

Publications

- [1] S. Bader, P. Gerlach, and R. Michalzik, “VCSELs with optically controlled current confinement: experiments and analysis”, in *Semiconductor Lasers and Laser Dynamics VII*, K.P. Panajotov, M. Sciamanna, A.A. Valle, R. Michalzik (Eds.), Proc. SPIE 9892, pp. 989208-1–6, 2016.
- [2] S. Bader, P. Gerlach, and R. Michalzik, “Optically controlled current confinement in vertical-cavity surface-emitting lasers”, *IEEE Photon. Technol. Lett.*, vol. 28, pp. 1309–1312, 2016.
- [3] S. Bader, P. Gerlach, and R. Michalzik, “Oxide-free vertical-cavity lasers with optically self-controlled current confinement”, *SPIE Newsroom*, Sep. 13, 2016, 3 pages, DOI:10.1117/2.1201608.006556.
- [4] M. Caliebe, S. Tandukar, Z. Cheng, M. Hocker, Y. Han, T. Meisch, D. Heinz, F. Huber, S. Bauer, A. Plettl, C. Humphreys, K. Thonke, and Ferdinand Scholz, “Influence of trench period and depth on {MOVPE} grown GaN on patterned r-plane sapphire substrates”, *J. Cryst. Growth*, vol. 440, pp. 69–75, 2016.
- [5] M. Caliebe, Y. Han, M. Hocker, T. Meisch, C. Humphreys, K. Thonke, and F. Scholz, “Growth and coalescence studies of (11 $\bar{2}$ 2) oriented GaN on pre-structured sapphire substrates using marker layers”, *Phys. Status Solidi B*, vol. 253, pp. 46–53, 2016,
- [6] M. Daubenschütz and R. Michalzik, “Parameter extraction from temperature-dependent light–current–voltage data of vertical-cavity surface-emitting lasers”, in *Semiconductor Lasers and Laser Dynamics VII*, K.P. Panajotov, M. Sciamanna, A.A. Valle, R. Michalzik (Eds.), Proc. SPIE 9892, pp. 98920R-1–8, 2016.
- [7] R.A.R. Leute, D. Heinz, J. Wang, T. Meisch, M. Müller, G. Schmidt, S. Metzner, P. Veit, F. Bertram, J. Christen, M. Martens, T. Wernicke, M. Kneissl, S. Jenisch, S. Strehle, O. Rettig, K. Thonke, and F. Scholz, “Embedded GaN nanostripes on c-sapphire for DFB lasers with semipolar quantum wells”, *Phys. Status Solidi B*, vol. 253, pp. 180–185, 2016.
- [8] T. Meisch, R. Zeller, S. Schörner, K. Thonke, L. Kirste, T. Fuchs, and Ferdinand Scholz, “Doping behavior of (11 $\bar{2}$ 2)-GaN grown on patterned sapphire substrates”, *Phys. Status Solidi B*, vol. 253, pp. 164–168, 2016.
- [9] T. Pusch, M. Bou Sanayeh, M. Lindemann, N.C. Gerhardt, M.R. Hofmann, and R. Michalzik, “Birefringence tuning of VCSELs”, in *Semiconductor Lasers and Laser Dynamics VII*, K.P. Panajotov, M. Sciamanna, A.A. Valle, R. Michalzik (Eds.), Proc. SPIE 9892, pp. 989222-1–6, 2016.
- [10] F. Scholz, J. Koch, A. Frey, and A.C. Jones, “Organometallic source materials for III-V epitaxy”, *Reference Module in Materials Science and Materials Engineering*, pp. 1–6, Oxford: Elsevier, 2016. ?

- [11] F. Scholz, M. Caliebe, G. Gahramanova, D. Heinz, M. Klein, R.A.R. Leute, T. Meisch, J. Wang, M. Hocker, and K. Thonke, “Semipolar GaN-based heterostructures on foreign substrates”, *Phys. Status Solidi B*, vol. 253, pp. 13–22, 2016.
- [12] F. Scholz, T. Meisch, and K. Elkhoully, “Efficiency studies on semipolar GaInN-GaN quantum well structures”, *Phys. Status Solidi A*, vol. 213, pp. 3117–3121, 2016.
- [13] J. Wang, T. Meisch, F. Scholz, D. Heinz, and R. Zeller, “Internal quantum efficiency and carrier injection efficiency of c-plane, $\{10\bar{1}1\}$ and $\{11\bar{2}2\}$ InGaN/GaN-based light emitting diodes”, *Phys. Status Solidi B*, vol. 253, pp. 174–179, 2016.
- [14] T. Aschenbrenner, M. Schowalter, T. Mehrstens, K.Müller-Caspary, M. Fikry, D. Heinz, I. Tischer, M. Madel, K. Thonke, D. Hommel, F. Scholz, and A. Rosenauer, “Composition analysis of coaxially grown InGaN multi quantum wells using scanning transmission electron microscopy”, *J. Appl. Phys.*, vol. 119, pp. 175701-1–6, 2016.
- [15] E.R. Buß, P. Horenburg, U. Rossow, H. Bremers, T. Meisch, M. Caliebe, F. Scholz, and A. Hangleiter, “Non- and semipolar AlInN one-dimensionally lattice-matched to GaN for realization of relaxed buffer layers for strain engineering in optically active GaN-based devices”, *Phys. Status Solidi B*, vol. 253, pp. 84–92, 2016.
- [16] B. Corbett, Z. Quan, D.V. Dinh, G. Kozlowski, D. O’Mahony, M. Akhter, S. Schulz, P. Parbrook, P. Maaskant, M. Caliebe, M. Hocker, K. Thonke, F. Scholz, M. Pristovsek, Y. Han, C.J. Humphreys, F. Brunner, M. Weyers, T.M. Meyer, and L. Lymperakis, “Development of semipolar (11-22) LEDs on GaN templates”, H. Jeon, L.-W. Tu, M.R. Krames, M. Strassburg (Eds.), Proc. SPIE 9768, pp. 97681G-1–9, 2016.
- [17] B. Corbett, L. Lymperakis, F. Scholz, C. Humphreys, F. Brunner, and T. Meyer, “Scalable semipolar gallium nitride templates for high-speed LEDs”, *SPIE News Room*, June 3, 2016, 3 pages, DOI: 10.1117/2.1201605.006482.
- [18] N.C. Gerhardt, M. Lindemann, T. Pusch, R. Michalzik, and M.R. Hofmann, “Birefringent vertical-cavity surface-emitting lasers: toward high-speed spin-lasers” (invited), in *Semiconductor Lasers and Laser Dynamics VII*, K.P. Panajotov, M. Sciamanna, A.A. Valle, R. Michalzik (Eds.), Proc. SPIE 9892, pp. 989206-1–9, 2016.
- [19] N.C. Gerhardt, M. Lindemann, T. Pusch, R. Michalzik, and M.R. Hofmann, “High-frequency operation of spin vertical-cavity surface-emitting lasers: towards 100 GHz” (invited), in *Spintronics IX*, H.-J. Drouhin, J.-E. Wegrowe, M. Razeghi (Eds.), Proc. SPIE 9931, pp. 99310C-1–6, 2016.
- [20] Y. Han, M. Caliebe, H. Frederik, Q. Ramasse, M. Pristovsek, T. Zhu, F. Scholz, and C. Humphreys, “Toward defect-free semi-polar GaN templates on pre-structured sapphire”, *Phys. Status Solidi B*, vol. 253, pp. 834–839, 2016.
- [21] C.R. Head, A. Hein, A.P. Turnbull, M. Polanik, E.A. Shaw, T. Chen Sverre, P. Unger, and A.C. Tropper, “High-order dispersion in sub-200-fs pulsed VECSELS”, in *Vertical External Cavity Surface Emitting Lasers (VECSELS) VI*, K.G. Wilcox (Ed.), Proc. SPIE 9734, pp. 973408-1–10, 2016.

- [22] M. Hocker, I. Tischer, B. Neuschl, K. Thonke, M. Caliebe, M. Klein, and F. Scholz, “Stacking fault emission in GaN: Influence of n-type doping”, *J. Appl. Phys.*, vol. 119, pp. 185703-1–6, 2016.
- [23] M. Hocker, P. Maier, L. Jerg, I. Tischer, G. Neusser, C. Kranz, M. Pristovsek, C.J. Humphreys, R.A.R. Leute, D. Heinz, O. Rettig, F. Scholz, and K. Thonke, “Determination of axial and lateral exciton diffusion length in GaN by electron energy dependent cathodoluminescence”, *J. Appl. Phys.*, vol. 120, pp. 085703-1–6, 2016.
- [24] M. Knab, M. Hocker, T. Felser, I. Tischer, J. Wang, F. Scholz, and K. Thonke, “EBIC investigations on polar and semipolar InGaN LED structures”, *Phys. Status Solidi B*, vol. 253, pp. 126–132, 2016.
- [25] T. Langer, M. Klisch, F.A. Ketzler, H. Jönen, H. Bremers, U. Rossow, T. Meisch, F. Scholz, and A. Hangleiter, “Radiative and nonradiative recombination mechanisms in nonpolar and semipolar GaInN/GaN quantum wells”, *Phys. Status Solidi B*, vol. 253, pp. 133–139, 2016.
- [26] M. Lindemann, T. Pusch, R. Michalzik, N.C. Gerhardt, and M.R. Hofmann, “Frequency tuning of polarization oscillations: toward high-speed spin-lasers”, *Appl. Phys. Lett.*, vol. 108, pp. 042404-1–4, 2016.
- [27] M. Lindemann, N.C. Gerhardt, M.R. Hofmann, T. Pusch, and R. Michalzik, “Influence of birefringence splitting on ultrafast polarization oscillations in VCSELs”, in *Vertical-Cavity Surface-Emitting Lasers XX*, K.D. Choquette, J.K. Guenter (Eds.), Proc. SPIE 9766, pp. 97660L-1–7, 2016.
- [28] M. Lindemann, T. Pusch, R. Michalzik, N.C. Gerhardt, and M.R. Hofmann, “Frequency tuning of polarization oscillations in spin-polarized vertical-cavity surface-emitting lasers”, in *Semiconductor Lasers and Laser Dynamics VII*, K.P. Panajotov, M. Sciamanna, A.A. Valle, R. Michalzik (Eds.), Proc. SPIE 9892, pp. 989224-1–5, 2016.
- [29] M. Lindemann, N.C. Gerhardt, M.R. Hofmann, T. Pusch, and R. Michalzik, “Frequency tuning of polarization oscillations in spin-lasers”, in *Spintronics IX*, H.-J. Drouhin, J.-E. Wegrowe, M. Razeghi (Eds.), Proc. SPIE 9931, pp. 993149-1–6, 2016.
- [30] S. Metzner, F. Bertram, T. Hempel, T. Meisch, S. Schwaiger, F. Scholz, and J. Christen, “Direct microscopic correlation of real structure and optical properties of semipolar GaN on pre-patterned r-plane sapphire”, *Phys. Status Solidi B*, vol. 253, pp. 54–60, 2016.
- [31] M. Müller, G. Schmidt, S. Metzner, P. Veit, F. Bertram, R.A.R. Leute, D. Heinz, J. Wang, T. Meisch, F. Scholz, and J. Christen, “Nanoscale cathodoluminescence imaging of III-nitride-based LEDs with semipolar quantum wells in a scanning transmission electron microscope”, *Phys. Status Solidi B*, vol. 253, pp. 112–117, 2016.

- [32] Z. Quan, Q. Dinh, D.V. Dinh, S. Presa, B. Roycroft, A. Foley M. Akhter, D. O'Mahony, P.P. Maaskant, M. Caliebe, F. Scholz, P.J.J. Parbrook, and B. Corbett, "High Bandwidth Freestanding Semipolar (11-22) InGaN Light Emitting Diodes", *IEEE Photonics J.*, vol. 8, pp. 1601808-1–8, 2016.