

Full paper list

- [1] C. Li, Z. Pan, C. Guo, Y. Li, Y. Zhou, J. Wang, S. Zou, and Z. Gong, "Transfer Printed, Vertical GaN-on-Silicon Micro-LED Arrays With Individually Addressable Cathodes," *IEEE Transactions on Electron Devices*, 2022.
- [2] S. Hu, Y. Zhou, Y. Li, C. Li, C. Pang, H. Ning, R. Yao, J. Peng, and Z. Gong, "Fabrication of Schottky-Barrier-Oxide-Semiconductor Thin-film Transistors Via a Simple Aluminum Reaction Method," *IEEE Electron Device Letters*, 2022.
- [3] C. Guo, Z. Pan, C. Li, S. Zou, C. Pang, J. Wang, J. Hu, and Z. Gong, "Large-scale programmable assembly of functional micro-components for advanced electronics via light-regulated adhesion and polymer growth," *npj Flexible Electronics*, vol. 6, no. 1, pp. 1-13, 2022.
- [4] J. Wang, Y. Xu, S. Zou, C. Pang, R. Cao, Z. Pan, C. Guo, S. Hu, J. Liu, and Z. Xie, "Effective defect passivation of CsPbBr₃ quantum dots using gallium cations toward the fabrication of bright perovskite LEDs," *Journal of Materials Chemistry C*, vol. 9, no. 34, pp. 11324-11330, 2021.
- [5] C. Pang, S. Hu, C. Guo, J. Wang, S. Zou, Z. Pan, J. Liu, L. Shen, N. Bao, and H. Ning, "High-Performance Inorganically Connected CuInSe₂ Nanocrystal Thin-Film Transistors and Integrated Circuits Based on the Solution Process of Colloidal Synthesis, Ligand Exchange, and Surface Treatment," *Chemistry of Materials*, vol. 33, no. 22, pp. 8775-8785, 2021.
- [6] S. Hu, K. Lu, H. Ning, R. Yao, Y. Gong, Z. Pan, C. Guo, J. Wang, C. Pang, and Z. Gong, "Study of the Correlation between the Amorphous Indium-Gallium-Zinc Oxide Film Quality and the Thin-Film Transistor Performance," *Nanomaterials*, vol. 11, no. 2, p. 522, 2021.
- [7] Z. Gong, "Layer-Scale and Chip-Scale Transfer Techniques for Functional Devices and Systems: A Review," *Nanomaterials*, vol. 11, no. 4, p. 842, 2021.
- [8] Q. Y. Zeng, Z. X. Pan, Z. H. Zeng, J. T. Wang, C. Guo, Y. F. Gong, J. C. Liu, and Z. Gong, "Space charge effects on the bandwidth of Ge/Si avalanche photodetectors," *Semiconductor Science and Technology*, vol. 35, no. 3, p. 035026, 2020.
- [9] L. Wang, Z. Pan, B. Li, J. Wang, X. Guan, J. Wang, N. Liu, S. Wang, X. Zhang, and R. Gu, "Mechanism Analysis of Proton Irradiation-Induced Increase of 3-dB Bandwidth of GaN-Based Microlight-Emitting Diodes for Space Light Communication," *IEEE Transactions on Nuclear Science*, vol. 67, no. 7, pp. 1360-1364, 2020.
- [10] L. Wang, N. Liu, B. Li, H. Zhu, X. Shan, Q. Yuan, X. Zhang, Z. Gong, F. Zhao, and N. Liu, "Comparison of X-Ray and Proton Irradiation Effects on the Characteristics of InGaN/GaN Multiple Quantum Wells Light-Emitting Diodes," *IEEE Transactions on Nuclear Science*, vol. 67, no. 7, pp. 1345-1350, 2020.
- [11] Z. Pan, C. Guo, X. Wang, J. Liu, R. Cao, Y. Gong, J. Wang, N. Liu, Z. Chen, and L. Wang, "Wafer - Scale Micro - LEDs Transferred onto an Adhesive Film for Planar and Flexible Displays," *Advanced Materials Technologies*, vol. 5, no. 12, p. 2000549, 2020.
- [12] J. R. Bonar, G. J. Valentine, S. W. Gorton, Z. Gong, and J. Small, "Semiconductor modification process for conductive and modified electrical regions and related structures," ed: US Patent 10,644,197, 2020.
- [13] Q. Y. Zeng, Z. X. Pan, Z. H. Zeng, J. C. Liu, X. Y. Liu, Z. T. Chen, and Z. Gong, "Photovoltaic field effect transistor (PVFET)-based Ge/Si photodetector for low-power silicon photonics," *AIP Advances*, vol. 9, no. 8, p. 085226, 2019.
- [14] N. Liu, Q. Wang, B. Li, J. Wang, K. Zhang, C. He, L. Wang, L. Song, X. Cao, and B. Wang, "Point-

- defect distribution and transformation near the surfaces of AlGaN films grown by MOCVD," *The Journal of Physical Chemistry C*, vol. 123, no. 14, pp. 8865-8870, 2019.
- [15] Q. Li, B. Li, L. Wang, Z. Zheng, B. Zhang, N. Liu, B. Li, M. Liu, Y. Huang, and Z. Gong, "Comparison of 10 MeV electron beam radiation effect on InGaN/GaN and GaN/AlGaN multiple quantum wells," *Journal of Luminescence*, vol. 210, pp. 169-174, 2019.
- [16] J. R. Bonar, G. Valentine, S. W. Gorton, Z. Gong, and J. Small, "Semiconductor modification process for conductive and modified electrical regions and related structures," ed: US Patent 10,211,371, 2019.
- [17] J. R. Bonar, Z. Gong, J. Small, G. J. Valentine, and R. I. Laming, "Enhanced light extraction," ed: US Patent 10,381,513, 2019.
- [18] L. Wang, N. Liu, L. Song, B. Li, Y. Liu, Y. Cui, B. Li, Z. Zheng, Z. Chen, and Z. Gong, "Multiple angle analysis of 30-MeV silicon ion beam radiation effects on InGaN/GaN multiple quantum wells blue light-emitting diodes," *IEEE Transactions on Nuclear Science*, vol. 65, no. 11, pp. 2784-2792, 2018.
- [19] X. Liu, A. W. Bruch, Z. Gong, J. Lu, J. B. Surya, L. Zhang, J. Wang, J. Yan, and H. X. Tang, "Ultra-high-Q UV microring resonators based on a single-crystalline AlN platform," *Optica*, vol. 5, no. 10, pp. 1279-1282, 2018.
- [20] Q. Liao, M. J. Wu, Z. Gong, Y. X. Geng, X. H. Xu, D. Y. Li, Y. R. Shou, J. G. Zhu, C. C. Li, and M. Yang, "Enhanced laser proton acceleration by target ablation on a femtosecond laser system," *Physics of Plasmas*, vol. 25, no. 6, p. 063109, 2018.
- [21] Z. Gong, A. Bruch, M. Shen, X. Guo, H. Jung, L. Fan, X. Liu, L. Zhang, J. Wang, and J. Li, "High-fidelity cavity soliton generation in crystalline AlN micro-ring resonators," *Optics letters*, vol. 43, no. 18, pp. 4366-4369, 2018.
- [22] Z. Gong, J. Small, and J. R. Bonar, "Display contrast," ed: US Patent 9,728,692, 2017.
- [23] Z. Gong, J. Small, and J. R. Bonar, "Improving display contrast," ed: US Patent 9,564,563, 2017.
- [24] S. Wang, F. Wu, J. Zhang, H. Long, Z. Gong, J. Dai, and C. Chen, "Quasi - one - dimensional gold grating with Si₃N₄ cap layer as optical coupler for AlGaN/GaN quantum well infrared photodetector," *physica status solidi (c)*, vol. 13, no. 5 - 6, pp. 304-306, 2016.
- [25] S. Zhang, E. Xie, T. Yan, W. Yang, J. Herrnsdorf, Z. Gong, I. M. Watson, E. Gu, M. D. Dawson, and X. Hu, "Hole transport assisted by the piezoelectric field in In_{0.4}Ga_{0.6}N/GaN quantum wells under electrical injection," *Journal of Applied Physics*, vol. 118, no. 12, p. 125709, 2015.
- [26] F. Wu, J. Zhang, S. Wang, H. Long, J. Dai, Z. C. Feng, Z. Gong, and C. Chen, "Quantum confinement dependence of exciton localization in a-plane GaN/AlGaN multiquantum wells investigated by temperature dependent photoluminescence," *Optical Materials Express*, vol. 5, no. 11, pp. 2608-2615, 2015.
- [27] Q. Q. Jiao, Z. Z. Chen, J. Ma, S. Y. Wang, Y. Li, S. Jiang, Y. L. Feng, J. Z. Li, Y. F. Chen, and T. J. Yu, "Capability of GaN based micro-light emitting diodes operated at an injection level of kA/cm²," *Opt. Express*, vol. 23, no. 13, pp. 16565-16574, 2015.
- [28] W. Yang, S. Zhang, J. J. D. McKendry, J. Herrnsdorf, P. Tian, Z. Gong, Q. Ji, I. M. Watson, E. Gu, and M. D. Dawson, "Size-dependent capacitance study on InGaN-based micro-light-emitting diodes," *Journal of Applied Physics*, vol. 116, no. 4, p. 044512, 2014.
- [29] P. Tian, J. J. D. McKendry, Z. Gong, S. Zhang, S. Watson, D. Zhu, I. M. Watson, E. Gu, A. E. Kelly, and C. J. Humphreys, "Characteristics and applications of micro-pixelated GaN-based light emitting diodes on Si substrates," *Journal of Applied Physics*, vol. 115, no. 3, p. 033112, 2014.

- [30] Z. Gong, B. Guilhabert, Z. Chen, and M. D. Dawson, "Direct LED writing of submicron resist patterns: Towards the fabrication of individually-addressable InGaN submicron stripe-shaped LED arrays," *Nano Research*, vol. 7, no. 12, pp. 1849-1860, 2014.
- [31] A. Yakushenko, Z. Gong, V. Maybeck, B. Hofmann, E. Gu, M. D. Dawson, A. Offenhäusser, and B. Wolfrum, "On-chip optical stimulation and electrical recording from cells," *Journal of biomedical optics*, vol. 18, no. 11, p. 111402, 2013.
- [32] J. Small, J. Bonar, Z. Gong, G. Valentine, E. Gu, and M. D. Dawson, "Integrated Medical Device," ed: WO Patent WO 2013/093463 A2, 2013.
- [33] A. Müller, S. Marschall, O. B. Jensen, J. Fricke, H. Wenzel, B. Sumpf, and P. E. Andersen, "Diode laser based light sources for biomedical applications," *Laser & Photonics Reviews*, vol. 7, no. 5, pp. 605-627, 2013.
- [34] J. Herrnsdorf, Y. Wang, J. J. D. McKendry, Z. Gong, D. Massoubre, B. Guilhabert, G. Tsiminis, G. A. Turnbull, I. D. W. Samuel, and N. Laurand, "Micro - LED pumped polymer laser: A discussion of future pump sources for organic lasers," *Laser & Photonics Reviews*, vol. 7, no. 6, pp. 1065-1078, 2013.
- [35] Z. Gong, J. Small, and J. Bonar, "Improved Display Contrast," ed: WO Patent WO 2013/093463 A1, 2013.
- [36] J. Bonar, Z. Gong, J. Small, and G. Valentine, "Enhanced Light Extraction," ed: WO Patent WO 2013/117944 A1, 2013.
- [37] S. Zhang, Z. Gong, J. J. D. McKendry, S. Watson, A. Cogman, E. Xie, P. Tian, E. Gu, Z. Chen, and G. Zhang, "CMOS-controlled color-tunable smart display," *IEEE Photonics Journal*, vol. 4, no. 5, pp. 1639-1646, 2012.
- [38] E. Y. Xie, Z. Z. Chen, P. R. Edwards, Z. Gong, N. Y. Liu, Y. B. Tao, Y. F. Zhang, Y. J. Chen, I. M. Watson, and E. Gu, "Strain relaxation in InGaN/GaN micro-pillars evidenced by high resolution cathodoluminescence hyperspectral imaging," *Journal of Applied Physics*, vol. 112, no. 1, p. 013107, 2012.
- [39] P. Tian, J. J. D. McKendry, Z. Gong, B. Guilhabert, I. M. Watson, E. Gu, Z. Chen, G. Zhang, and M. D. Dawson, "Size-dependent efficiency and efficiency droop of blue InGaN micro-light emitting diodes," *Applied Physics Letters*, vol. 101, no. 23, p. 231110, 2012.
- [40] Y. B. Tao, S. Y. Wang, Z. Z. Chen, Z. Gong, E. Y. Xie, Y. J. Chen, Y. F. Zhang, J. McKendry, D. Massoubre, and E. D. Gu, "Size effect on efficiency droop of blue light emitting diode," *physica status solidi c*, vol. 9, no. 3 - 4, pp. 616-619, 2012.
- [41] N. Laurand, B. Guilhabert, J. McKendry, A. E. Kelly, B. Rae, D. Massoubre, Z. Gong, E. Gu, R. Henderson, and M. D. Dawson, "Colloidal quantum dot nanocomposites for visible wavelength conversion of modulated optical signals," *Optical Materials Express*, vol. 2, no. 3, pp. 250-260, 2012.
- [42] J. Herrnsdorf, B. Guilhabert, J. J. D. McKendry, Z. Gong, D. Massoubre, S. Zhang, S. Watson, A. E. Kelly, E. Gu, and N. Laurand, "Hybrid organic/GaN photonic crystal light-emitting diode," *Applied physics letters*, vol. 101, no. 14, p. 141122, 2012.
- [43] M. Wu, Z. Gong, D. Massoubre, Y. Zhang, E. J. W. Richardson, E. Gu, and M. Dawson, "Inkjet printed conductive silver tracks applied to GaN-based microstructured light emitting diodes," *Applied Physics A: Materials Science and Processing*, vol. 104, no. 4, pp. 1003-1009, 2011.
- [44] M. Wu, Z. Gong, D. Massoubre, Y. Zhang, E. Richardson, E. Gu, and M. D. Dawson, "Inkjet-printed silver nanoparticle electrodes on GaN-based micro-structured light-emitting diodes,"

- Applied Physics A*, vol. 104, no. 4, pp. 1003-1009, 2011.
- [45] Y. Wang, B. R. Rae, R. K. Henderson, Z. Gong, J. McKendry, E. Gu, M. D. Dawson, G. A. Turnbull, and I. D. W. Samuel, "Ultra-portable explosives sensor based on a CMOS fluorescence lifetime analysis micro-system," *Aip Advances*, vol. 1, no. 3, p. 032115, 2011.
- [46] J. McKendry, A. E. Kelly, S. Zhang, B. Rae, D. Massoubre, Z. Gong, E. Gu, R. K. Henderson, and M. D. Dawson, "CMOS-controlled micro-LED arrays for visible light communications," 2011.
- [47] A. Z. Khokhar, K. Parsons, G. Hubbard, I. M. Watson, F. Rahman, D. S. Macintyre, C. Xiong, D. Massoubre, Z. Gong, and E. Gu, "Emission characteristics of photonic crystal light-emitting diodes," *Applied optics*, vol. 50, no. 19, pp. 3233-3239, 2011.
- [48] Z. Gong, Y. F. Zhang, P. Kelm, I. M. Watson, E. Gu, and M. D. Dawson, "InGaN micro-pixelated light-emitting diodes with nano-textured surfaces and modified emission profiles," *Applied Physics A*, vol. 103, no. 2, pp. 389-393, 2011.
- [49] Z. Gong, N. Y. Liu, Y. B. Tao, D. Massoubre, E. Y. Xie, X. D. Hu, Z. Z. Chen, G. Y. Zhang, Y. B. Pan, and M. S. Hao, "Electrical, spectral and optical performance of yellow-green and amber micro-pixelated InGaN light-emitting diodes," *Semiconductor science and technology*, vol. 27, no. 1, p. 015003, 2011.
- [50] B. R. Rae, J. Yang, J. McKendry, Z. Gong, D. Renshaw, J. M. Girkin, E. Gu, M. D. Dawson, and R. K. Henderson, "A vertically integrated CMOS microsystem for time-resolved fluorescence analysis," *IEEE Transactions on Biomedical Circuits and Systems*, vol. 4, no. 6, pp. 437-444, 2010.
- [51] J. J. D. McKendry, R. P. Green, A. E. Kelly, Z. Gong, B. Guilhabert, D. Massoubre, E. Gu, and M. D. Dawson, "Semiconductor and Organic Lasers and Amplifiers High-Speed Visible Light Communications Using Individual Pixels in a Micro Light-Emitting Diode Array," *IEEE Photonics Technology Letters*, vol. 22, no. 17, p. 1346, 2010.
- [52] J. J. D. McKendry, R. P. Green, A. E. Kelly, Z. Gong, B. Guilhabert, D. Massoubre, E. Gu, and M. D. Dawson, "High-speed visible light communications using individual pixels in a micro light-emitting diode array," *IEEE Photonics Technology Letters*, vol. 22, no. 18, pp. 1346-1348, 2010.
- [53] A. Z. Khokhar, K. Parsons, G. Hubbard, F. Rahman, D. S. Macintyre, C. Xiong, D. Massoubre, Z. Gong, N. P. Johnson, and M. Richard, "Nanofabrication of gallium nitride photonic crystal light-emitting diodes," *Microelectronic engineering*, vol. 87, no. 11, pp. 2200-2207, 2010.
- [54] N. Grossman, V. Poher, M. S. Grubb, G. T. Kennedy, K. Nikolic, B. McGovern, R. B. Palmini, Z. Gong, E. M. Drakakis, and M. A. A. Neil, "Multi-site optical excitation using ChR2 and micro-LED array," *Journal of neural engineering*, vol. 7, no. 1, p. 016004, 2010.
- [55] Z. Gong, S. Jin, Y. Chen, J. McKendry, D. Massoubre, I. M. Watson, E. Gu, and M. D. Dawson, "Size-dependent light output, spectral shift, and self-heating of 400 nm InGaN light-emitting diodes," *Journal of Applied Physics*, vol. 107, no. 1, p. 013103, 2010.
- [56] M. Wu, Z. Gong, A. J. C. Kuehne, A. L. Kanibolotsky, Y. J. Chen, I. F. Perepichka, A. R. Mackintosh, E. Gu, P. J. Skabara, and R. A. Pethrick, "Hybrid GaN/organic microstructured light-emitting devices via ink-jet printing," *Opt. Express*, vol. 17, no. 19, pp. 16436-16443, 2009.
- [57] B. R. Rae, K. R. Muir, Z. Gong, J. McKendry, J. M. Girkin, E. Gu, D. Renshaw, M. D. Dawson, and R. K. Henderson, "A CMOS time-resolved fluorescence lifetime analysis micro-system," *Sensors*, vol. 9, no. 11, pp. 9255-9274, 2009.
- [58] J. J. D. McKendry, B. R. Rae, Z. Gong, K. R. Muir, B. Guilhabert, D. Massoubre, E. Gu, D. Renshaw, M. D. Dawson, and R. K. Henderson, "Individually addressable AlInGaN micro-LED arrays with CMOS control and subnanosecond output pulses," *IEEE Photonics Technology Letters*, vol. 21,

- no. 12, pp. 811-813, 2009.
- [59] A. Z. Khokhar, D. S. Macintyre, F. Rahman, N. P. Johnson, R. M. De La Rue, M. Charlton, C. Xiong, H. Zhang, Z. Gong, and D. Massoubre, "Modelling, fabrication and characterisation of photonic quasicrystal structures on GaN LEDs," 2009.
- [60] Z. Gong, D. Massoubre, J. McKendry, H. X. Zhang, C. Griffin, B. Guilhabert, E. Gu, J. M. Girkin, M. D. Dawson, and B. R. Rael, "Flip - chip, micro - pixellated InGaN light - emitting diode arrays: attractive sources for micro - displays, colour conversion, and fluorescence detection," *physica status solidi c*, vol. 6, no. S2 2, pp. S848-S851, 2009.
- [61] D. Elfström, B. Guilhabert, J. McKendry, S. Poland, Z. Gong, D. Massoubre, E. Richardson, B. R. Rae, G. Valentine, and G. Blanco-Gomez, "Mask-less ultraviolet photolithography based on CMOS-driven micro-pixel light emitting diodes," *Opt. Express*, vol. 17, no. 26, pp. 23522-23529, 2009.
- [62] H. X. Zhang, D. Massoubre, J. McKendry, Z. Gong, B. Guilhabert, C. Griffin, E. Gu, P. E. Jessop, J. M. Girkin, and M. D. Dawson, "Individually-addressable flip-chip AlInGaN micropixelated light emitting diode arrays with high continuous and nanosecond output power," *Opt. Express*, vol. 16, no. 13, pp. 9918-9926, 2008.
- [63] T. Wang, K. B. Lee, J. Bai, P. J. Parbrook, F. Ranalli, Q. Wang, R. J. Airey, A. G. Cullis, H. X. Zhang, and D. Massoubre, "The 310–340 nm ultraviolet light emitting diodes grown using a thin GaN interlayer on a high temperature AlN buffer," *Journal of Physics D: Applied Physics*, vol. 41, no. 9, p. 094003, 2008.
- [64] V. Poher, N. Grossman, G. T. Kennedy, K. Nikolic, H. X. Zhang, Z. Gong, E. M. Drakakis, E. Gu, M. D. Dawson, and P. M. W. French, "Micro-LED arrays: a tool for two-dimensional neuron stimulation," *Journal of Physics D: Applied Physics*, vol. 41, no. 9, p. 094014, 2008.
- [65] B. Guilhabert, Z. Gong, H. Zhang, C. Belton, A. Mackintosh, E. Gu, M. Campoy-Quiles, P. N. Stavrinou, D. D. C. Bradley, and R. A. Pethrick, "Patterning and integration of polyfluorene polymers on micro-pixellated UV AlInGaN light-emitting diodes," *Journal of Physics D: Applied Physics*, vol. 41, no. 9, p. 094008, 2008.
- [66] Z. Gong, E. Gu, S. R. Jin, D. Massoubre, B. Guilhabert, H. X. Zhang, M. D. Dawson, V. Poher, G. T. Kennedy, and P. M. W. French, "Efficient flip-chip InGaN micro-pixellated light-emitting diode arrays: promising candidates for micro-displays and colour conversion," *Journal of Physics D: Applied Physics*, vol. 41, no. 9, p. 094002, 2008.
- [67] H. X. Zhang, B. Guilhabert, C. Griffin, Z. Gong, D. Massoubre, E. Gu, and M. D. Dawson, "16× 16 Flip Chip InGaN Micro-Array Light Emitting Diodes With Individually-Addressable Elements," 2007.
- [68] Z. Gong, H. X. Zhang, E. Gu, C. Griffin, M. D. Dawson, V. Poher, G. Kennedy, P. M. W. French, and M. A. A. Neil, "Optoelectronics, Displays, and Imaging-Matrix-Addressable Micropixelated InGaN Light-Emitting Diodes With Uniform Emission and Increased Light Output," *IEEE Transactions on Electron Devices*, vol. 54, no. 10, pp. 2650-2658, 2007.
- [69] Z. Gong, H. X. Zhang, E. Gu, C. Griffin, M. D. Dawson, V. Poher, G. Kennedy, P. M. W. French, and M. A. A. Neil, "Matrix-addressable micropixelated InGaN light-emitting diodes with uniform emission and increased light output," *IEEE Transactions on Electron Devices*, vol. 54, no. 10, pp. 2650-2658, 2007.
- [70] N. Zhichuan, N. Haiqiao, F. Zhidan, G. Zheng, Z. Shiyong, W. Donghai, S. Zheng, Z. Huan, P. Hongling, and H. Qin, "1.3 μm InGaAs/InAs/GaAs Self-Assembled Quantum Dot Laser Diode

- Grown by Molecular Beam Epitaxy," *Journal of Semiconductors*, vol. 27, no. 3, pp. 482-488, 2006.
- [71] H. X. Zhang, E. Gu, C. W. Jeon, Z. Gong, M. D. Dawson, M. A. A. Neil, and P. M. W. French, "Microstripe-array InGaN light-emitting diodes with individually addressable elements," *IEEE photonics technology letters*, vol. 18, no. 15, pp. 1681-1683, 2006.
 - [72] V. Poher, G. T. Kennedy, D. S. Elson, P. M. W. French, M. A. A. Neil, H. Z. Zhang, E. Gu, Z. Gong, C. Griffin, and J. M. Girkin, "Structured illumination microscopy using micro-pixellated light-emitting diodes," *Photon 06*, 2006.
 - [73] Z. Niu, H. Ni, Z. Fang, Z. Gong, S. Zhang, D. Wu, Z. Sun, H. Zhao, H. Peng, and Q. Han, "1.3 μm InGaAs/InAs/GaAs self-assembled quantum dot laser diode grown by molecular beam epitaxy," *Pan Tao Ti Hsueh Pao/Chinese Journal of Semiconductors*, vol. 27, no. 3, pp. 482-488, 2006.
 - [74] Z. Niu, S. Huang, Z. Gong, Z. Fang, H. Ni, B. Sun, S. Li, and J. Xia, "Novel self-assembled low dimensional semiconductor structures," *PHYSICS-BEIJING-*, vol. 35, no. 8, p. 654, 2006.
 - [75] Z. Miao, Z. Gong, Z. Fang, and Z. Niu, "Corrugated Surfaces Formed on GaAs (331) A Substrates: The Template for Laterally Ordered InGaAs Nanowires," *International Journal of Nanoscience*, vol. 5, no. 06, pp. 757-762, 2006.
 - [76] K. Lingmin, C. Jiafa, W. Zhengyun, G. Zheng, F. Zhidan, and N. Zhichuan, "Optical characteristics of InAs quantum dots on GaAs matrix by using various InGaAs structures," *Journal of Wuhan University of Technology-Mater. Sci. Ed.*, vol. 21, no. 2, pp. 76-79, 2006.
 - [77] L. M. Kong, J. F. Cai, Z. Y. Wu, Z. Gong, Z. C. Niu, and Z. C. Feng, "Time-resolved photoluminescence spectra of self-assembled InAs/GaAs quantum dots," *Thin Solid Films*, vol. 498, no. 1-2, pp. 188-192, 2006.
 - [78] S. Huang, Z. Niu, Z. Fang, H. Ni, Z. Gong, and J. Xia, "Complex quantum ring structures formed by droplet epitaxy," *Applied physics letters*, vol. 89, no. 3, p. 031921, 2006.
 - [79] Z. Gong, Z. Niu, and Z. Fang, "Corrugated surfaces formed on GaAs (331) A substrates: the template for laterally ordered InGaAs nanowires," *Nanotechnology*, vol. 17, no. 4, p. 1140, 2006.
 - [80] Z. Gong, Z. Fang, Z. Miao, and Z. Niu, "Surface Morphology Evolution of Strained InAs/GaAs (331) A Films," *International Journal of Nanoscience*, vol. 5, no. 06, pp. 883-888, 2006.
 - [81] Z. Fang, Z. Gong, Z. Miao, and Z. Niu, "Tuning of Emission Wavelength of InAs/GaAs Quantum Dots Sandwiched by Combination Layers," *International Journal of Nanoscience*, vol. 5, no. 06, pp. 847-852, 2006.
 - [82] K. Ling-min, C. A. I. Jia-fa, W. U. Zheng-yun, G. Zheng, and N. I. U. Zhi-chuan, "Stable Temperature Characteristics of InAs/GaAs Quantum Dots at Long Wavelength Emission," *半导体光子学与技术*, vol. 11, no. 2, p. 78, 2005.
 - [83] Z. Gong, Z. C. Niu, S. S. Huang, Z. D. Fang, B. Q. Sun, and J. B. Xia, "Formation of GaAs / AlGaAs and InGaAs / GaAs nanorings by droplet molecular-beam epitaxy," *Applied Physics Letters*, vol. 87, no. 9, p. 093116, 2005.
 - [84] Z. Gong, Z. C. Niu, Z. D. Fang, Z. H. Miao, and S. L. Feng, "Surface morphology control of strained InAs / GaAs (331) A films: From nanowires to island-pit pairs," *Applied Physics Letters*, vol. 86, no. 1, p. 013104, 2005.
 - [85] Z. Gong, Z. D. Fang, Z. H. Miao, Z. C. Niu, and S. L. Feng, "Structural and optical properties of InAs/GaAs quantum dots emitting at 1.5 μm ," *Journal of crystal growth*, vol. 274, no. 1-2, pp.

- 78-84, 2005.
- [86] Z. D. Fang, Z. Gong, Z. H. Miao, Z. C. Niu, and G. D. Shen, "1.3 μ m InAs/GaAs self-assembled quantum dots grown on In0.2Ga0.8As-GaAs combined strain-buffer layer," 2005.
- [87] S. Wen, Z. Chang, and P. Ma, "Partially prompted sentence-making system and method," ed: US Patent App. 10/211,371, 2004.
- [88] H. Wang, C. Chen, Z. Gong, J. Zhang, M. Gaevski, M. Su, J. Yang, and M. A. Khan, "Anisotropic structural characteristics of (1120) GaN templates and coalesced epitaxial lateral overgrown films deposited on (1012) sapphire," *Applied physics letters*, vol. 84, no. 4, pp. 499-501, 2004.
- [89] Z. Gong, Z. D. Fang, X. H. Xu, Z. H. Miao, Z. C. Niu, and S. L. Feng, "Optical characteristics of InAs quantum dots capped with short period GaAs/InAs superlattices and InGaAs combination layers," *Solid state communications*, vol. 132, no. 6, pp. 421-424, 2004.
- [90] Z. D. Fang, Z. Gong, Z. H. Miao, L. M. Kong, X. H. Xu, H. Q. Ni, and Z. C. Niu, "Effect of the InAlAs and InGaAs combination strain-reducing layer on 1.3 μ m emission self-assembled InAs/GaAs quantum dots," *Journal of Physics D: Applied Physics*, vol. 37, no. 7, p. 1012, 2004.
- [91] F. Zhi-Dan, G. Zheng, M. Zhen-Hua, X. Xiao-Hua, N. Hai-Qiao, and N. Zhi-Chuan, "Photoluminescence of self-assembled InAs/GaAs quantum dots covered by InAlAs and InGaAs combination strain-reducing layer," *Chinese physics letters*, vol. 20, no. 11, p. 2061, 2003.
- [92] G. Zheng, F. Zhi-Dan, M. Zhen-Hua, N. Zhi-Chuan, and F. Song-Lin, "Self-organized InAs quantum wires on GaAs (331) A substrates," *Chinese physics letters*, vol. 20, no. 10, p. 1819, 2003.
- [93] Z. Gong, Z. D. Fang, X. H. Xu, Z. H. Miao, Z. C. Niu, and S. L. Feng, "Role of different cap layers tuning the wavelength of self-assembled InAs/GaAs quantum dots," *Journal of Physics: Condensed Matter*, vol. 15, no. 31, p. 5383, 2003.
- [94] Z. Gong, Z. D. Fang, X. H. Xu, Z. H. Miao, H. Q. Ni, Z. C. Niu, and S. L. Feng, "The fabrication of self-aligned InAs nanostructures on GaAs (331) A substrates," *Journal of Physics: Condensed Matter*, vol. 16, no. 1, p. 29, 2003.
- [95] Z. D. Fang, Z. Gong, Z. H. Miao, X. H. Xu, H. Q. Ni, and Z. C. Niu, "Luminescence properties of self-assembled InAs/GaAs quantum dots covered by InAlAs and InGaAs combination strain-reducing layer," *Physics of Low-Dimensional Structures (PLDS)*, vol. 11, pp. 27-34, 2003.
- [96] W. Zhang, G. McConnell, and M. Parsons, "Optical parametric oscillator system for CARS microscopy," 2009: Optica Publishing Group, p. CL_P6.
- [97] S. Zhang, J. J. D. McKendry, Z. Gong, B. R. Rae, S. Watson, E. Xie, P. Tian, E. Richardson, E. Gu, and Z. Chen, "Directly color-tunable smart display based on a CMOS-controlled micro-LED array," 2012: IEEE, pp. 435-436.
- [98] H. X. Zhang, E. Gu, C. W. Jeon, Z. Gong, and M. D. Dawson, "Fabrication and performance of individually addressable gaN-based micro-stripe LED devices," 2006.
- [99] Z. Y. Xu, C. F. Xiao, H. Y. Lu, R. H. Hu, J. Q. Yu, Z. Gong, Y. R. Shou, J. X. Liu, C. Z. Xie, and S. Y. Chen, "Ballistic Injection and Acceleration of Positrons in the Laser-Plasma Bubble Regime."
- [100] M. Wu, D. Elfstrom, Z. Gong, B. Guilhabert, A. Zarowna, E. Gu, M. D. Dawson, A. L. Kanibolotsky, P. J. Skabara, and A. J. C. Kuehne, "Controlled micro-patterning of highly-fluorescent truxene-oligofluorene nanostructured blends," 2008: IEEE, pp. 634-635.
- [101] M. Tillin, M. D. B. Charlton, Z. Gong, A. Z. Khokhar, D. Massoubre, I. M. Watson, E. Gu, M. D. Dawson, F. Rahman, and N. P. Johnson, "Photonic quasi-crystal light emitting diodes: comparisons of device performance with pattern pitch," 2010, vol. 7713: SPIE, pp. 76-86.
- [102] P. Tian, E. Xie, Z. Gong, Z. Chen, T. Yu, Y. Sun, S. Qi, Y. Chen, Y. Zhang, and S. Calvez, "Flexible

- vertical structure GaN-based light emitting diodes on an AuSn substrate," 2011: IEEE, pp. 551-552.
- [103] P. Tian, J. J. D. McKendry, Z. Gong, S. Zhang, S. Watson, D. Zhu, I. M. Watson, E. Gu, A. E. Kelly, and C. J. Humphreys, "Characteristics and applications of InGaN micro-light emitting diodes on Si substrates," 2013: IEEE, pp. 97-98.
- [104] B. R. Rae, J. McKendry, Z. Gong, E. Gu, D. Renshaw, M. D. Dawson, and R. K. Henderson, "A 200MHz 300ps 0.5 pJ/ns optical pulse generator array in 0.35 μm CMOS," 2010: IEEE, pp. 322-323.
- [105] V. Poher, G. T. Kennedy, D. S. Elson, P. M. W. French, M. A. A. Neil, H. Z. Zhang, E. Gu, Z. Gong, C. Griffin, and J. M. Girkin, "Microscopy using micropixelated light emitting diodes," 2007, vol. 6443: SPIE, pp. 212-216.
- [106] Z. Pan, J. Liu, x. Liu, Z. Chen, and Z. Gong, "9.2: Invited Paper: Applications and challenges of Micro - pixelated light - emitting diode arrays," 2018, vol. 49, pp. 90-94.
- [107] Z. Pan, C. Guo, J. Liu, J. Wang, Y. Gong, and Z. Gong, "The fabrication of thin-film micro-LED arrays using tape-assisted laser lift-off: towards rigid and flexible micro-displays," 2020: IEEE, pp. 1-3.
- [108] Z. Pan, C. Guo, and Z. Gong, "18.3: Tape - assisted laser transfer techniques for selective transfer of Micro - LEDs with high placement accuracy," 2021, vol. 52, pp. 242-243.
- [109] J. J. D. McKendry, R. P. Green, A. E. Kelly, Z. Gong, B. Guilhabert, D. Massoubre, E. Gu, M. D. Dawson, S. J. Wang, and J. D. Lin, "Low-Voltage Driven MEMS VOA Using Torsional Attenuation Mechanism Based on Piezoelectric Beam Actuators."
- [110] J. McKendry, B. R. Rae, Z. Gong, B. Guilhabert, D. Massoubre, E. Gu, D. Renshaw, R. K. Henderson, and M. D. Dawson, "Individually-addressable III-nitride micro-LED arrays for integrated CMOS control," 2009: IEEE, pp. 242-243.
- [111] J. McKendry, C. Griffin, H. X. Zhang, Z. Gong, B. Guilhabert, D. Massoubre, E. Gu, M. D. Dawson, B. Rae, and D. Renshaw, "Micro-Pixelated Flip-Chip InGaN Light Emitting Diodes Integrated with CMOS," 2007.
- [112] J. McKendry, Z. Gong, K. R. Muir, B. Guilhabert, D. Massoubre, E. Gu, M. D. Dawson, I. Underwood, and R. Henderson, "Active-Matrix AllInGaN micro-LED Arrays on CMOS," 2010.
- [113] D. Massoubre, H. X. Zhang, J. McKendry, C. Griffin, B. Guilhabert, Z. Gong, E. Gu, and M. D. Dawson, "Micro-pixel flip-chip AllInGaN LED arrays with high CW and nanosecond output power," 2007: IEEE, pp. 582-583.
- [114] D. Massoubre, J. McKendry, B. Guilhabert, Z. Gong, I. M. Watson, E. Gu, and M. D. Dawson, "Fabrication of planar GaN-based micro-pixel light emitting diode arrays," 2009: IEEE, pp. 84-85.
- [115] D. Massoubre, B. Guilhabert, Z. Gong, I. M. Watson, E. Gu, and M. D. Dawson, "Image-containing InGaN LEDs for pattern-transfer applications," 2010: IEEE, pp. 647-648.
- [116] S. J. Lee, O. Kavehei, Y. K. Hong, T. W. Cho, Y. You, K. Cho, K. Eshraghian, B. R. Rae, J. Yang, and J. McKendry, "Development and in vivo Demonstration of CMOS-Based Multichip Retinal Stimulator With Simultaneous Multisite."
- [117] N. Laurand, J. McKendry, B. Guilhabert, A. E. Kelly, B. Rae, R. Henderson, D. Massoubre, Z. Gong, E. Gu, and M. D. Dawson, "Hybrid organic/inorganic nanocrystal-based composite for color-conversion and visible light communications," 2010: IEEE, pp. 150-151.
- [118] G. T. Kennedy, V. Poher, D. S. Elson, I. Munro, P. M. W. French, M. A. A. Neil, H. Z. Zhang, E. Gu,

- Z. Gong, and C. Griffin, "LED LIGHT SOURCES FOR FLUORESCENCE MICROSCOPY."
- [119] D. H. Jang, J. I. Shim, D. S. Shin, J. J. D. McKendry, B. R. Rae, Z. Gong, K. R. Muir, B. Guilhabert, D. Massoubre, and E. Gu, "Semiconductor and Organic Lasers and Amplifiers Enhancement of Light Extraction Efficiency Using Lozenge-Shaped GaN-Based Light-Emitting Diodes."
- [120] J. Herrnsdorf, B. Guilhabert, J. McKendry, Z. Gong, D. Massoubre, Y. Chen, S. Zhang, A. L. Kanibolotsky, A. R. Mackintosh, and P. J. Skabara, "Hybrid GaN/organic polymer photonic crystal LED," 2011: IEEE, pp. 389-390.
- [121] E. Gu, B. J. E. Guilhabert, D. Elfstrom, Z. Gong, H. X. Zhang, M. D. Dawson, A. R. Mackintosh, A. Kuhne, R. A. Pethrick, and C. Belton, "Hybrid organic/nitride microstructured light-emitting diodes," 2007.
- [122] C. Griffin, J. McKendry, H. X. Zhang, Z. Gong, B. Guilhabert, D. Massoubre, E. Gu, M. D. Dawson, B. Rae, and D. Renshaw, "Micro-pixellated flip-chip InGaN and AlInGaN LEDs," 2007.
- [123] Z. Gong, H. X. Zhang, E. Gu, and M. D. Dawson, "Uniform emission from matrix-addressable micro-pixellated InGaN light-emitting diodes," 2006: IEEE, pp. 32-33.
- [124] Z. Gong, D. Massoubre, E. Y. Xie, J. McKendry, E. Gu, M. D. Dawson, N. Y. Liu, Y. B. Tao, Z. Z. Chen, and G. Y. Zhang, "Yellow-green and amber InGaN micro-pixellated light-emitting diode arrays," 2010: IEEE, pp. 645-646.
- [125] Z. Gong, D. Massoubre, B. J. E. Guilhabert, H. X. Zhang, E. Gu, M. D. Dawson, V. Poher, G. T. Kennedy, P. M. W. French, and M. A. A. Neil, "Novel micro-display systems based on ill-nitride micro-pixellated light-emitting diode arrays," 2008.
- [126] Y. Gong, J. Liu, Z. Pan, X. Wang, and Z. Gong, "16.6: A simple adhesive - assisted technique for transferring micro - LEDs," 2019, vol. 50, pp. 173-173.
- [127] D. Elfstrom, B. Guilhabert, C. Griffin, D. Massoubre, H. X. Zhang, J. McKendry, Z. Gong, E. Gu, and M. D. Dawson, "Quantum dot nano-composites as colour-converters for micro-pixellated gallium nitride light-emitting diodes," 2008: IEEE, pp. 505-506.
- [128] Z. Z. Chen, E. Y. Xie, P. R. Edwards, Z. Gong, D. Massoubre, R. W. Martin, E. D. Gu, M. D. Dawson, and G. Y. Zhang, "Strain Redistribution in InGaN/GaN Micro-LED Evidenced by Cathodoluminescence Mapping," 2010, p. 35.
- [129] J. R. Bonar, G. J. Valentine, Z. Gong, J. Small, and S. Gorton, "High-brightness low-power consumption microLED arrays," 2016, vol. 9768: SPIE, pp. 92-100.