Franko Kueppers

List of Publications by Year in Descending Order

117 papers	840 citations	16 h-index	24 g-index
180 ext. papers	1,092 ext. citations	2 avg, IF	3.69 L-index

#	Paper	IF	Citations
117	Analysis of a Dynamical System Modeling Lasers and Applications for Optical Neural Networks. *SIAM Journal on Applied Dynamical Systems*, **2022**, 21, 840-878	2.8	1
116	Reliable GaN-Based THz Gunn Diodes With Side-Contact and Field-Plate Technologies. *IEEE Access*, **2020**, 8, 84116-84122	3.5	9
115	Comparison of Metallic NW and Evaporated Contact for THz Detector Modules Based on an InGaAs Schottky diode **2019**,		1
114	All-optical majority gate based on an injection-locked laser. *Scientific Reports*, **2019**, 9, 14576	4.9	4
113	A new approach to achieve Gunn effect for GaN based THz sources with high power **2019**,		2
112	Dissipative dispersion-managed solitons in fiber-optic systems with lumped amplification. *Optics Letters*, **2019**, 44, 2657	3	1
111	Direct Near-Field Observation of Surface Plasmon Polaritons on Silver Nanowires. *ACS Omega*, **2019**, 4, 21962-21966	3.9	9
110	Systematic characterization of a 1550 nm microelectromechanical (MEMS)-tunable vertical-cavity surface-emitting laser (VCSEL) with 7.92 THz tuning range for terahertz photomixing systems. *Journal of Applied Physics*, **2018**, 123, 023106	2.5	6
109	Enhanced Responsivity of ZnSe-Based Metal–Semiconductor–Metal Near-Ultraviolet Photodetector via Impact Ionization. *Physica Status Solidi - Rapid Research Letters*, **2018**, 12, 1700418	2.5	9
108	Introduction to Optical Metamaterials: Motivation and Goals. *Springer Series in Optical Sciences*, **2018**, 1-21	0.5	
107	Applications of the Classical Metamaterial Model—Nonlinear Metamaterials: Multipole (Second Order) and Third Order Nonlinearities. *Springer Series in Optical Sciences*, **2018**, 167-189	0.5	
106	Multipole Approach for Homogenization of Metamaterials: Quantum Metamaterials. *Springer Series in Optical Sciences*, **2018**, 191-204	0.5	
105	Application of the Model of Quantum Metamaterials: Metamaterial Caused Enhancement of Nonlinear Response. *Springer Series in Optical Sciences*, **2018**, 205-224	0.5	
104	Relaxation of Inverted Quantum System Coupled with Metallic Nanoobjects. *Springer Series in Optical Sciences*, **2018**, 271-285	0.5	
103	Phenomenological Versus Multipole Models. *Springer Series in Optical Sciences*, **2018**, 47-90	0.5	
102	Applications of the Classical Metamaterial Model—Optical Activity and Electromagnetically Induced Transparency. *Springer Series in Optical Sciences*, **2018**, 105-123	0.5	
101	Applications of the Classical Metamaterial Model—Metamaterials with Interaction Between Meta-Atoms. *Springer Series in Optical Sciences*, **2018**, 125-144	0.5	

100	Plane Wave Propagation in Metamaterials with Gain. *Springer Series in Optical Sciences*, **2018**, 257-270	0.5	
99	On the Question of Radiative Losses in the Frame of Classic and Quantum Formalism. *Springer Series in Optical Sciences*, **2018**, 287-305	0.5	
98	Applications of the Classical Metamaterial Model Disordered Metamaterials. *Springer Series in Optical Sciences*, **2018**, 145-166	0.5	
97	Homogenization of Maxwell Equations Macroscopic and Microscopic Approaches. *Springer Series in Optical Sciences*, **2018**, 23-46	0.5	
96	Multipole Approach for Homogenization of Metamaterials: Classical Metamaterials. *Springer Series in Optical Sciences*, **2018**, 91-103	0.5	
95	Application of the Model of Quantum Metamaterials: Regular and Stochastic Dynamics of Nanolaser (Spaser). *Springer Series in Optical Sciences*, **2018**, 225-255	0.5	
94	Proposal for a Monolithic Broadband Terahertz Quantum Cascade Laser Array Tailored to Detection of Explosive Materials. *Sensor Letters*, **2018**, 16, 1-7	0.9	6
93	Nonlinear Pulses in Dispersion-Managed Fiber-Optic Systems in Presence of High Losses. *Journal of Physics: Conference Series*, **2018**, 1124, 051011	0.3	
92	New InGaAs THz Schottky Detectors with Nanowire Contact for Zero-Bias Operation **2018**,		1
91	2.08 THz and 4.96 THz Room-Temperature Quantum Cascade Lasers Based on Non-Polar M-Plane ZnMgO/ZnO **2018**,		1
90	Reliability Improvement of High-Power THz GaN Gunn Sources for Active Imaging Systems **2018**,		2
89	Room-temperature terahertz emission from ZnSe-based quantum cascade structures: A simulation study. *Physica Status Solidi - Rapid Research Letters*, **2017**, 11, 1600423	2.5	10
88	26-Gb/s DMT Transmission Using Full C -Band Tunable VCSEL for Converged PONs. *IEEE Photonics Technology Letters*, **2017**, 29, 1475-1478	2.2	9
87	Efficiency enhancement of InGaN/GaN light-emitting diodes with pin-doped GaN quantum barrier. *Journal Physics D: Applied Physics*, **2017**, 50, 035108	3	4
86	1.33 THz room-temperature quantum cascade lasers based on ZnMgSe/ZnSe **2017**,		1
85	Multispecies Heterodyne Phase Sensitive Dispersion Spectroscopy over 80 nm Using a MEMS-VCSEL. *ACS Photonics*, **2017**, 4, 2664-2668	6.3	6
84	Resonant Tunneling and Quantum Cascading for Optimum Room-Temperature Generation of THz Signals. *IEEE Transactions on Electron Devices*, **2017**, 64, 3482-3488	2.9	7
83	Graphene Nanowire hybrid photomixer for continuous-wave terahertz generation **2017**,		1

82	Optical Rectification of Phase Modulated Signal Based on Injection Locking. *Journal of Physics: Conference Series*, **2017**, 917, 052014	0.3	0
81	Vertical nanowire contacted THz Schottky detectors based on gallium arsenide for zero-bias operation **2017**,		4
80	Demonstration of optical vortex propagation in on-chip rectangular dielectric waveguides **2017**,		1
79	Optical vortex propagation in few-mode rectangular polymer waveguides **2017**,		2
78	Analytical qualitative modeling of passive and active metamaterials [Invited]. *Journal of the Optical Society of America B: Optical Physics*, **2017**, 34, 1597	1.7	5
77	Bidirectional UWB over fiber for WDM-PON system. *Optics Express*, **2017**, 25, 6840-6850	3.3	4
76	Simultaneous wavelength and orbital angular momentum demultiplexing using tunable MEMS-based Fabry-Perot filter. *Optics Express*, **2017**, 25, 9634-9646	3.3	19
75	Far-field, linewidth and thermal characteristics of a high-speed 1550-nm MEMS tunable VCSEL. *Optics Express*, **2016**, 24, 13142-56	3.3	9
74	Wavelength-selective orbital-angular-momentum beam generation using MEMS tunable Fabry-Perot filter. *Optics Letters*, **2016**, 41, 3249-52	3	16
73	Generation of UWB Doublet Pulse Based on Directly Modulated Laser and Chromatic Dispersion. *IEEE Photonics Technology Letters*, **2016**, 28, 343-346	2.2	5
72	TDM-PON compatible generation of 10 Gbps NRZ and 1.25 Gbps UWB signals by a single light source. *Optics Express*, **2016**, 24, 17018-26	3.3	2
71	Zero-bias Schottky diode based THz detectors at room temperature using metallic nanowire **2016**,		2
70	CW THz photomixers at 850 nm and 1550 nm using dielectrophoretic alignment of Ag-nanowire **2016**,		1
69	Radio transmission and BER performance of UWB pulse generation based on directly modulated semiconductor laser **2015**,		1
68	Effect of p-NiO and n-ZnSe interlayers on the efficiency of p-GaN/n-ZnO light-emitting diode structures. *Semiconductor Science and Technology*, **2015**, 30, 065005	1.8	26
67	1-D and 2-D Nanocontacts for Reliable and Efficient Terahertz Photomixers. *IEEE Transactions on Terahertz Science and Technology*, **2015**, 5, 398-405	3.4	9
66	Widely tunable telecom MEMS-VCSEL for terahertz photomixing. *Optics Letters*, **2015**, 40, 4428-31	3	6
65	10-Gb/s Direct Modulation of Widely Tunable 1550-nm MEMS VCSEL. *IEEE Journal of Selected Topics in Quantum Electronics*, **2015**, 21, 436-443	3.8	22

64	Generation of UWB pulses utilizing directly modulated tunable MEMS-VCSEL **2015**,		1
63	Effect of p-NiO Interlayer on Internal Quantum Efficiency of p-GaN/n-ZnO Light-Emitting Devices. *Journal of Nanoelectronics and Optoelectronics*, **2015**, 9, 811-818	1.3	6
62	Design of DPSS based fiber bragg gratings and their application in all-optical encryption, OCDMA, optical steganography, and orthogonal-division multiplexing. *Optics Express*, **2014**, 22, 10882-97	3.3	31
61	10 Gbit/s PON Upstream Burst-mode Equalization Based on SOAs **2014**,		1
60	WDM□DM NG-PON Power Budget Extension by Utilizing SOA in the Remote Node. *IEEE Photonics Journal*, **2014**, 6, 1-10	1.8	4
59	Temperature characteristics of surface micromachined MEMS-VCSEL with large tuning range. *Optics Express*, **2014**, 22, 13063-72	3.3	3
58	Single nanowire photomixer for reliable and high frequency continuous wave terahertz generation **2014**,		1
57	Tunable MEMS-VCSEL with >140-nm tuning range using tuning range using SiO2/SiC-based MEMS-DBR **2014**,		2
56	50 nm continuously tunable MEMS VCSEL devices with surface micromachining operating at 1.95 □m emission wavelength. *Semiconductor Science and Technology*, **2013**, 28, 012001	1.8	5
55	Ultrawideband signal generation based on directly modulated semiconductor laser and optical filtering **2013**,		1
54	Efficiency of continuous-wave solar pumped semiconductor lasers. *Optics and Laser Technology*, **2013**, 47, 194-198	4.2	5
53	Generation of UWB pulses using direct modulation of semiconductor laser and optical filtering. *Electronics Letters*, **2013**, 49, 1171-1173	1.1	4
52	Graphene LTG-GaAs photomixer for reliable continuous wave terahertz generation **2013**,		3
51	Continuously Tunable, Polarization Stable SWG MEMS VCSELs at 1.55 $mu{rm m}$. *IEEE Photonics Technology Letters*, **2013**, 25, 841-843	2.2	8
50	1 Tb/s WDM-OFDM-PON power budget extension techniques **2013**,		5
49	WDM-PON budget extension techniques for Nx10 Gbit/s DPSK signals **2013**,		1
48	Far-field emission characteristics and linewidth measurements of surface micro-machined MEMS tunable VCSELs **2013**,		2
47	Nanogrid-based vertically integrated photomixer for continuous wave terahertz generation **2012**,		3

46	Enhancing spectral efficiency and capacity in synchronous OCDMA by transposed-MPC. *Optical Switching and Networking*, **2012**, 9, 130-137	1.6	5
45	Direct DPSK modulation of chirp-managed laser as cost-effective downstream transmitter for symmetrical 10-Gbit/s WDM PONs. *Optics Express*, **2012**, 20, B470-8	3.3	4
44	Long-wavelength VCSELs for sensing applications **2012**,		5
43	Polarization investigation of a tunable high-speed short-wavelength bulk-micromachined MEMS-VCSEL **2012**,		1
42	Surface micromachined MEMS tunable VCSEL at 1550 nm with > 70 nm single mode tuning **2012**,		2
41	Experimental Demonstration of Optical Retiming Using Temporal Soliton Molecules. *Journal of Lightwave Technology*, **2011**, 29, 3493-3499	4	8
40	Surface micromachined tunable 1.55 μm-VCSEL with 102 nm continuous single-mode tuning. *Optics Express*, **2011**, 19, 17336-43	3.3	64
39	Saturated Collision Amplifier reach extender for XGPON1 and TDM/DWDM PON. *Optics Express*, **2011**, 19, B645-52	3.3	2
38	All-optical processing of RZ-DPSK signals using counter-propagating pulses in a saturated SOA. *Optics Communications*, **2011**, 284, 2576-2580	2	4
37	Surface micromachined MEMS-tunable VCSELs with wide and fast wavelength tuning. *Electronics Letters*, **2011**, 47, 1243	1.1	8
36	Tuneable VCSEL aiming for the application in interconnects and short haul systems **2011**,		5
35	Reach Extenders Based on Optical Amplification for XGPON1 Optical Access Networks **2011**,		1
34	**2010**,		1
33	Synchronous Optical CDMA Networks Capacity Increase Using Transposed Modified Prime Codes. *Journal of Lightwave Technology*, **2010**, 28, 2603-2610	4	14
32	Phase-preserving amplitude noise suppression using an attenuation-imbalanced NOLM **2010**,		2
31	BER Improvement for RZ-DPSK Receivers Using Saturated Asymmetric Filtering **2010**,		1
30	Numerical analysis and system optimization for 100 Gbit/s carrier Ethernet serial modulation formats. *Optics Communications*, **2010**, 283, 2333-2338	2	0
29	The bit pattern effect on all-optical clock recovery using tank circuits and birefringent resonators. *Optics Communications*, **2009**, 282, 4693-4698	2	

28	Optical clock recovery methods: Review (Invited). *Optical Fiber Technology*, **2009**, 15, 363-372	2.4	32
27	Evaluation of large girth LDPC codes for PMD compensation by turbo equalization. *Optics Express*, **2008**, 16, 13450-5	3.3	8
26	Mode-locked fiber/waveguide lasers based on a fiber taper embedded in carbon nanotubes/polymer composite **2008**,		1
25	Fiber ringdown-beat pressure sensors **2008**,		1
24	Demonstration of PMD Compensation by LDPC-Coded Turbo Equalization and Channel Capacity Loss Characterization Due to PMD and Quantization. *IEEE Photonics Technology Letters*, **2007**, 19, 1852-1854	2.2	12
23	Investigation of multiwavelength clock recovery based on heterodyne beats of sideband-filtered signal. *Optics Communications*, **2007**, 271, 87-90	2	3
22	Polarization Independent All-optical Clock Recovery Scheme based on Birefringent Resonator. *Journal of Optical Communications*, **2007**, 28,	1.2	2
21	Multichannel and rate all-optical clock recovery. *IEEE Photonics Technology Letters*, **2006**, 18, 1395-1397	2.2	11
20	System optimization and significant reach extension using alternating dispersion compensation for 160 Gbit/s transmission links. *Optics Express*, **2005**, 13, 6336-44	3.3	4
19	Design considerations for terrestrial ultra-high-bitrate long-haul transmission systems **2005**, 6012, 601203		
18	Guest editorial 40 Gb/s lightwave systems. *Journal of Lightwave Technology*, **2002**, 20, 1982-1982	4	
17	160 Gbit/s field transmission over 116 km standard single mode fibre using 160 Gbit/s OTDM and 40 Gbit/s ETDM demultiplexer. *IEE Proceedings: Optoelectronics*, **2001**, 148, 171-175		5
16	160 Gbit/s transmission over 116 km field-installed fibre using 160 Gbit/s OTDM and 40 Gbit/s ETDM. *Electronics Letters*, **2001**, 37, 443	1.1	38
15	160 Gbit/s Transmission over 116 km Field-Installed Fiber Using 160 Gbit/s OTDM and 40 Gbit/s ETDM **2001**,		4
14	Unrepeatered 40 Gbit/s RZ transmission over 252 km SMF using Raman amplification. *Electronics Letters*, **2001**, 37, 646	1.1	2
13	Unrepeatered 80 Gbit/s RZ single channel transmission over 160 km of standard fibre at 1.55 [micro sign]m with large wavelength tolerance. *Electronics Letters*, **2000**, 36, 561	1.1	5
12	RZ versus NRZ modulation format for dispersion compensated SMF-based 10-Gb/s transmission with more than 100-km amplifier spacing. *IEEE Photonics Technology Letters*, **1999**, 11, 481-483	2.2	27
11	40 Gb/s and 4/spl times/40 Gb/s TDM/WDM standard fiber transmission. *Journal of Lightwave Technology*, **1999**, 17, 2276-2284	4	35

10	Experimental comparison of 40 Gbit/s RZ and NRZ transmission over standard singlemode fibre. *Electronics Letters*, **1999**, 35, 2216	1.1	25
9	Unrepeated 40-Gb/s RZ single-channel transmission at 1.55 □m using various fiber types. *IEEE Photonics Technology Letters*, **1998**, 10, 822-824	2.2	20
8	Unrepeatered 40 Gbit/s RZ single channel transmission over 150 km of standard singlemode fibre at 1.55 [micro sign]m. *Electronics Letters*, **1997**, 33, 76	1.1	26
7	Symmetrical dispersion compensation for standard monomode-fiber-based communication systems with large amplifier spacing. *Optics Letters*, **1997**, 22, 982-4	3	35
6	Optimal schemes for dispersion compensation of standard monomode fiber based links. *Optics Communications*, **1997**, 140, 15-18	2	19
5	Straight line 20 Gbit/s transmission over 617 km of standard singlemode fibre with dispersion compensation. *Electronics Letters*, **1995**, 31, 305-307	1.1	16
4	Optimized design of passive fibre compensated transmission systems in view of Kerr non-linearity. *Journal of Optics*, **1995**, 4, 459-467		7
3	Straightforward upgrading of transmission systems to 4 □10 Gbit/s through 617 km and 8 □10 Gbit/s through 412 km of SMF. *Electronics Letters*, **1995**, 31, 1374-1375	1.1	5
2	40 Gb/s field test on an installed fiber link with high PMD and investigation of differential group delay impact on the transmission performance		3
1	Measurement of the maximum speed of PMD fluctuation in installed field fiber		49