez, B.; Kloes, A. (2025): A closed-form model for programming of oxide-based resistive random access memory cells derived from the Stanford model. In: Solid-State Electronics (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105015148861&doi=10.1016%2Fj.sse.2025.109238&partnerID=40&md5=71335e484e5b82dd54368d5dbc055677>. DOI: 10.1016/j.sse.2025.109238
- Dersch, N.; Pérez, E.; Wenger, C.; Roemer, C.; Schwarz, M.; Iñiguez, B.; Kloes, A. (2025): Performance of Pulse-Programmed memristive crossbar array with bimodally distributed stochastic synaptic weights. In: Solid-State Electronics (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105003991952&doi=10.1016%2Fj.sse.2025.109128&partnerID=40&md5=62fec449e7e8bca9f3cddedbef172c10>. DOI: 10.1016/j.sse.2025.109128
- Dabrowski, J. (2025): Ge(110) c(8×10) reconstructions stabilized by vibrations. In: Surface Science (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105003991725&doi=10.1016%2Fj.susc.2025.122761&partnerID=40&md5=e855b5aa45a0fd7fa92bafa9160b1410>. DOI: 10.1016/j.susc.2025.122761
- Erdmann, A.; Bottiglieri, G.; Schwemmer, C.; Evanschitzky, P.; Brunner, T.; van Setten, E.; van Lare, C.; van de Kerkhof, M. (2025): Exploring the crucial role of mask 3D-induced imaging mechanisms in high- and hyper-NA EUV lithography: a study of the near- and far-field of the diffracted light. In: Proceedings of SPIE - The International

Society for Optical Engineering (2). Link:

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-105006512264&doi=10.1117%2F12.3050542&partnerID=40&md5=a7d66d751f03a8576b28511845f12b8d)

105006512264&doi=10.1117%2F12.3050542&partnerID=40&md5=a7d66d751f03a8576b28511845f12b8d. DOI: 10.1117/12.3050542

- Medvedev, V.; Roßkopf, A.; Erdmann, A. (2025): Generative Inverse Design of Metamaterials Enhanced by Physics-Informed Neural Network. In: 19th International Congress on Artificial Materials for Novel Wave Phenomena, Metamaterials 2025 (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105019048589&doi=10.1109%2FMetamaterials65622.2025.11174196&partnerID=40&md5=204c33456d95b44912e7425add229b44>. DOI: 10.1109/Metamaterials65622.2025.11174196
- Straub, Christopher; Brendel, Philipp; Medvedev, Vlad; Roßkopf, Andreas (2025): Hard-constraining Neumann boundary conditions in physics-informed neural networks via Fourier feature embeddings. In: (). Link: <https://publica.fraunhofer.de/entities/publication/346114ea-eee2-495f-87db-3d3fddac8166>. DOI: 10.48550/arXiv.2504.01093
- Evanschitzky, P.; Nguyen, T.V.; Schwemmer, C.; Erdmann, A. (2025): Highly parallelized RCWA with optimized eigenvalue problem for efficient simulation of curvilinear mask structures. In: Proceedings of SPIE - The International Society for Optical Engineering (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105024956406&doi=10.1117%2F12.3062253&partnerID=40&md5=d3b8d84e9fe8b10a2ce2dbb12b9455de>. DOI: 10.1117/12.3062253
- Mundayoor, A.; Sedova, V.; Rovera, J.; Le Deun, T.; Erdmann, A. (2025): Modeling and simulation of mechanical effects in two-photon lithography. In: Proceedings of SPIE - The International Society for Optical Engineering (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105024942772&doi=10.1117%2F12.3058688&partnerID=40&md5=b050e495f4a29363aeac11fe5c30fa2d>. DOI: 10.1117/12.3058688
- Yu, Y.; Sedova, V.; Schwemmer, C.; Wiedenmann, J.; Erdmann, A. (2025): Modeling of two-photon lithography including oxygen diffusion using a generalized compact model. In: Proceedings of SPIE - The International Society for Optical Engineering (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105024966577&doi=10.1117%2F12.3060161&partnerID=40&md5=71cabbb77dcb8af5951b5d14983fcb93>. DOI: 10.1117/12.3060161
- Schwarz, J.; Dick, J.; Beuer, S.; Rommel, M.; Hutzler, A. (2025): Modeling the partially detected backside reflectance of transparent substrates in reflectance microspectroscopy. In: Micron (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105011171413&doi=10.1016%2Fj.micron.2025.103878&partnerID=40&md5=307d48be6a16c328ae6490287b6b0229>. DOI: 10.1016/j.micron.2025.103878
- Seidenath, M.; Maerz, M. (2025): Modeling the Tripping Behavior of Fuses Based on Data Sheet Characteristics and Conductor Material Properties. In: Electricity (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105017093384&doi=10.3390%2Felectricity6030047&partnerID=40&md5=9dba3dbf17713c09a3c7ad1673fe691b>. DOI: 10.3390/electricity6030047
- Dos Santos, T.J.; Erdmann, A.; Robinson, A.P.G.; McClelland, A.; Popescu, C.; Oyarzún, B.; van Bree, J.; van de Kerkhof, M. (2025): Multi-Trigger Resists: Modeling and Simulation Results. In: Journal of Photopolymer Science and Technology (0). Link:

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-105028628449&doi=10.2494%2Fphotopolymer.38.409&partnerID=40&md5=c36d36fc548fc4a23e61113175b8eae0>. DOI: 10.2494/photopolymer.38.409

- Gobert, C.; Reichenberger, O.; Berwian, P.; Krieger, M.; Schulze, J. (2025): Parametrization of emitter photoluminescence towards Al-based color center quantification. In: *Journal of Physics D: Applied Physics* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105009256529&doi=10.1088%2F1361-6463%2Fad164&partnerID=40&md5=7fd76acc8a27cf319578a44020197fe6>. DOI: 10.1088/1361-6463/ade164
- Sedova, V.; Yu, Y.; Le Deun, T.; Rovera, J.; Wiedenmann, J.; Heggarty, K.; Erdmann, A. (2025): Physics-based differentiable simulation framework for power optimization in parallel two-photon polymerization. In: *Proceedings of SPIE - The International Society for Optical Engineering* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105024956167&doi=10.1117%2F12.3062740&partnerID=40&md5=811a998bbb524af67c56c3a913613db>. DOI: 10.1117/12.3062740
- Medvedev, V.; Erdmann, A.; Roßkopf, A. (2025): Physics-informed deep learning for 3D modeling of light diffraction from optical metasurfaces. In: *Optics Express* (10). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85215285953&doi=10.1364%2FOE.544116&partnerID=40&md5=43d4ecd5f227ec9b351ea842a1f0c1e9>. DOI: 10.1364/OE.544116
- Burenkov, A.; Pichler, P. (2025): Radial thermal transport from heated silicon nanowires: Molecular dynamics simulations and compact engineering models. In: *Case Studies in Thermal Engineering* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105003730402&doi=10.1016%2Fj.csite.2025.106056&partnerID=40&md5=c4d48395383f6fed94dbd22fa4ac6d6d>. DOI: 10.1016/j.csite.2025.106056
- Erdmann, A.; Mesilhy, H.; Evanschitzky, P.; Bottiglieri, G.; Brunner, T.; van Setten, E.; van Lare, M.C.; van de Kerkhof, M. (2025): Resolution enhancement for high-numerical aperture extreme ultraviolet lithography by split pupil exposures: a modeling perspective. In: *Journal of Micro/Nanopatterning, Materials and Metrology* (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105005014202&doi=10.1117%2F1.JMM.24.1.011002&partnerID=40&md5=7b7b2126a6107f21cf6877262a3dabe4>. DOI: 10.1117/1.JMM.24.1.011002
- Jones, A.R.; Cheng, X.; Parthasarathy, S.K.; Arshad, M.J.; Cilibrizzi, P.; Nagy, R.; Salter, P.; Smith, J.; Bonato, C.; Bekker, C. (2025): Scalable Registration of Single Quantum Emitters within Solid Immersion Lenses through Femtosecond Laser Writing. In: *Nano Letters* (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105007797019&doi=10.1021%2Facs.nanolett.5c01325&partnerID=40&md5=fe37cffe435d82ac9db0bc9125cee356>. DOI: 10.1021/acs.nanolett.5c01325
- Bläb, U.W.; Wu, M.; Epelbaum, B.; Meissner, E. (2025): Self-organised ordering of scandium into basal monolayers of aluminium nitride and its implication for the growth of well-crystallized (Al,Sc)N materials for electronic devices. In: *Journal of Materials Chemistry C* (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-86000782574&doi=10.1039%2Fd4tc04545a&partnerID=40&md5=3458d8a29a58af5bc04b3075d51e2d23>. DOI: 10.1039/d4tc04545a
- Berwian, P.; Hofmann, M.; Scharin-Mehlmann, M.; Parthasarathy, S.K.; Gobert, C. (2025): Silicon carbide growth and properties for quantum technologies. In:

Nanophotonics with Diamond and Silicon Carbide for Quantum Technologies (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105011226173&doi=10.1016%2FB978-0-443-13717-4.00013-X&partnerID=40&md5=b9abadbaa4635f7f6a7c65bc94e3c455>. DOI: 10.1016/B978-0-443-13717-4.00013-X

- Fröhlig, S.; Bründl, P.; Straub, Christopher; Franke, J. (2025): Towards a simulation model for pneumatic conveying of cable-like deformable linear objects. In: IEEE International Conference on Industrial Engineering and Engineering Management, IEEM 2025 (). Link: <https://publica.fraunhofer.de/entities/publication/3d91d395-1860-4a5d-bccc-97ce1864fad0>. DOI: 10.1109/IEEM63636.2025.11357724
- Gretz, J.; Kruss, S. (2025): 3D printing of models of carbon nanotubes and related nanomaterials. In: Carbon Trends (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105000982871&doi=10.1016%2Fj.cartre.2025.100498&partnerID=40&md5=091a28919c785732dc842fdb0431768>. DOI: 10.1016/j.cartre.2025.100498
- Ghazy, A.; Zanders, D.; Devi, A.; Karppinen, M. (2025): Atomic and Molecular Layer Deposition of Functional Thin Films Based on Rare Earth Elements. In: Advanced Materials Interfaces (5). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85201822464&doi=10.1002%2Fadmi.202400274&partnerID=40&md5=d730839aec57ba4365b02afc9dea3e8a>. DOI: 10.1002/admi.202400274
- Kessels, E.; Devi, A.; Park, J.-S.; Ritala, M.; Yanguas-Gil, A.; Wiemer, C. (2025): Atomic layer deposition. In: Nature Reviews Methods Primers (11). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105019250779&doi=10.1038%2Fs43586-025-00435-6&partnerID=40&md5=95b942dc49ace02106a89f3fb5c0472e>. DOI: 10.1038/s43586-025-00435-6
- Obenlünenschloß, J.; Klimars, J.; Selvakumar, I.; Mallick, B.; Schmickler, M.; Wilken, M.; Rogalla, D.; Gock, M.; Unkrig-Bau, M.; Huster, J.-N.; Devi, A. (2025): Heteroleptic Ruthenium p-Cymene Amidinate Complexes—A Synthetic Endeavor to Unearth Precursors for Ru Thin Films. In: Inorganic Chemistry (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105021083824&doi=10.1021%2Facs.inorgchem.5c03227&partnerID=40&md5=58d29c5c0cc52332791d59dfacd6e35d>. DOI: 10.1021/acs.inorgchem.5c03227
- Porcar, S.; Schmickler, M.; Okçu, H.; Obenlünenschloß, J.; d'Ercole, S.; Gabalda, L.C.; Galarreta-Rodriguez, I.; Rubio-Zuazo, J.; Cuadra, J.G.; Lahlahi, A.; Fraga, D.; Sanchez-Velasquez, C.; Bellet, D.; Fix, T.; Carda, J.B.; Devi, A.; Muñoz-Rojas, D. (2025): Low-temperature, high-throughput spatial atomic layer deposition of NiOx nanocrystalline thin films from [Ni(ipki)2]. In: Applied Surface Science Advances (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105014993520&doi=10.1016%2Fj.apsadv.2025.100836&partnerID=40&md5=0a0f80f26723f8c52ceb1cb78dbd7b4e>. DOI: 10.1016/j.apsadv.2025.100836
- Rottmann, J.; Dung, J.; Schierbaum, N.; Ligges, M.; Seidl, K. (2025): Modeling and optimization of time correlated single photon counting accuracy in fluorescence lifetime measurements using delay control. In: Optics Express (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105025171779&doi=10.1364%2FOE.579675&partnerID=40&md5=b11ff9dd28420d935acf9403422d7ac7>. DOI: 10.1364/OE.579675

- Preischel, F.; Rönnyby, K.; Mai, L.; Zanders, D.; Rogalla, D.; Mallick, B.; Nolan, M.; Devi, A. (2025): Near Room-Temperature Atomic Layer Deposition of Magnesium Oxide Using Bis-3-(N,N-dimethylamino)propyl Magnesium(II) and Water. In: *Journal of the American Chemical Society* (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105015594747&doi=10.1021%2Fjacs.5c08514&partnerID=40&md5=0f93c594cb77aa3a4cad44bfaa6c67b1>. DOI: 10.1021/jacs.5c08514
- Kaur, P.; Nisula, M.; Detavernier, C.; Devi, A. (2025): New dithiooxamide derivatives as promising precursors for ALD/MLD applications. In: *Dalton Transactions* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105017998342&doi=10.1039%2Fd5dt01405k&partnerID=40&md5=01bc3edf5cf3a83e401b8695f7f19b6e>. DOI: 10.1039/d5dt01405k
- Schrage, C.A.; Galonska, P.; Metternich, J.T.; Kruss, S. (2025): Photophysical Properties of Tandem Quantum Defects in Carbon Nanotubes. In: *Journal of Physical Chemistry Letters* (5). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85217252084&doi=10.1021%2Facs.jpcllett.4c03476&partnerID=40&md5=544cdb79d02cf4d75d34ef54997a8019>. DOI: 10.1021/acs.jpcllett.4c03476
- Preischel, F.; Zanders, D.; Glauber, J.-P.; Rönnyby, K.; Rogalla, D.; Gemming, T.; Dement, P.; Nolan, M.; Devi, A. (2025): Plasma-enhanced atomic layer deposition of AlPO<sub>4</sub> /AlP x O y: comparing dual source and supercycle approaches for composition control. In: *Dalton Transactions* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105023544181&doi=10.1039%2Fd5dt02282g&partnerID=40&md5=650f554274ef2d4026c7703f2f7cb358>. DOI: 10.1039/d5dt02282g
- Fedtschenko, T.; Haas, N.; Schaal, C.; Schrey, O.; Blaeser, S.; Weiler, D.; Amigues, X.; Wirth, A.; Eckardt, A. (2025): Radiation-hardened HV Bias and Clock Drivers for next-generation CMOS TDI detector. In: *Proceedings of SPIE - The International Society for Optical Engineering* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105024898712&doi=10.1117%2F12.3069697&partnerID=40&md5=d9773286c2768651ef6dc6a641034643>. DOI: 10.1117/12.3069697
- Obenlünenschloß, J.; Boysen, N.; Rönnyby, K.; Muriqi, A.; Hoffmann, V.; Abad, C.; Rogalla, D.; Brokmann, U.; Rädlein, E.; Nolan, M.; Devi, A. (2025): Rare Mononuclear Lithium–Carbene Complex for Atomic Layer Deposition of Lithium Containing Thin Films. In: *Angewandte Chemie - International Edition* (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105015307310&doi=10.1002%2Fanie.202513066&partnerID=40&md5=b5bce2dad9304ae711882dfcd286ce63>. DOI: 10.1002/anie.202513066
- Ma, C.; Kistwal, T.; Hill, B.; Neutsch, K.; Kruss, S. (2025): Solvatochromic Dyes Increase the Sensitivity of Nanosensors. In: *Journal of Physical Chemistry C* (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85215833917&doi=10.1021%2Facs.jpcc.4c07273&partnerID=40&md5=972dbe6159df8756575107913926f691>. DOI: 10.1021/acs.jpcc.4c07273
- Liu, J.; Glauber, J.-P.; Lorenz, J.; Rogalla, D.; Harms, C.; Devi, A.; Nolan, M. (2025): Surface Oxidation of Transition Metal Nitrides. In: *Journal of Physical Chemistry C* (5). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105007510088&doi=10.1021%2Facs.jpcc.5c02303&partnerID=40&md5=f592db71fc3f8ebc1837e619ee482426>. DOI: 10.1021/acs.jpcc.5c02303
- Nißler, R.; Zhou, Q.; Hill, B.; Thomä, S.L.J.; Gerken, L.R.H.; Borzi, A.; Roost, K.; Mächler, B.; Déan-Ben, X.L.; Neels, A.; Kruss, S.; Razansky, D.; Herrmann, I.K. (2025): Unlocking

NIR-II Photoluminescence in 2D Copper Tetrasilicate Nanosheets through Flame Spray Synthesis. In: *Advanced Materials* (0). Link:

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-105008180032&doi=10.1002%2Fadma.202503159&partnerID=40&md5=39128c332a93715f2cd7eca9611021c1>. DOI: 10.1002/adma.202503159

- Lehninger, D.; Müller, F.; Raffel, Y.; Yang, S.; Neuber, M.; Abdulazhanov, S.; Kämpfe, T.; Seidel, K.; Lederer, M. (2025): Ferroelectric Hafnium Oxide: A Potential Game-Changer for Nanoelectronic Devices and Systems. In: *Advanced Electronic Materials* (9). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85219681447&doi=10.1002%2Faelm.202400686&partnerID=40&md5=cdbc4de0f144a57138a7e807d1d00882>. DOI: 10.1002/aelm.202400686
- Schreyer, P.; Lehninger, D.; Vogel, T.; Zhang, T.; Kim, T.; Piros, E.; Li, Y.; Duan, Y.; Lederer, M.; Seidel, K.; Trautmann, C.; Toimil-Molares, E.; Alff, L. (2025): Structural and Electrical Behavior of Swift Heavy Ion Irradiated Hafnium Oxide Polymorphs in Ferroelectric and Resistive Memories. In: *Advanced Electronic Materials* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105024089079&doi=10.1002%2Faelm.202500631&partnerID=40&md5=5d1e80891df2017cbb623390efd4b104>. DOI: 10.1002/aelm.202500631
- Vardar, A.; Müller, F.; Cunarro, G.; Laleni, N.; Yadav, N.; Kämpfe, T. (2025): Memory-Efficient Spiking Neural Networks Using MLC FeFETs and Mixed Quantization. In: *AICAS 2025 - 2025 7th IEEE International Conference on Artificial Intelligence Circuits and Systems, Proceedings* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105018799927&doi=10.1109%2FAICAS64808.2025.11173115&partnerID=40&md5=bf2c644539f0bb4dd14fbaea0af487b9>. DOI: 10.1109/AICAS64808.2025.11173115
- Potjan, R.; Ostien, O.; Wislicenus, M.; Hoffmann, R.; Lilienthal, K.; Heidner, K.; Mende, F.; Liberda, S.; Reck, A.; Brackmann, V.; Lilienthal-Uhlig, B.; Wosnitza, J. (2025): Gate-controlled superconductivity and quantum interference in 300 nm CMOS-compatible ZrN nanostructures. In: *APL Materials* (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105004205314&doi=10.1063%2F5.0247193&partnerID=40&md5=a7235584a0c544854f4fdedb86c3e372>. DOI: 10.1063/5.0247193
- Lederer, M.; Kämpfe, T. (2025): Synaptic devices based on ferroelectric hafnium oxide: Recent advances, challenges, and future perspectives. In: *Applied Physics Letters* (4). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105001665911&doi=10.1063%2F5.0254762&partnerID=40&md5=e4186e3e0baef4a6fd0a9d5cf5522c87>. DOI: 10.1063/5.0254762
- Saritas, O.; Bolle, F.; Lin, Y.; Dressel, M.; Potjan, R.; Wislicenus, M.; Reck, A.; Scheffler, M. (2025): THz electrodynamics and superconducting energy scales of ZrN thin films. In: *Applied Physics Letters* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105021626808&doi=10.1063%2F5.0299019&partnerID=40&md5=c55331e01cf604f248823193a5f42459>. DOI: 10.1063/5.0299019
- Emara, J.; Kia, A.M.; Bönhardt, S.; Mart, C.; Kuhnel, K.; Haufe, N.; Puurunen, R.L.; Utriainen, M.; Weinreich, W. (2025): Lanthanum doped hafnium oxide thin films deposited on a lateral high aspect ratio structure using atomic layer deposition: A comparative study of surface composition and uniformity using x-ray photoelectron spectroscopy and time-of-flight secondary ion mass spectrometry. In: *Applied Surface Science* (3). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0->

85206001975&doi=10.1016%2Fj.apsusc.2024.161408&partnerID=40&md5=085b42b0ada3875abbfa781da4b49cc3. DOI: 10.1016/j.apsusc.2024.161408

- Deng, S.; Howe, J.; Ma, S.; Tauki, S.Y.; Zhao, Z.; Duan, J.; Lee, Y.; Qin, Y.; Joshi, R.; Kämpfe, T.; Gong, X.; Narayanan, V.; Ni, K. (2025): Vertical 2T-nC FeRAM Demonstration: BEOL Read Transistor for 4F2 Memory Strings and Two-Terminal Selector Design for Polarization Disturb Mitigation. In: Digest of Technical Papers - Symposium on VLSI Technology (3). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105012168011&doi=10.23919%2FVLSITechnologyandCir65189.2025.11074964&partnerID=40&md5=2acebd5c50651e75e2c201d428d15af5>. DOI: 10.23919/VLSITechnologyandCir65189.2025.11074964
- Chava, P.; Alius, H.; Gneiting, T.; Heide, T.; Javorka, P.; Kessler, M.; Lederer, M.; Lehmann, S.; Simon, M.; Su, M.; Vliex, P.; van Waasen, S.; Witt, C.; Zetsche, D. (2025): Cryogenic Performance Assessment of FD-SOI Transistors with Counter-Doped Channel. In: European Solid-State Circuits Conference (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105024556929&doi=10.1109%2FESSERC66193.2025.11214120&partnerID=40&md5=40dab4b60f5955ac3ed7d2d4a675e50e>. DOI: 10.1109/ESSERC66193.2025.11214120
- Zhong, H.; Zheng, Z.; Chen, Z.; Li, T.; Zhou, Z.; Jiao, L.; Ma, X.; Jia, H.; Yang, H.; Jiang, C.; Kämpfe, T.; Ni, K.; Gong, X.; Li, X. (2025): Enabling Energy-Efficient and High-Density eDRAM-LUT-Based Computing-in-Memory Using Anti-Ferroelectric Transistors. In: European Solid-State Circuits Conference (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105024566032&doi=10.1109%2FESSERC66193.2025.11214025&partnerID=40&md5=b84be4a573a082c3ac0039abe3eb0039>. DOI: 10.1109/ESSERC66193.2025.11214025
- Ota, K.; Okuno, J.; Yonai, T.; Ono, R.; Shuto, Y.; Sakakibara, M.; Kato, A.; Ueno, Y.; Lederer, M.; Reinig, P.; Seidel, K.; Alcalá, R.; Schroeder, U.; Mikolajick, T. (2025): Non-Volatile Inverter With 3D Cylindrical Metal-Ferroelectric-Metal Capacitor Realizing Digitized Voltage Output for Computing-In-Memory. In: European Solid-State Circuits Conference (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105024542284&doi=10.1109%2FESSERC66193.2025.11213963&partnerID=40&md5=e3435b0a62c2d3cc3b1df628557a3eb3>. DOI: 10.1109/ESSERC66193.2025.11213963
- Huckemann, T.; Muster, P.; Langheinrich, W.; Brackmann, V.; Friedrich, M.; Komericki, N.D.; Diebel, L.K.; Stieb, V.; Bougeard, D.; Yamamoto, Y.; Reichmann, F.; Zoellner, M.H.; Dahl, C.; Schreiber, L.R.; Bluhm, H. (2025): Industrially Fabricated Single-Electron Quantum Dots in Si/Si - Ge Heterostructures. In: IEEE Electron Device Letters (8). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105000630266&doi=10.1109%2FLED.2025.3553672&partnerID=40&md5=1daf9c7844d110f5b2a83b35c424be8a>. DOI: 10.1109/LED.2025.3553672
- Yang, S.; Müller, F.; Raffel, Y.; Yadav, N.; Hoffmann, R.; Schöne, F.; Lehninger, D.; Kämpfe, T.; Seidel, K.; Mulaosmanovic, H.; Kleimaier, D.; Dünkel, S.; Beyer, S.; Lederer, M.; Gerlach, G. (2025): Temperature-Dependent Detrapping Behavior of p-/n-Type Ferroelectric FETs With Si/SiGe Channel. In: IEEE Electron Device Letters (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105019974191&doi=10.1109%2FLED.2025.3625193&partnerID=40&md5=d3bc0a141c325f90f421c32ecf30306b>. DOI: 10.1109/LED.2025.3625193
- Rana Sk, M.; Senapati, A.; Kumar, G.; Raffel, Y.; Seidel, K.; Das, A.; Paul, A.; Lederer, M.; Cheng Chen, C.; Padovani, A.; Chakrabarti, B.; De, S. (2025): Trapping Dynamics and

Endurance in HfO<sub>2</sub>-FeFETs: An Insight From Charge Pumping. In: IEEE Electron Device Letters (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105017053813&doi=10.1109%2FLED.2025.3612323&partnerID=40&md5=14395078f9cd7586bc242c0cda736331>. DOI: 10.1109/LED.2025.3612323

- Yang, S.; Raffel, Y.; Olivo, R.; Hoffmann, R.; Lehninger, D.; Ostien, O.; Simon, M.; Seidel, K.; Kämpfe, T.; Lederer, M.; Gerlach, G.; Kämpfe, T. (2025): Defect Dynamics and Flicker Noise in Ferroelectric Field Effect Transistors at Cryogenic Temperatures. In: IEEE International Reliability Physics Symposium Proceedings (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105005827798&doi=10.1109%2FIRPS48204.2025.10983580&partnerID=40&md5=d630243183598cb48d5dc2b16f59876f>. DOI: 10.1109/IRPS48204.2025.10983580
- Vardar, A.; Laleni, N.; Baskaran, S.; Sharifi, M.M.; Li, M.; Müller, F.; Günter, M.; Qian, Y.; Zhuo, C.; Yin, X.; Niemier, M.; Li, B.; Hu, X.S.; Seidel, K.; Ni, K.; Kämpfe, T. (2025): A 28nm FeFET-Based Content-Addressable Memory for Energy-Efficient Similarity Search and Few-Shot Learning. In: IEEE Journal of the Electron Devices Society (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105025948170&doi=10.1109%2FJEDS.2025.3648870&partnerID=40&md5=f0614fc916cb94ec92e3caede97829f4>. DOI: 10.1109/JEDS.2025.3648870
- Sk, M.R.; Das, A.; Kumar, G.; Bhatnagar, D.; Roy, S.; Raffel, Y.; Lederer, M.; Seidel, K.; De, S.; Chakrabarti, B. (2025): Spike-Timing Dependent Learning Dynamics in Silicon-Doped Hafnium-Oxide-Based Ferroelectric Field Effect Transistors. In: IEEE Journal of the Electron Devices Society (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105001984729&doi=10.1109%2FJEDS.2025.3556675&partnerID=40&md5=25d737444c08a76b9935ec0f85228cb0>. DOI: 10.1109/JEDS.2025.3556675
- Qian, Y.; Huang, D.; Vardar, A.; Laleni, N.; Zhou, M.; Ni, K.; Kämpfe, T.; Zhuo, C.; Yin, X. (2025): Ferroelectric Compute-in-Memory Framework for Solving Pure and Mixed Strategy Nash Equilibrium. In: IEEE Transactions on Circuits and Systems I: Regular Papers (3). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105000523359&doi=10.1109%2FTCSI.2025.3548871&partnerID=40&md5=63940f6782c226f88a296945ab4ac423>. DOI: 10.1109/TCSI.2025.3548871
- Yin, X.; Huang, Q.; Errahmouni Barkam, H.; Müller, F.; Deng, S.; Vardar, A.; De, S.; Jiang, Z.; Imani, M.; Schlichtmann, U.; Hu, X.S.; Zhuo, C.; Kämpfe, T.; Ni, K. (2025): A Homogeneous FeFET-Based Time-Domain Compute-in-Memory Fabric for Matrix-Vector Multiplication and Associative Search. In: IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (8). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105003667407&doi=10.1109%2FTCAD.2024.3492994&partnerID=40&md5=48d7280b0b5c3da5ad3a9bee44a39e23>. DOI: 10.1109/TCAD.2024.3492994
- Jiang, Y.; Ni, K.; Kämpfe, T.; Zhuo, C.; Yan, Z.; Yin, X. (2025): CSA-CiM: Enhancing Multifunctional Computing-in-Memory With Configurable Sense Amplifiers. In: IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105003696496&doi=10.1109%2FTCAD.2024.3506864&partnerID=40&md5=4c12ee1f2c65302e985b25dca034ce49>. DOI: 10.1109/TCAD.2024.3506864
- Li, C.; Huang, X.; Xu, Z.; Wen, B.; Mao, R.; Zhou, M.; Kämpfe, T.; Ni, K.; Li, C.; Yin, X.; Zhuo, C. (2025): High-Performance In-Memory Bayesian Inference With Multi-Bit

Ferroelectric FET. In: IEEE Transactions on Computers (0). Link:

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-105007505187&doi=10.1109%2FTC.2025.3576941&partnerID=40&md5=a66bdc05d4d05203bcedf9fec2c4cc1)

[105007505187&doi=10.1109%2FTC.2025.3576941&partnerID=40&md5=a66bdc05d4d05203bcedf9fec2c4cc1](https://www.scopus.com/inward/record.uri?eid=2-s2.0-105007505187&doi=10.1109%2FTC.2025.3576941&partnerID=40&md5=a66bdc05d4d05203bcedf9fec2c4cc1). DOI: 10.1109/TC.2025.3576941

- Raffel, Y.; Hessler, D.; Kumar, G.; Olivo, R.; Pirro, L.; Chohan, T.; Seidel, K.; Hoffmann, R.; Bhatnagar, D.; Das, A.; Lederer, M.; De, S.; Heitmann, J. (2025): Defect Dynamics in Silicon-Doped HfO<sub>2</sub>-Based Front-End-of-Line FeFETs: Insights From Low-Frequency Noise on Doping Concentration, Interfaces, and Write Cycling. In: IEEE Transactions on Electron Devices (4). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105004819945&doi=10.1109%2FTED.2025.3564270&partnerID=40&md5=6b4594c8afdab2864469da6154adbce7>. DOI: 10.1109/TED.2025.3564270
- Xiao, Y.; Deng, S.; Jiang, Z.; Qin, Y.; Zhao, Z.; Zhang, R.; Howe, J.; Lee, Y.; Duan, J.; Joshi, R.; Kämpfe, T.; Luo, T.; Hou, T.-H.; Gong, X.; Narayanan, V.; Ni, K. (2025): Demonstration of Vertical 2T-nC FeRAM Hybrid Cell and Its Scalability for High-Density 3-D Ferroelectric Capacitor Memory. In: IEEE Transactions on Electron Devices (4). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105004644194&doi=10.1109%2FTED.2025.3564273&partnerID=40&md5=08aa60c1bd173abaa832d31e6f546542>. DOI: 10.1109/TED.2025.3564273
- Hindenberg, M.; Talapatra, A.; Lilienthal-Uhlig, B.; Müller, J.; Hoffmann, R.; Mikolajick, T. (2025): Offset Field Extraction With Multi-Bit Magnetic Tunnel Junction Structures. In: IEEE Transactions on Electron Devices (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105007420863&doi=10.1109%2FTED.2025.3571706&partnerID=40&md5=d0ded052b57c70a573ebdd9b2669104c>. DOI: 10.1109/TED.2025.3571706
- Hindenberg, M.; Müller, J.; Durner, C.A.; Sanchez Hazen, D.; Weisheit, M.; Mikolajick, T. (2025): Synthetic Antiferromagnet Reversal—Role of Thermal and Magnetic Stress and Impact on Functionality of STT-MRAM. In: IEEE Transactions on Electron Devices (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105011054060&doi=10.1109%2FTED.2025.3586827&partnerID=40&md5=2837076c8ab4ed0af2512bf3805c09f7>. DOI: 10.1109/TED.2025.3586827
- Klotzsche, M.C.; Sunil Shetti, S.; Lilienthal-Uhlig, B.; Guhl, C. (2025): Reduced Topography After Stop on Nitride (SON) STI CMP Through Improved Post-Bulk Planarity for Diverse Layouts in Advanced Nodes. In: IEEE Transactions on Semiconductor Manufacturing (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105010108548&doi=10.1109%2FTSM.2025.3584390&partnerID=40&md5=a7d5a741c6f6baa3002c2a143dd6af32>. DOI: 10.1109/TSM.2025.3584390
- Cai, J.; Laguna, A.F.; Yang, Z.; Yang, Y.; Kämpfe, T.; Yan, Z.; Zhuo, C.; Yin, X. (2025): FACAM: Design and Optimization of A Compact Energy Efficient FeFET-Based Analog Content Addressable Memory. In: IEEE/ACM International Conference on Computer-Aided Design, Digest of Technical Papers, ICCAD (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105029421422&doi=10.1109%2FICCAD66269.2025.11240794&partnerID=40&md5=a8201044574e8f052e800763ef97df1e>. DOI: 10.1109/ICCAD66269.2025.11240794
- Li, T.; Zhong, H.; Xu, Y.; Narayanan, V.; Ni, K.; Yang, H.; Kämpfe, T.; Li, X. (2025): REMNA: Variation-Resilient and Energy-Efficient MLC FeFET Computing-in-Memory Using NAND Flash-Like Read and Adaptive Control. In: IEEE/ACM International Conference on Computer-Aided Design, Digest of Technical Papers, ICCAD (0). Link:

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-105003637564&doi=10.1145%2F3676536.3676715&partnerID=40&md5=2e239aa8682e8bf0357ddf0e7beecc5e>. DOI: 10.1145/3676536.3676715

- Ni, C.; Chen, S.; Liu, C.-K.; Liu, L.; Imani, M.; Kämpfe, T.; Ni, K.; Niemier, M.; Hu, X.S.; Zhuo, C.; Yin, X. (2025): TAP-CAM: A Tunable Approximate Matching Engine based on Ferroelectric Content Addressable Memory. In: IEEE/ACM International Conference on Computer-Aided Design, Digest of Technical Papers, ICCAD (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105003643618&doi=10.1145%2F3676536.3676699&partnerID=40&md5=32a499920f51d1b28c66bdc513ac92cb>. DOI: 10.1145/3676536.3676699
- Zhou, Y.; Kämpfe, T.; Ni, K.; Amrouch, H.; Zhuo, C.; Yin, X. (2025): TReCiM: Lower Power and Temperature-Resilient Multibit 2FeFET-1T Compute-in-Memory Design. In: IEEE/ACM International Conference on Computer-Aided Design, Digest of Technical Papers, ICCAD (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105003634195&doi=10.1145%2F3676536.3676792&partnerID=40&md5=f9de6a7077fb4a6d609c110840e46f4c>. DOI: 10.1145/3676536.3676792
- Laleni, N.; Ranjbar, S.; Zhang, R.; Tsioungkos, A.; Yadav, N.; Pavlidis, V.; Kämpfe, T. (2025): Integrating P-bits in MTJs: A Bridge to Efficient Stochastic Computing. In: International Conference on Modern Circuits and Systems Technologies, MOCAS (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105022273299&doi=10.1109%2FMOCAS65744.2025.11083955&partnerID=40&md5=4ef25e4d4a8550f767de922a40168fd2>. DOI: 10.1109/MOCAS65744.2025.11083955
- Vardar, A.; Günther, M.; Müller, F.; Laleni, N.; Seidel, K.; Kämpfe, T. (2025): Reliable multi-level cell programming in FeFET arrays for in-memory computing. In: Japanese Journal of Applied Physics, Part 1: Regular Papers and Short Notes and Review Papers (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105004886455&doi=10.35848%2F1347-4065%2Fadc745&partnerID=40&md5=a0aaf661bfd22b48edb969c8630911d5>. DOI: 10.35848/1347-4065/adc745
- Kumar, A.; Ali, T.; Lehninger, D.; Duhan, P. (2025): Impact of interface traps and fixed interface charges on polarization and TER ratio in MFIS ferroelectric tunnel junctions: A TCAD study. In: Journal of Applied Physics (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105015962013&doi=10.1063%2F5.0288212&partnerID=40&md5=c4f952bae2afe4e72000b3a045aa2e1c>. DOI: 10.1063/5.0288212
- Gwózdź, K.; Kolkovsky, V. (2025): Revised identification of Ag-related defects in silver-doped Si by deep-level transient spectroscopy. In: Journal of Applied Physics (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105020793401&doi=10.1063%2F5.0297836&partnerID=40&md5=23c112397b8abd1e11c762b5607280b2>. DOI: 10.1063/5.0297836
- Mangadahalli Siddaramu, S.; Hindenberg, M.; Müller, J.; Wagner-Reetz, M.; Chatterjee, J. (2025): Temperature-dependent analysis of retention and write characteristics of STT-MRAM cells. In: Journal of Applied Physics (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105022974112&doi=10.1063%2F5.0299733&partnerID=40&md5=b2b8a87bc6ac0e8f7782b574590993a7>. DOI: 10.1063/5.0299733

- Mohammadi, M.; Ranjbar, S.; Thach, P.V.; Sumi, S.; Tanabe, K.; Awano, H. (2025): Exploring fast domain wall motion and DMI realization in compensated ferrimagnetic nanowires. In: *Journal of Physics D: Applied Physics* (4). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85219093113&doi=10.1088%2F1361-6463%2Fad9031&partnerID=40&md5=5ad1adbcecb9b1f22249f2c3fbd772f7>. DOI: 10.1088/1361-6463/ad9031
- Kolkovsky, Vladimir; Stübner, Ronald (2025): Alumina layers deposited with different precursors for different microelectronic applications. In: *Microelectronics reliability* (). Link: <https://publica.fraunhofer.de/entities/publication/b80e30e7-6d1f-450b-99df-ddf583e75e7b>. DOI: 10.1016/j.microrel.2025.115769
- Falidas, K.E.; Kuhnelt, K.; Rudolph, M.; Everding, M.; Reck, A.; Czernohorsky, M.; Heitmann, J. (2025): Electrical and reliability characterization with an optimized extrapolation model of two- and three-dimensional metal-insulator-metal decoupling capacitors with ZrAlxOy high- $\kappa$  dielectric under BEoL-friendly conditions. In: *Microelectronics Reliability* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105009840921&doi=10.1016%2Fj.microrel.2025.115845&partnerID=40&md5=dfc543a2014a0bddeb6a477a03267116>. DOI: 10.1016/j.microrel.2025.115845
- Zhou, Z.; Zhong, H.; Jiao, L.; Zheng, Z.; Yang, H.; Kämpfe, T.; Ni, K.; Li, X.; Gong, X. (2025): Charge-domain content addressable memory based on ferroelectric capacitive memory for reliable and energy-efficient one-shot learning. In: *Nature Communications* (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105015126931&doi=10.1038%2Fs41467-025-63190-y&partnerID=40&md5=73e2b491faef57669de9200969659792>. DOI: 10.1038/s41467-025-63190-y
- Li, T.; Guo, X.; Müller, F.; Abdulazhanov, S.; Ma, X.; Zhong, H.; Liu, Y.; Narayanan, V.; Yang, H.; Ni, K.; Kämpfe, T.; Li, X. (2025): Demonstration of high-reconfigurability and low-power strong physical unclonable function empowered by FeFET cycle-to-cycle variation and charge-domain computing. In: *Nature Communications* (14). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85214104201&doi=10.1038%2Fs41467-024-55380-x&partnerID=40&md5=f7f266a43a844e7c3bfafcccd40aed4>. DOI: 10.1038/s41467-024-55380-x
- Al Aiti, M.; Boddu, S.A.; Reinig, P.; Cuniberti, G. (2025): Characterization of Highly-Oriented Carbon and Graphite Fibers by High-Temperature Raman Spectroscopy. In: *Physica Status Solidi - Rapid Research Letters* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105005531881&doi=10.1002%2Fpssr.202500107&partnerID=40&md5=5880c2f80f97bce5dba2d3f5f6378a8c>. DOI: 10.1002/pssr.202500107
- Zhang, R.; Wan, C.; Xu, Y.; Li, X.; Hoffmann, R.; Hindenberg, M.; Liu, S.; Kong, D.; Xiong, S.; He, S.; Vardar, A.; Dai, Q.; Gong, J.; Sun, Y.; Zheng, Z.; Kämpfe, T.; Yu, G.; Han, X. (2025): Drift-resilient magnetic-tunnel-junction random-number generator via hybrid control strategies. In: *Physical Review Applied* (4). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105006703470&doi=10.1103%2FPhysRevApplied.23.054073&partnerID=40&md5=774227269ab765570af55b9b2666648c>. DOI: 10.1103/PhysRevApplied.23.054073

- Qian, Y.; Huang, X.; Wang, R.; Yang, Z.; Zhou, M.; Kämpfe, T.; Zhuo, C.; Yin, X. (2025): Device-Algorithm Co-Design of Ferroelectric Compute-in-Memory In-Situ Annealer for Combinatorial Optimization Problems. In: Proceedings - Design Automation Conference (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105017620779&doi=10.1109%2FDAC63849.2025.11133307&partnerID=40&md5=ea6541eac7cb277a4d377b86aaf4baec>. DOI: 10.1109/DAC63849.2025.11133307
- Vardar, A.; Müller, F.; Cunarro, G.; Laleni, N.; Yadav, N.; Kämpfe, T. (2025): Genetic Algorithm-Driven IMC Mapping for CNNs Using Mixed Quantization and MLC FeFETs. In: Proceedings -Design, Automation and Test in Europe, DATE (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105006907932&doi=10.23919%2FDATE64628.2025.10992694&partnerID=40&md5=a2cbc174342a1f25cb12bdb7b0e9480e>. DOI: 10.23919/DATE64628.2025.10992694
- Langheinrich, W.; Brackmann, V.; Friedrich, M.; Wislicenus, M.; Muster, P.; Pregl, S.; Reichmann, F.; Komericki, N.D.; Bougeard, D.; Huckemann, T.; Schreiber, L.R.; Bluhm, H. (2025): Fabrication of single-electron shuttling channels in a silicon CMOS fab using high-throughput electron beam lithography. In: Proceedings of SPIE - The International Society for Optical Engineering (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105024941870&doi=10.1117%2F12.3063352&partnerID=40&md5=54fbc9f98eb0cd596943a799f2b7e8d7>. DOI: 10.1117/12.3063352
- Richter, B.; Wartenberg, P.; Brenner, S.; Baumgarten, J.; Lenk, S.; Fehse, K.; Schlebusch, D.; Törker, M.; Fritscher, A.; Zeltner, J.; Schmidt, C.; Rolle, M.; Damnik, S.; Metzner, M.; Mütze, J.; Schuster, F.; Vogel, U. (2025): Semi-transparent CMOS backplane for advanced near-to-eye microdisplays. In: Proceedings of SPIE - The International Society for Optical Engineering (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105004584363&doi=10.1117%2F12.3050147&partnerID=40&md5=429a09062563630346dde82729efd0f3>. DOI: 10.1117/12.3050147
- Shala, L.; Knobbe, J.; Augel, L. (2025): Electrical Characterization of AlSiCu-on-AlSiTi/TiN Structured Contacts for Schottky Photodiodes. In: Proceedings of the International Spring Seminar on Electronics Technology (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105015843840&doi=10.1109%2FISSE65583.2025.11121055&partnerID=40&md5=e32f54e5a88333ac187c2eac3c90357f>. DOI: 10.1109/ISSE65583.2025.11121055
- Lei, L.; Dill, P.; Schumann, E. (2025): Improving Atomic Layer Deposition Process of Silicon Oxide (SiO<sub>2</sub>). In: Proceedings of the International Spring Seminar on Electronics Technology (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105015647425&doi=10.1109%2FISSE65583.2025.11120989&partnerID=40&md5=bc7c68dda334cdae661a3009ef53bb2d>. DOI: 10.1109/ISSE65583.2025.11120989
- Kolkovsky, V. (2025): Alumina layers deposited with different precursors by atomic layer deposition and magnetron sputtering: negative charge and its origin. In: Thin Solid Films (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105023835329&doi=10.1016%2Fj.tsf.2025.140819&partnerID=40&md5=4f0777dbc649980ae5a89548f6849e41>. DOI: 10.1016/j.tsf.2025.140819
- Raj, B.; Rahi, S.B.; Yadav, N. (2025): FeFET Devices, Trends, Technology and Applications. In: (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105005030033&doi=10.1002%2F9781394287307&partnerID=40&md5=de936973e5278705fbbf47ce1979da32>. DOI: 10.1002/9781394287307

- Ashkrizzadeh, R.; Gronenberg, O.; Petraru, A.; Schönweger, G.; Mackensen, E.; Hanssen, H.; Kienle, L.; Kohlstedt, H. (2025): A pressure sensitive silicon field effect transistor comprising a buffer-free piezoelectric Al<sub>0.72</sub>Sc<sub>0.28</sub>N layer. In: *Thin Solid Films* (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85212554394&doi=10.1016%2Fj.tsf.2024.140590&partnerID=40&md5=ad9c8e9b56670493283d40373c0cd67b>. DOI: 10.1016/j.tsf.2024.140590
- Lu, H.; Schönweger, G.; Wolff, N.; Ding, Z.; Petraru, A.; Streicher, I.; Kohlstedt, H.; Kübel, C.; Leone, S.; Kienle, L.; Fichtner, S.; Gruverman, A. (2025): Al<sub>1-x</sub>Sc<sub>x</sub>N-Based Ferroelectric Domain-Wall Memristors. In: *Advanced Functional Materials* (7). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105006774632&doi=10.1002%2Fadfm.202503143&partnerID=40&md5=cd3da0005ba3db3e23c1fe8d998c3a94>. DOI: 10.1002/adfm.202503143
- Raschdorf, P.; Hofen, C.V.; Voß, N.; Yarar, E.; Wille, G.; Lofink, F.; Gu-Stoppel, S. (2025): AlScN Based Piezoelectrically Driven Quasi-Static MEMS Scanners with Large Field of View and Selectable Regions of Interest. In: *International Conference on Solid-State Sensors, Actuators and Microsystems, Transducers* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105030282330&doi=10.1109%2FTransducers61432.2025.11111047&partnerID=40&md5=511cb99580b940e47b5bdfd209c44d74>. DOI: 10.1109/Transducers61432.2025.11111047
- Zhang, Y.; Quenzer, H.-J.; Jensen, B.; Zollondz, J.-H.; Muller-Groeling, A. (2025): Development of Crystallized Thick, Highly Doped A-Si:H Layers for Surface Micromachining of MEMS. In: *International Conference on Solid-State Sensors, Actuators and Microsystems, Transducers* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105030290456&doi=10.1109%2FTransducers61432.2025.11110850&partnerID=40&md5=3da594bc4f7af19abf23a4eeb0923c59>. DOI: 10.1109/Transducers61432.2025.11110850
- Zhang, Y.; Quenzer, H.-J.; Jensen, B.; Muller-Groeling, A. (2025): Development of crystallized thick, highly doped a-Si:H layers for surface micromachining of MEMS inertial sensors. In: *Journal of Micromechanics and Microengineering* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105007503029&doi=10.1088%2F1361-6439%2Fadd943&partnerID=40&md5=b8d1f0a04f070f7ea2af0bb676859a36>. DOI: 10.1088/1361-6439/add943
- Wolff, N.; Grieb, T.; Schönweger, G.; Krause, F.F.; Streicher, I.; Leone, S.; Rosenauer, A.; Fichtner, S.; Kienle, L. (2025): Electric field-induced domain structures in ferroelectric AlScN thin films. In: *Journal of Applied Physics* (17). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85218506565&doi=10.1063%2F5.0244102&partnerID=40&md5=655773cd26e6748f2dc83a3571cea63a>. DOI: 10.1063/5.0244102
- Guido, R.; Gremmel, M.; Mikolajick, T.; Fichtner, S.; Schroeder, U. (2025): Ferroelectric Al<sub>1-x</sub>Sc<sub>x</sub>N Opposite State Retention Model Based on Switching Dynamics. In: *Advanced Functional Materials* (6). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-86000781046&doi=10.1002%2Fadfm.202421793&partnerID=40&md5=911a8c939058feefadb37434b0b7d8a4>. DOI: 10.1002/adfm.202421793

- Fichtner, S.; Uehara, M.; Streicher, I.; Yang, S.; Maria, J.-P.; Mi, Z.; Leone, S.; Funakubo, H. (2025): Growth of wurtzite ferroelectrics. In: MRS Bulletin (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105018492917&doi=10.1557%2Fs43577-025-00997-6&partnerID=40&md5=bc42883d65612249183b296ef66d0037>. DOI: 10.1557/s43577-025-00997-6
- Lupan, C.; Kohlmann, N.; Petersen, D.; Bodduluri, M.T.; Buzdugan, A.; Jetter, J.; Quandt, E.; Kienle, L.; Adelung, R.; Lupan, O. (2025): Hydrogen nanosensors based on core/shell ZnO/Al<sub>2</sub>O<sub>3</sub> and ZnO/ZnAl<sub>2</sub>O<sub>4</sub> single nanowires. In: Materials Today Nano (7). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85218982106&doi=10.1016%2Fj.mtnano.2025.100596&partnerID=40&md5=aa34f953742b0893594157f8ca2bda5a>. DOI: 10.1016/j.mtnano.2025.100596
- Wolff, N.; Schönweger, G.; Islam, M.R.; Ding, Z.; Kübel, C.; Fichtner, S.; Kienle, L. (2025): Interfacial Polarization Switching in Al<sub>0.92</sub>Sc<sub>0.08</sub>N/GaN Heterostructures Grown by Sputter Epitaxy. In: Advanced Science (6). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105007767324&doi=10.1002%2Fadv.202503827&partnerID=40&md5=77c6621c672a376c67f95c95e70cd06>. DOI: 10.1002/adv.202503827
- Islam, M.R.; Wolff, N.; Schönweger, G.; Kreuzer, T.-N.; Brown, M.; Gremmel, M.; Ollanescu-Orendi, E.S.; Straňák, P.; KIRSTE, L.; Brennecka, G.L.; Fichtner, S.; Kienle, L. (2025): Oxygen Doping in Ferroelectric Wurtzite-type Al<sub>0.73</sub>Sc<sub>0.27</sub>N: Improved Leakage and Polarity Control. In: Advanced Electronic Materials (9). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105000824806&doi=10.1002%2Faem.202400874&partnerID=40&md5=361c4474a337213a8a92c4091233bba2>. DOI: 10.1002/aem.202400874
- Fichtner, S.; Schönweger, G.; Lee, C.-W.; Yazawa, K.; Gorai, P.; Brennecka, G.L. (2025): Polarization and domains in wurtzite ferroelectrics: Fundamentals and applications. In: Applied Physics Reviews (9). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105003655997&doi=10.1063%2F5.0249265&partnerID=40&md5=041cad6c3e40564063766d0b1877c6ea>. DOI: 10.1063/5.0249265
- Kraft, F.A.; Gremmel, M.; Fichtner, S.; Gerken, M. (2025): Scandium-Doped Aluminum Nitride (AlScN) Thin-Film as a Piezoelectric Optical Waveguide for Photonic Crystal Slabs. In: 2025 Conference on Lasers and Electro-Optics Europe and European Quantum Electronics Conference, CLEO/Europe-EQEC 2025 (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105016126651&doi=10.1109%2FCLEO%2FEUROPE-EQEC65582.2025.11110150&partnerID=40&md5=836d0204829cdd6396997904d61fbab1>. DOI: 10.1109/CLEO/EUROPE-EQEC65582.2025.11110150
- Gremmel, M.; Prakash Savant, C.; Bhattacharya, D.; Schönweger, G.; Jena, D.; Fichtner, S. (2025): The effect of boron incorporation on leakage and wake-up in ferroelectric Al<sub>1-x</sub>Sc<sub>x</sub>N. In: Journal of Applied Physics (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105009088869&doi=10.1063%2F5.0263916&partnerID=40&md5=ad42e61099c639ac0453a496fd47b0a7>. DOI: 10.1063/5.0263916
- Schönweger, G.; Wolff, N.; Islam, M.R.; Streicher, I.; Leone, S.; Kienle, L.; Fichtner, S. (2025): Toward ferroelectric AlN/GaN heterostructures and sputtered III-N thin films with

metal organic chemical vapor deposition-like texture. In: *Communications Materials* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105017804648&doi=10.1038%2Fs43246-025-00962-5&partnerID=40&md5=4c17fc8fffabf0c005f20f36d5c02b9c>. DOI: 10.1038/s43246-025-00962-5

- Kreutzer, T.-N.; Ghori, M.Z.; Islam, M.R.; Lofink, F.; Stoppel, F.; Muller-Groeling, A.; Fichtner, S. (2025): Wafer scale reactive sputtering of highly oriented and ferroelectric Al<sub>0.6</sub>Sc<sub>0.4</sub>N from 300 mm AlSc targets. In: *Journal of Micromechanics and Microengineering* (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105011076545&doi=10.1088%2F1361-6439%2Fad95&partnerID=40&md5=c68daa720d0266109410594790262ac4>. DOI: 10.1088/1361-6439/ad95
- Gossing, F.; Spetzler, E.; Kittmann, A.; Niekietel, F.; Jovičević Klug, M.; Path, M.; Meyners, D.; Lisec, T.; Gojdka, B.; Lofink, F.; McCord, J. (2025): Wafer-level magnetic field biased single domain soft magnetic layers by integrated NdFeB micromagnets. In: *Applied Physics Letters* (2). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85218226569&doi=10.1063%2F5.0244994&partnerID=40&md5=c0469d0988fbb4c04e3150eda941a9f7>. DOI: 10.1063/5.0244994
- van Dijk, M.; Kuttler, S.; Jügel, M.; Wittler, O.; Schneider-Ramelow, M. (2025): Determination of the Thermo-Oxidative Ageing Depth and its Influence on Mechanical Properties in (Highly) Filled Polymers. In: *Proceedings - 2025 26th International Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in Microelectronics and Microsystems, EuroSimE 2025* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105007413287&doi=10.1109%2FEuroSimE65125.2025.11006567&partnerID=40&md5=0c3c5ce56fc4bc371ddb7c0957434f9>. DOI: 10.1109/EuroSimE65125.2025.11006567
- Huber, V.; Schink, M. (2025): Be Write Back: An in-depth Study of Fault Injection Effects on FRAM Technology. In: *Proceedings of the 19th USENIX WOOT Conference on Offensive Technologies, WOOT 2025* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105021089851&partnerID=40&md5=82563e53d284ee6da7495730d8fbf1c4>. DOI: 10.1109/woot.2025.105021089851
- Feder, R.; Patzig, C.; Sturzenegger, C.; Schachtler, D.; Höche, T. (2025): Characterization of Laser Damage using Cutting Edge Microstructure Analysis. In: *Optical Interference Coatings, OIC 2025 in Proceedings Optica OIC - Optical Interference Coatings Conference 2025* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105014328628&doi=10.1364%2Foic.2025.the.2&partnerID=40&md5=80b71f097f95ae40c98a985ccff7971d>. DOI: 10.1364/oic.2025.the.2
- Bar, M.S.; Walter, C.; Selle, S.; Grundmann, M.; von Wenckstern, H. (2025): Combinatorial Synthesis and Characterization of CuBr<sub>1-x</sub> Using a Segmented Target Approach for Pulsed Laser Deposition. In: *Physica Status Solidi - Rapid Research Letters* (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105002651075&doi=10.1002%2Fpssr.202500023&partnerID=40&md5=2f28aaa5c46609f409d0abce360e77e5>. DOI: 10.1002/pssr.202500023
- Sahoo, R.; Fecher, G.H.; Selle, S.; Höche, T.; Felser, C. (2025): Design of hexagonal Mn–Pt–Ga Heusler thin films with out of plane magnetization and large coercivity. In: *AIP Advances* (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0->

105022777950&doi=10.1063%2F5.0286811&partnerID=40&md5=6207cb0fd18e3ea17704bdbc464df35f. DOI: 10.1063/5.0286811

- Chen, Y.; Bar, M.S.; Selle, S.; Splith, D.; Lorenz, M.; Grundmann, M.; von Wenckstern, H. (2025): Low-temperature buffer layer-assisted heteroepitaxial growth of  $\gamma$ -CuI thin films by pulsed laser deposition: Tailoring electrical properties. In: Applied Physics Letters (4). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85216740925&doi=10.1063%2F5.0250124&partnerID=40&md5=006bcd8e385d9677af4af404ce23dc61>. DOI: 10.1063/5.0250124
- Yu, J.; Luo, S.; Splith, D.; Selle, S.; Thieme, K.; Gierth, S.; Schultz, T.; Schlupp, P.; Sturm, C.; von Wenckstern, H.; Lorenz, M.; Koch, N.; Höche, T.; Grundmann, M. (2025): Ultrawide bandgap spinel  $\gamma$ -(Ga<sub>0.8</sub>Ge<sub>0.2</sub>)<sub>2</sub>O<sub>3</sub> alloy semiconductor epitaxial thin films. In: Journal of Applied Physics (0). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105004263098&doi=10.1063%2F5.0255699&partnerID=40&md5=2b61b31ac6e8e472c0cc781c6fff2d64>. DOI: 10.1063/5.0255699
- Rowlinson, B.D.; Zeng, J.; Patzig, C.; Ebert, M.; Chong, H.M.H. (2025): Impact of bias stress and endurance switching on electrical characteristics of polycrystalline ZnO-TFTs with Al<sub>2</sub>O<sub>3</sub> gate dielectric. In: Journal of Physics D: Applied Physics (3). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85212321503&doi=10.1088%2F1361-6463%2Fad8663&partnerID=40&md5=e5ca9b683ecc902c52b2185b81184493>. DOI: 10.1088/1361-6463/ad8663
- Dammann, M.; Brückner, P.; Driad, R.; Krause, S.; Albahrani, S.A.; Weber, B.; Baeumler, M.; Konstanzer, H.; Mikulla, M.; Simon-Najasek, M.; Hubner, S.; Graff, A. (2025): Reliability and failure analysis of AlGaIn/GaN HEMT with NiPtAu and PtAu gate. In: Microelectronics Reliability (1). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-105001309390&doi=10.1016%2Fj.microrel.2025.115718&partnerID=40&md5=07ad7c3bae3bc169b395f4f2d2b37642>. DOI: 10.1016/j.microrel.2025.115718
- Er-Raji, O.; Lange, S.; Hartwig, C.E.; Prasetio, A.; Bivour, M.; Hermle, M.; Turek, M.; De Wolf, S.; Glunz, S.W.; Borchert, J.; Schulze, P.S.C. (2025): Tuning Self-Assembly of Hole-Selective Monolayers for Reproducible Perovskite/Silicon Tandem Solar Cells. In: Small Methods (9). Link: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85218697127&doi=10.1002%2Fsmt.202401758&partnerID=40&md5=18af1a993917f3d0041c8eaecf7473a4>. DOI: 10.1002/smt.202401758