

Chao-Hsin Wu

List of Publications by Year in descending order

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134
papers

1,307
citations

361413

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454955

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all docs

134
docs citations

134
times ranked

1055
citing authors

#	ARTICLE	IF	CITATIONS
1	Establishment of 2D Crystal Heterostructures by Sulfurization of Sequential Transition Metal Depositions: Preparation, Characterization, and Selective Growth. Nano Letters, 2016, 16, 7093-7097.	9.1	51
2	4.3 GHz optical bandwidth light emitting transistor. Applied Physics Letters, 2009, 94, .	3.3	46
3	The Growth Mechanism of Transition Metal Dichalcogenides by using Sulfurization of Pre-deposited Transition Metals and the 2D Crystal Hetero-structure Establishment. Scientific Reports, 2017, 7, 42146.	3.3	46
4	Tunnel junction transistor laser. Applied Physics Letters, 2009, 94, .	3.3	45
5	High-speed integrated micro-LED array for visible light communication. Optics Letters, 2020, 45, 2203.	3.3	45
6	Tilted-charge high speed (7 GHz) light emitting diode. Applied Physics Letters, 2009, 94, .	3.3	43
7	Comparison of single-/few-/multi-mode 850 nm VCSELs for optical OFDM transmission. Optics Express, 2017, 25, 16347.	3.4	43
8	850/940-nm VCSEL for optical communication and 3D sensing. Opto-Electronic Advances, 2018, 1, 18000501-18000511.	13.3	42
9	Oxide-Confined VCSELs for High-Speed Optical Interconnects. IEEE Journal of Quantum Electronics, 2018, 54, 1-15.	1.9	38
10	The effect of microcavity laser recombination lifetime on microwave bandwidth and eye-diagram signal integrity. Journal of Applied Physics, 2011, 109, .	2.5	35
11	Few-mode VCSEL chip for 100-Gb/s transmission over 100 μ m multimode fiber. Photonics Research, 2017, 5, 507.	7.0	33
12	Single-mode VCSEL for pre-emphasis PAM-4 transmission up to 64 Gbit/s over 100 μ m in OM4 MME. Photonics Research, 2018, 6, 666.	7.0	32
13	752-MHz Modulation Bandwidth of High-Speed Blue Micro Light-Emitting Diodes. IEEE Journal of Quantum Electronics, 2018, 54, 1-6.	1.9	32
14	Single-Mode VCSEL Transmission for Short Reach Communications. Journal of Lightwave Technology, 2021, 39, 868-880.	4.6	31
15	Electrical-optical signal mixing and multiplication (2 \times 22 GHz) with a tunnel junction transistor laser. Applied Physics Letters, 2009, 94, .	3.3	29
16	Energy efficient microcavity lasers with 20 and 40 Gb/s data transmission. Applied Physics Letters, 2011, 98, 191107.	3.3	29
17	Experimental determination of the effective minority carrier lifetime in the operation of a quantum-well n-p-n heterojunction bipolar light-emitting transistor of varying base quantum-well design and doping. Applied Physics Letters, 2007, 91, .	3.3	28
18	Multi-Mode VCSEL Chip with High-Indium-Density InGaAs/AlGaAs Quantum-Well Pairs for QAM-OFDM in Multi-Mode Fiber. IEEE Journal of Quantum Electronics, 2017, 53, 1-8.	1.9	27

#	ARTICLE	IF	CITATIONS
19	Scaling of light emitting transistor for multigigahertz optical bandwidth. Applied Physics Letters, 2009, 94, .	3.3	24
20	Recent Advances in 850 nm VCSELs for High-Speed Interconnects. Photonics, 2022, 9, 107.	2.0	24
21	Influence of Separate Confinement Heterostructure on Emission Bandwidth of InGaAsP Superluminescent Diodes/Semiconductor Optical Amplifiers With Nonidentical Multiple Quantum Wells. IEEE Photonics Technology Letters, 2004, 16, 1441-1443.	2.5	19
22	Comparison of High-Speed PAM4 and QAM-OFDM Data Transmission Using Single-Mode VCSEL in OM5 and OM4 MMF Links. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-10.	2.9	19
23	Modal Linewidth Dependent Transmission Performance of 850-nm VCSELs With Encoding PAM-4 Over 100-m MMF. IEEE Journal of Quantum Electronics, 2017, 53, 1-8.	1.9	18
24	Multilayer MoS2 prepared by one-time and repeated chemical vapor depositions: anomalous Raman shifts and transistors with high ON/OFF ratio. Journal Physics D: Applied Physics, 2015, 48, 435101.	2.8	17
25	Germanium-doped Metallic Ohmic Contacts in Black Phosphorus Field-Effect Transistors with Ultra-low Contact Resistance. Scientific Reports, 2017, 7, 16857.	3.3	16
26	Application of localization landscape theory and the \hat{H}_0 model for direct modeling of carrier transport in a type II superlattice InAs/InAsSb photoconductor system. Journal of Applied Physics, 2020, 127, .	2.5	16
27	Modulation of high current gain ($\beta > 49$) light-emitting InGa \tilde{N} -GaN heterojunction bipolar transistors. Applied Physics Letters, 2007, 91, 232114.	3.3	15
28	Theory for voltage modulation of transistor lasers using Franz-Keldysh absorption in the presence of optoelectronic feedback. Optics Express, 2016, 24, 25515.	3.4	15
29	The effect of mode spacing on the speed of quantum-well microcavity lasers. Applied Physics Letters, 2010, 97, .	3.3	14
30	Proximity effect correction in electron-beam lithography based on computation of critical-development time with swarm intelligence. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2017, 35, .	1.2	14
31	Demonstration of the Very Long Wavelength Infrared Type-II Superlattice InAs/InAsSb GaAs Immersed Photodetector Operating at Thermoelectric Cooling. IEEE Electron Device Letters, 2019, 40, 1396-1398.	3.9	14
32	High-speed modulation from the fast mode extraction of a photonic crystal light-emitting diode. Journal of Applied Physics, 2016, 119, 013103.	2.5	13
33	Efficient Heat Dissipation of Uncooled 400-Gbps (16 \tilde{A} –25-Gbps) Optical Transceiver Employing Multimode VCSEL and PD Arrays. Scientific Reports, 2017, 7, 46608.	3.3	13
34	Design, Modeling, and Fabrication of High-Speed VCSEL with Data Rate up to 50 Gb/s. Nanoscale Research Letters, 2019, 14, 276.	5.7	13
35	Multimode VCSEL Enables 42-GBaud PAM-4 and 35-GBaud 16-QAM OFDM for 100-m OM5 MMF Data Link. IEEE Access, 2020, 8, 36963-36973.	4.2	12
36	Analysis of Tunable Internal Loss Caused by Franz \tilde{A} Keldysh Absorption in Transistor Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2015, 21, 270-276.	2.9	11

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37	Experimental analysis of the Schottky barrier height of metal contacts in black phosphorus field-effect transistors. <i>Journal Physics D: Applied Physics</i> , 2018, 51, 135306.	2.8	11
38	Temperature and Noise Dependence of Tri-Mode VCSEL Carried 120-Gbit/s QAM-OFDM Data in Back-to-Back and OM5-MMF Links. <i>Journal of Lightwave Technology</i> , 2020, 38, 6746-6758.	4.6	11
39	Investigation of the current influence on near-field and far-field beam patterns for an oxide-confined vertical-cavity surface-emitting laser. <i>Optics Express</i> , 2020, 28, 30748.	3.4	11
40	Evaluation and Selection of Materials for Particulate Matter MEMS Sensors by Using Hybrid MCDM Methods. <i>Sustainability</i> , 2018, 10, 3451.	3.2	10
41	CWDM DFBLD Transmitter Module for 10-km Interdata Center With Single-Channel 50-Gbit/s PAM-4 and 62-Gbit/s QAM-OFDM. <i>Journal of Lightwave Technology</i> , 2018, 36, 703-711.	4.6	10
42	Long-Term Thermal Stability of Single-Mode VCSEL Under 96-Gbit/s OFDM Transmission. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2019, 25, 1-9.	2.9	10
43	High $f_{\text{max}} - L_{\text{G}}$ Product of AlGaIn/GaN HEMTs on Silicon With Thick Rectangular Gate. <i>IEEE Journal of the Electron Devices Society</i> , 2020, 8, 481-484.	2.1	10
44	Design and Optimization of VCSELs for up to 40-Gb/s Error-Free Transmission Through Impurity-Induced Disorder. <i>IEEE Transactions on Electron Devices</i> , 2020, 67, 1041-1046.	3.0	10
45	Review of VCSELs for Complex Data-Format Transmission Beyond 100-Gbit/s. <i>IEEE Photonics Journal</i> , 2021, 13, 1-13.	2.0	10
46	High-Temperature Insensitivity of 50-Gb/s 16-QAM-DMT Transmission by Using the Temperature-Compensated Vertical-Cavity Surface-Emitting Lasers. <i>Journal of Lightwave Technology</i> , 2018, 36, 3332-3343.	4.6	9
47	Microwave determination of electron-hole recombination dynamics from spontaneous to stimulated emission in a quantum-well microcavity laser. <i>Applied Physics Letters</i> , 2010, 96, 131108.	3.3	8
48	Microwave characterization of Purcell enhancement in a microcavity laser. <i>Applied Physics Letters</i> , 2010, 96, 131107.	3.3	8
49	Optical frequency response analysis of light-emitting transistors under different microwave configurations. <i>Applied Physics Letters</i> , 2013, 103, .	3.3	8
50	Resonance-free optical response of a vertical cavity transistor laser. <i>Applied Physics Letters</i> , 2017, 111, .	3.3	8
51	Highly conductive nanometer-thick gold films grown on molybdenum disulfide surfaces for interconnect applications. <i>Scientific Reports</i> , 2020, 10, 14463.	3.3	8
52	Effect of Chirped Dispersion and Modal Partition Noise on Multimode VCSEL Encoded With NRZ-OOK and PAM-4 Formats. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2022, 28, 1-9.	2.9	8
53	Improved temperature characteristics of laser diodes with nonidentical multiple quantum wells due to temperature-induced carrier redistribution. <i>Applied Physics Letters</i> , 2003, 82, 3403-3405.	3.3	7
54	Microwave Determination of Quantum-Well Capture and Escape Time in Light-Emitting Transistors. <i>IEEE Transactions on Electron Devices</i> , 2013, 60, 1088-1091.	3.0	7

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55	Theoretical analysis on optical frequency response of tunnel-junction transistor lasers operated in different configurations. Journal of Applied Physics, 2019, 125, .	2.5	7
56	Effect of border traps on the threshold voltage instability of fluoride-doped AlGaIn/GaN metal-insulator-semiconductor high-electron-mobility transistors. Journal Physics D: Applied Physics, 2019, 52, 195102.	2.8	7
57	Comparison on OM5-MMF and OM4-MMF Data Links With 32-GBaud PAM-4 Modulated Few-Mode VCSEL at 850nm. Journal of Lightwave Technology, 2020, 38, 573-582.	4.6	7
58	850-nm Single-Mode Vertical-Cavity Surface-Emitting Lasers for 40 Gb/s Error-Free Transmission up to 500 m in OM4 Fiber. IEEE Electron Device Letters, 2020, 41, 84-86.	3.9	7
59	D-Shaped Silicon-Cored Fibers as Platform to Build In-Line Schottky Photodetectors. IEEE Photonics Technology Letters, 2021, 33, 317-320.	2.5	7
60	Investigation of Normally-Off p-GaN/AlGaIn/GaN HEMTs Using a Self-Terminating Etching Technique with Multi-Finger Architecture Modulation for High Power Application. Micromachines, 2021, 12, 432.	2.9	7
61	VCSEL with bi-layer oxidized aperture enables 140-Gbit/s OFDM Transmission over 100-m-long OM5 MMF. , 2019, , .		7
62	Systematic investigation of the threshold voltage modulation of AlGaIn/GaN Schottky-gate Fin-HEMTs. Journal of Applied Physics, 2019, 125, 094502.	2.5	6
63	Photonic Crystal Structured Multi-Mode VCSELs Enabling 92-Gbit/s QAM-OFDM Transmission. Journal of Lightwave Technology, 2021, 39, 4331-4340.	4.6	6
64	4-GHz Modulation Bandwidth of Integrated 2,imes,2 LED Array. IEEE Photonics Technology Letters, 2009, 21, 1834-1836.	2.5	5
65	Luminescence Enhancement and Enlarged Dirac Point Shift of MoS2/Graphene Hetero-Structure Photodetectors With Postgrowth Annealing Treatment. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 101-105.	2.9	5
66	50 Gb/s Error-Free Data Transmission Using a NRZ-OOK Modulated 850 nm VCSEL. , 2018, , .		5
67	Thermally-enhanced current gain of quantum-well heterojunction bipolar transistor. Journal of Applied Physics, 2019, 126, .	2.5	5
68	Characteristics of Blue GaN/InGaIn Quantum-Well Light-Emitting Transistor. IEEE Electron Device Letters, 2020, 41, 91-94.	3.9	5
69	RIN Suppressed Multimode 850-nm VCSEL for 56-Gbps 16-QAM OFDM and 22-Gbps PAM-4 Transmission. , 2016, , .		5
70	Pulse compression irrespective of fiber dispersion using chirp of transistor lasers. Optics Letters, 2019, 44, 2109.	3.3	5
71	Monolithic integration of 940nm AlGaAs distributed Bragg reflectors on bulk Ge substrates. Optical Materials Express, 2022, 12, 1131.	3.0	5
72	Stochastic base doping and quantum-well enhancement of recombination in an n-p-n light-emitting transistor or transistor laser. Applied Physics Letters, 2010, 96, 263505.	3.3	4

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73	High performance MoS2 TFT using graphene contact first process. AIP Advances, 2017, 7, 085018.	1.3	4
74	A comprehensive model for sub-10 nm electron-beam patterning through the short-time and cold development. Nanotechnology, 2017, 28, 425301.	2.6	4
75	A NRZ-OOK Modulated 850-nm VCSEL with 54 Gb/s Error-Free Data Transmission. , 2019, , .		4
76	A Thermoelectrically Cooled nBn Type-II Superlattices InAs/InAsSb/Ba _{0.1} AlAsSb Mid-Wave Infrared Detector. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900522.	1.8	4
77	Tungsten Diselenide Top-gate Transistors with Multilayer Antimonene Electrodes: Gate Stacks and Epitaxially Grown 2D Material Heterostructures. Scientific Reports, 2020, 10, 5967.	3.3	4
78	Ge p-i-n Photodiode as 60-Gbit/s Optical NRZ-OOK Data Receiver. Journal of Lightwave Technology, 2022, 40, 4326-4336.	4.6	4
79	Quantum Well Saturation Effect on the Reduction of Base Transit Time in Light-Emitting Transistors. IEEE Transactions on Electron Devices, 2014, 61, 3472-3476.	3.0	3
80	Analysis of different tunneling mechanisms of In _x Ga _{1-x} As/AlGaAs tunnel junction light-emitting transistors. Applied Physics Letters, 2014, 105, 171104.	3.3	3
81	Threshold voltage controlled by gate area and gate recess in inverted trapezoidal trigate AlGa _N /Ga _N MOS high-electron-mobility transistors with photoenhanced chemical and plasma-enhanced atomic layer deposition oxides. Applied Physics Express, 2015, 8, 084101.	2.4	3
82	12%GHz spontaneous optical bandwidth tunnel junction light-emitting transistor. Applied Physics Letters, 2019, 115, 181102.	3.3	3
83	High thermal stability of 850 nm VCSELs with enhanced mask margin up to 85 °C for 100G-SR4 Operation. , 2021, , .		3
84	30 GHz Highly Damped Oxide Confined Vertical-Cavity Surface-Emitting Laser. , 2021, , .		3
85	Coupling angle tolerance of the 850-nm single-mode VCSEL output collimated by lensed OM4-MMF or GI-SMF for a NRZ-OOK link. Optics Express, 2022, 30, 17130.	3.4	3
86	Investigation of effective base transit time and current gain modulation of light-emitting transistors under different ambient temperatures. Applied Physics Letters, 2014, 105, .	3.3	2
87	The Effect of Voltage-Dependent Charge-Removing Mechanism on the Optical Modulation Bandwidths of Light-Emitting Transistors. IEEE Transactions on Electron Devices, 2015, 62, 4076-4081.	3.0	2
88	Enhancement-mode AlGa _N /Ga _N MOS-HEMT on silicon with ultrathin barrier and diluted KOH passivation. , 2016, , .		2
89	Threshold Voltage Modulation of Enhancement-Mode InGaAs Schottky-Gate Fin-HEMTs. IEEE Electron Device Letters, 2019, 40, 534-537.	3.9	2
90	Investigation on Different Buffer to Suppress the RF-Loss in AlGa _N /Ga _N -on-Si HEMTs. , 2019, , .		2

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91	Oxide-confined VCSEL with metal apertures for high-speed 850nm transmission. , 2020, , .		2
92	Operation bandwidth of negative capacitance characterized by the frequency response of capacitance magnification in ferroelectric/dielectric stacks. Journal of Materials Chemistry C, 2021, 9, 1401-1409.	5.5	2
93	Chirp-free optical-signal generation using dual-and-direct current-voltage modulation of transistor lasers. Optics Letters, 2020, 45, 2474.	3.3	2
94	Top-gate transistors fabricated on epitaxially grown molybdenum disulfide and graphene hetero-structures. Applied Physics Express, 2021, 14, 125502.	2.4	2
95	Influence of Separate Confinement Heterostructure Layer on Carrier Distribution in InGaAsP Laser Diodes with Nonidentical Multiple Quantum Wells. Japanese Journal of Applied Physics, 2004, 43, 7032-7035.	1.5	1
96	11- $\hat{1}$ / ₄ m InAs/GaAs quantum-dot light-emitting transistors grown by molecular beam epitaxy. Optics Letters, 2015, 40, 3747.	3.3	1
97	Investigation of GaN Fin-HEMTs with micron-scale fin width. , 2017, , .		1
98	Analysis of quantum well optical modulation in light-emitting transistors. , 2017, , .		1
99	High Speed Data Transmission under Voltage Modulation of Transistor Lasers. , 2018, , .		1
100	Pulse Compression using Chirp of Transistor Lasers Regardless of Types of Fiber Dispersions. , 2019, , .		1
101	Analytical Modeling of Tunnel-Junction Transistor Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-8.	2.9	1
102	Few-Mode 850-nm VCSEL Chip with Direct 16-QAM OFDM Encoding at 80-Gbit/s for 100-m OM4 MMF Link. , 2017, , .		1
103	850-nm Dual-Mode VCSEL Carried 53-Gbps NRZ- OOK Transmission in 100-m Graded-Index Single-Mode Fiber. , 2021, , .		1
104	Single-mode VCSEL for Nearly 100-Gbit/s QAM-OFDM transmission over 100-m OM4 multi-mode fiber. , 2018, , .		1
105	Cryogenic operation of a high speed 850 nm VCSEL with 40.1 GHz modulation bandwidth at 223 K. , 2020, , .		1
106	Ultra-fast and Highly Efficient 850-nm VCSELs for Next-gen PAM-4 Transceivers. , 2021, , .		1
107	QAM-DMT of Hybridly Integrated EAM-DFBLD Chip-on-Board With Adaptive Machine Learning Algorithm for 149.6-Gbit/s BtB and 138-Gbit/s 10-km-SMF Transmission. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-13.	2.9	1
108	Improved temperature characteristics of semiconductor lasers due to carrier redistribution among nonidentical multiple quantum wells. , 0, , .		0

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109	Improved temperature characteristics of semiconductor lasers due to carrier redistribution among nonidentical multiple quantum wells. , 2003, , .		0
110	Wavelength switching and light modulation in laser diodes with nonidentical multiple quantum wells. , 2005, , .		0
111	Gain measurement of broadband quantum dot SOA by two-section technique. , 0, , .		0
112	Broad-Gain Measurement of Semiconductor Optical Amplifier with Nonidentical Multiple Quantum Wells. Japanese Journal of Applied Physics, 2006, 45, L259-L261.	1.5	0
113	The effect of aperture layout design on the multi-GHz operation of light-emitting transistors. , 2012, , .		0
114	Cut-off frequency enhancement of light-emitting transistor under illumination. , 2015, , .		0
115	Investigation of Junction Thermal Characteristics of Light-Emitting Transistors. IEEE Transactions on Electron Devices, 2015, 62, 808-812.	3.0	0
116	Fabrication and characterization of InGaAs fin structure high electron mobility transistors. , 2016, , .		0
117	Characterization of in-plane gate transistors with different geometries. , 2016, , .		0
118	Reduction of threshold voltage instability in recessed-gate AlGaIn/GaN MOSHEMTs by KOH passivation. , 2016, , .		0
119	Developing the OEIC solutions using two section light-emitting transistor. Proceedings of SPIE, 2016, , .	0.8	0
120	The role of optoelectronic feedback on Franz-Keldysh voltage modulation of transistor lasers. , 2016, , .		0
121	Dual-cut graphene transistors with constant-current regions fabricated by the atomic force microscope anode oxidation. Japanese Journal of Applied Physics, 2017, 56, 010307.	1.5	0
122	Investigation of mirror-resistance reduction in the signal transmission integrity of VCSELs. , 2017, , .		0
123	Modulate threshold voltage to achieve enhancement mode fin-structured InGaAs high electron mobility transistors (fin-HEMTs) through narrowing fin structure's width. , 2017, , .		0
124	Characterization of blue InGaIn/GaN quantum-well heterojunction bipolar light emitting transistors. , 2017, , .		0
125	Monolithically Integrated Optical NAND Gate Using Light-Emitting Transistors. , 2018, , .		0
126	RC Time Constant and Resistance Reduced VCSEL for Broadband QAM-OFDM. , 2018, , .		0

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127	Thermoelectrically Cooled nBn T2SLs InAs/InAsSb/B-AlAsSb MWIR Detector. , 2019, , .		0
128	Small Signal Modeling of GaN-on-Si HEMT with Leaky Buffer. , 2019, , .		0
129	Simulation Model of Oxide-Aperture Strain Quantum Well VCSEL. , 2019, , .		0
130	A Four-Port Model of Light-Emitting Transistors for Circuit Simulation and Application. IEEE Transactions on Electron Devices, 2020, 67, 5572-5580.	3.0	0
131	50 Gb/s Zn-diffusion Few-Mode VCSELs for over 100-m GI-SMF Transmission at 850 nm Wavelength. IEEE Nanotechnology Magazine, 2021, , 1-1.	2.0	0
132	High Electron Mobility of 1880 cm ² V-S In _{0.17} Al _{0.83} N/GaN-on-Si HEMTs with GaN Cap Layer. , 2020, , .		0
133	The Ridge Width Dependence of Monolithic Dual-Mode Distributed Feedback Laser for continuous-wave Terahertz Generation. , 2021, , .		0
134	Regional Pulsewidth and Delay Nonuniformity of Modulated 940-nm Vertical-Cavity Surface-Emitting Laser Array. Advanced Photonics Research, 0, , 2100133.	3.6	0