

Delwin L Elder

List of Publications by Year in descending order

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126
papers

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94433

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2613
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#	ARTICLE	IF	CITATIONS
1	Design and synthesis of chromophores with enhanced electro-optic activities in both bulk and plasmonicâ€“organic hybrid devices. <i>Materials Horizons</i> , 2022, 9, 261-270.	12.2	34
2	Organic Electro-Optics and Optical Rectification: From Mesoscale to Nanoscale Hybrid Devices and Chip-Scale Integration of Electronics and Photonics. <i>Industrial & Engineering Chemistry Research</i> , 2022, 61, 1207-1231.	3.7	17
3	Transparent Optical-THz-Optical Link at 240/192 Gbit/s Over 5/115 m Enabled by Plasmonics. <i>Journal of Lightwave Technology</i> , 2022, 40, 1690-1697.	4.6	24
4	Organic electro-optic materials combining extraordinary nonlinearity with exceptional stability to enable commercial applications. , 2022, , .		3
5	Gigahertz free-space electro-optic modulators based on Mie resonances. <i>Nature Communications</i> , 2022, 13, .	12.8	63
6	Organic Semiconductors at the University of Washington: Advancements in Materials Design and Synthesis and toward Industrial Scale Production. <i>Advanced Materials</i> , 2021, 33, e1904239.	21.0	25
7	Bis(4-dialkylaminophenyl)heteroaryl amino donor chromophores exhibiting exceptional hyperpolarizabilities. <i>Journal of Materials Chemistry C</i> , 2021, 9, 2721-2728.	5.5	28
8	Electrically tunable metasurfaces by a single electro-optic layer. , 2021, , .		1
9	Plasmonicsâ€“high-speed photonics for co-integration with electronics. <i>Japanese Journal of Applied Physics</i> , 2021, 60, SB0806.	1.5	12
10	Hybrid electro-optic modulator combining silicon photonic slot waveguides with high-k radio-frequency slotlines. <i>Optica</i> , 2021, 8, 511.	9.3	41
11	Broadband Metallic Fiber-to-Chip Couplers and a Low-Complexity Integrated Plasmonic Platform. <i>Nano Letters</i> , 2021, 21, 4539-4545.	9.1	18
12	Mie-driven free-space electro-optic transducers. , 2021, , .		1
13	Birefringence, dimensionality, and surface influences on organic hybrid electro-optic performance. , 2021, , .		1
14	New paradigms in materials and devices for hybrid electro-optics and optical rectification. , 2021, , .		6
15	Electroâ€“Optic Activity in Excess of $1000 \text{ pm}^2 \text{ V}^{-1}$ Achieved via Theoryâ€“Guided Organic Chromophore Design. <i>Advanced Materials</i> , 2021, 33, e2104174.	21.0	49
16	Nano-engineered spatial-light modulators from electro-optic nano-molecules. , 2021, , .		0
17	Electro-optic spatial light modulator from an engineered organic layer. <i>Nature Communications</i> , 2021, 12, 5928.	12.8	58
18	Transparent Optical-THz-Optical Link Transmission over 5/115 m at 240/190 Gbit/s Enabled by Plasmonics. , 2021, , .		12

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19	Electrically Tunable Graphene Organic Hybrid Ring Resonators. , 2021, , .		0
20	Mie-driven free-space electro-optic transducers. , 2021, , .		1
21	Derivatives of DANPY (Dialkylaminonaphthylpyridinium), a DNA-Binding Fluorophore: Practical Synthesis of Tricyclic 2-Amino-6-bromonaphthalenes by Bucherer Reaction. ACS Omega, 2020, 5, 537-546.	3.5	3
22	A monolithic bipolar CMOS electronicâ€“plasmonic high-speed transmitter. Nature Electronics, 2020, 3, 338-345.	26.0	89
23	Ultra-High-Speed 2:1 Digital Selector and Plasmonic Modulator IM/DD Transmitter Operating at 222ÂGBaud for Intra-Datacenter Applications. Journal of Lightwave Technology, 2020, 38, 2734-2739.	4.6	45
24	Ultrahigh Electro-Optic Coefficients, High Index of Refraction, and Long-Term Stability from Dielsâ€“Alder Cross-Linkable Binary Molecular Glasses. Chemistry of Materials, 2020, 32, 1408-1421.	6.7	98
25	Advances in high-performance hybrid electro-optics. , 2020, , .		3
26	Processing of organic electro-optic materials for commercial applications. , 2020, , .		2
27	100 Gbd IM/DD transmission over 14â€“km SMF in the C-band enabled by a plasmonic SSB MZM. Optics Express, 2020, 28, 8601.	3.4	13
28	Silicon-organic hybrid (SOH) Mach-Zehnder modulators for 100 GBd PAM4 signaling with sub-1â€“dB phase-shifter loss. Optics Express, 2020, 28, 24693.	3.4	47
29	High-Speed Plasmonic Modulator for Simultaneous C- and O-Band Modulation with Simplified Fabrication. , 2020, , .		1
30	SOH Mach-Zehnder Modulators for 100 GBd PAM4 Signaling With Sub-1 dB Phase-Shifter Loss. , 2020, , .		10
31	Electro-optic interface for ultrasensitive intracavity electric field measurements at microwave and terahertz frequencies. Optica, 2020, 7, 498.	9.3	39
32	Terahertz quantum optics in the time-domain: from field correlation measurements on vacuum field fluctuations in free space towards cavity electro-optics. , 2020, , .		0
33	Low-Power Data Center Transponders Enabled by Micrometer-scale Plasmonic Modulators. , 2020, , .		1
34	Integrated Plasmonic Terahertz Field Detector. , 2020, , .		0
35	Molecular Engineering of Structurally Diverse Dendrimers with Large Electro-Optic Activities. ACS Applied Materials & Interfaces, 2019, 11, 21058-21068.	8.0	34
36	500 GHz plasmonic Mach-Zehnder modulator enabling sub-THz microwave photonics. APL Photonics, 2019, 4, .	5.7	176

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37	Plasmonic IQ modulators with attojoule per bit electrical energy consumption. Nature Communications, 2019, 10, 1694.	12.8	112
38	DANPY (dimethylaminonaphthylpyridinium): an economical and biocompatible fluorophore. Organic and Biomolecular Chemistry, 2019, 17, 3765-3780.	2.8	2
39	All-Plasmonic IQ Modulator With a $36\frac{1}{4}\mu\text{m}$ Fiber-to-Fiber Pitch. Journal of Lightwave Technology, 2019, 37, 1492-1497.	4.6	10
40	Reduced Equalization Needs of 100 GHz Bandwidth Plasmonic Modulators. Journal of Lightwave Technology, 2019, 37, 2050-2057.	4.6	14
41	Ultra-Compact Terabit Plasmonic Modulator Array. Journal of Lightwave Technology, 2019, 37, 1484-1491.	4.6	26
42	300 GHz Plasmonic Mixer. , 2019, , .		6
43	Compact and ultra-efficient broadband plasmonic terahertz field detector. Nature Communications, 2019, 10, 5550.	12.8	77
44	A 325 GHz Analog Photonic Link. , 2019, , .		0
45	Next-generation materials for hybrid electro-optic systems (Conference Presentation). , 2019, , .		4
46	120 GBd plasmonic Mach-Zehnder modulator with a novel differential electrode design operated at a peak-to-peak drive voltage of 178 mV. Optics Express, 2019, 27, 16823.	3.4	44
47	Dual-Drive Plasmonic Transmitter with Co-Designed Driver Electronics operated at 120 GBd On-Off Keying. , 2019, , .		0
48	All-Plasmonic 100 GBd Optical Communication Link. , 2019, , .		0
49	Three-Dimensional Phase Modulator at Telecom Wavelength Acting as a Terahertz Detector with an Electro-Optic Bandwidth of 1.25 Terahertz. ACS Photonics, 2018, 5, 1398-1403.	6.6	34
50	Low-loss plasmon-assisted electro-optic modulator. Nature, 2018, 556, 483-486.	27.8	312
51	Organics-Based Phase Modulator for Terahertz Detection up to 1.25 THz. , 2018, , .		0
52	Nonlinear Distortions in Plasmonic Mach-Zehnder Modulators. , 2018, , .		1
53	Ultra-Compact 0.8 Tbit/s Plasmonic Modulator Array. , 2018, , .		3
54	All-Plasmonic IQ Modulator with $36\mu\text{m}$ Fiber-to-Fiber Pitch. , 2018, , .		0

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55	What can Plasmonics Bring to Microwave Photonics?. , 2018, , .		0
56	Bypassing Loss in Plasmonic Modulators. , 2018, , .		1
57	Microwave plasmonic mixer in a transparent fibreâ€“wireless link. Nature Photonics, 2018, 12, 749-753.	31.4	67
58	Ultra-high electro-optic activity demonstrated in a silicon-organic hybrid modulator. Optica, 2018, 5, 739.	9.3	131
59	Optimization of Plasmonic-Organic Hybrid Electro-Optics. Journal of Lightwave Technology, 2018, 36, 5036-5047.	4.6	41
60	100 GBd Plasmonic IQ Modulator. , 2018, , .		7
61	Dielectric Layers in Plasmonic-Organic Hybrid Modulators. , 2018, , .		2
62	Driver-Less Sub 1 Vpp Operation of a Plasmonic-Organic Hybrid Modulator at 100 GBd NRZ. , 2018, , .		12
63	Plasmonics for Communications. , 2018, , .		3
64	Hybrid Photonic Integration and Plasmonic Devices: New Perspectives for High-Speed Communications and Ultra-Fast Signal Processing. , 2018, , .		0
65	Multi-scale theory-assisted nano-engineering of plasmonic-organic hybrid electro-optic device performance. , 2018, , .		1
66	Poling-induced birefringence in OEO materials under nanoscale confinement. , 2018, , .		5
67	Siliconâ€“Organic and Plasmonicâ€“Organic Hybrid Photonics. ACS Photonics, 2017, 4, 1576-1590.	6.6	123
68	High-speed plasmonic modulator in a single metal layer. Science, 2017, 358, 630-632.	12.6	236
69	Optical Interconnect Solution With Plasmonic Modulator and Ge Photodetector Array. IEEE Photonics Technology Letters, 2017, 29, 1760-1763.	2.5	19
70	Effect of Rigid Bridge-Protection Units, Quadrupolar Interactions, and Blending in Organic Electro-Optic Chromophores. Chemistry of Materials, 2017, 29, 6457-6471.	6.7	76
71	Plasmonic modulator with >170 GHz bandwidth demonstrated at 100 GBd NRZ. Optics Express, 2017, 25, 1762.	3.4	125
72	Nonlinearities of organic electro-optic materials in nanoscale slots and implications for the optimum modulator design. Optics Express, 2017, 25, 2627.	3.4	114

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73	Harnessing nonlinearities near material absorption resonances for reducing losses in plasmonic modulators. <i>Optical Materials Express</i> , 2017, 7, 2168.	3.0	51
74	Plasmonic interconnects - a dense and fast interconnect solution. , 2017, , .		0
75	Record-High In-Device Electro-Optic Coefficient of 359 pm/V in a Silicon-Organic Hybrid (SOH) Modulator. , 2017, , .		10
76	Broadband Plasmonic Modulator Enabling Single Carrier Operation Beyond 100 Gbit/s. , 2017, , .		3
77	Plasmonic Modulators for Microwave Photonics Applications. , 2017, , .		1
78	Exploiting Material Resonances to Reduce Losses in Plasmonic Modulators. , 2017, , .		0
79	Alternative bridging architectures in organic nonlinear optical materials: comparison of π - and π -type structures. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2016, 33, E160.	2.1	3
80	Plasmonic phased array feeder enabling ultra-fast beam steering at millimeter waves. <i>Optics Express</i> , 2016, 24, 25608.	3.4	32
81	Wired and wireless high-speed communications enabled by plasmonics. , 2016, , .		1
82	Integrated optical frequency shifter in silicon-organic hybrid (SOH) technology. <i>Optics Express</i> , 2016, 24, 11694.	3.4	35
83	Plasmonic Organic Hybrid Modulatorsâ€”Scaling Highest Speed Photonics to the Microscale. <i>Proceedings of the IEEE</i> , 2016, 104, 2362-2379.	21.3	76
84	Structureâ€”function relationship exploration for enhanced thermal stability and electro-optic activity in monolithic organic NLO chromophores. <i>Journal of Materials Chemistry C</i> , 2016, 4, 3119-3124.	5.5	65
85	Silicon-Organic Hybrid (SOH) and Plasmonic-Organic Hybrid (POH) Integration. <i>Journal of Lightwave Technology</i> , 2016, 34, 256-268.	4.6	119
86	108 Gbit/s Plasmonic Machâ€”Zehnder Modulator with $>$ 70-GHz Electrical Bandwidth. <i>Journal of Lightwave Technology</i> , 2016, 34, 393-400.	4.6	71
87	Direct RF-to-Optical Detection by Plasmonic modulator integrated into a four-leaf-clover antenna. , 2016, , .		4
88	Optical Interconnect with Densely Integrated Plasmonic Modulator and Germanium Photodetector Arrays. , 2016, , .		6
89	Optimizing Plasmonic Modulators for In-Device Nonlinearities of up to 275 pm/V. , 2016, , .		3
90	Microwave plasmonics: A novel platform for RF photonics. , 2016, , .		3

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91	Silicon-Organic Hybrid (SOH) and Plasmonic-Organic Hybrid (POH) Integration. , 2015, , .		5
92	Plasmonic-organic hybrid (POH) modulators for OOK and BPSK signaling at 40 Gbit/s. , 2015, , .		0
93	Ultra-compact plasmonic IQ-modulator. , 2015, , .		7
94	Femtojoule electro-optic modulation using a silicon-organic hybrid device. Light: Science and Applications, 2015, 4, e255-e255.	16.6	187
95	Silicon-organic (SOH) and plasmonic-organic (POH) hybrid integration: Extending the capabilities of silicon photonics and plasmonics. , 2015, , .		0
96	High-speed and low-power silicon-organic hybrid modulators for advanced modulation formats. Proceedings of SPIE, 2015, , .	0.8	3
97	High speed plasmonic modulator array enabling dense optical interconnect solutions. Optics Express, 2015, 23, 29746.	3.4	49
98	Silicon-organic hybrid (SOH) integration and photonic multi-chip systems: Extending the capabilities of the silicon photonic platform. , 2015, , .		0
99	All-plasmonic Mach-Zehnder modulator enabling optical high-speed communication at the microscale. Nature Photonics, 2015, 9, 525-528.	31.4	466
100	40 GBd 16QAM Signaling at 160 Gb/s in a Silicon-Organic Hybrid Modulator. Journal of Lightwave Technology, 2015, 33, 1210-1216.	4.6	50
101	Plasmonic-organic hybrid (POH) modulators for OOK and BPSK signaling at 40 Gbit/s. Optics Express, 2015, 23, 9938.	3.4	65
102	Plasmonic Mach-Zehnder Modulator with >70 GHz Electrical Bandwidth Demonstrating 90 Gbit/s 4-ASK. , 2015, , .		3
103	Dense Plasmonic Mach-Zehnder Modulator Array for High-Speed Optical Interconnects. , 2015, , .		2
104	Plasmonic devices for communications. , 2015, , .		7
105	Silicon-organic hybrid (SOH) integration for low-power and high-speed signal generation. , 2015, , .		0
106	Direct Conversion of Free Space Millimeter Waves to Optical Domain by Plasmonic Modulator Antenna. Nano Letters, 2015, 15, 8342-8346.	9.1	85
107	Antenna Coupled Plasmonic Modulator. , 2015, , .		5
108	40 GBd 16QAM modulation at 160 Gbit/s in a silicon-organic hybrid (SOH) modulator. , 2014, , .		2

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109	Ultra-short silicon-organic hybrid (SOH) modulator for bidirectional polarization-independent operation. , 2014, , .		4
110	Demonstration of Difference Frequency Generation in a Silicon Slot Waveguide. , 2014, , .		0
111	High-Speed Silicon-Organic Hybrid (SOH) Modulators with 230 pm/V Electro-Optic Coefficient Using Advanced Materials. , 2014, , .		7
112	16QAM Silicon-Organic Hybrid (SOH) Modulator Operating with 0.6 Vpp and 19 fJ/bit at 112 Gbit/s. , 2014, , .		1
113	Low-power silicon-organic hybrid (SOH) modulators for advanced modulation formats. Optics Express, 2014, 22, 29927.	3.4	64
114	Benzocyclobutene barrier layer for suppressing conductance in nonlinear optical devices during electric field poling. Applied Physics Letters, 2014, 104, .	3.3	56
115	High-speed plasmonic Mach-Zehnder modulator in a waveguide. , 2014, , .		10
116	From silicon-organic hybrid to plasmonic modulation. , 2014, , .		1
117	Matrix-Assisted Poling of Monolithic Bridge-Disubstituted Organic NLO Chromophores. Chemistry of Materials, 2014, 26, 872-874.	6.7	86
118	Femtojoule modulation and frequency comb generation in silicon-organic hybrid (SOH) devices. , 2014, , .		2
119	High-Speed, Low Drive-Voltage Silicon-Organic Hybrid Modulator Based on a Binary-Chromophore Electro-Optic Material. Journal of Lightwave Technology, 2014, 32, 2726-2734.	4.6	130
120	Data Transmission at Terabit/s Data Rates Using Silicon-Organic Hybrid (SOH) Frequency Combs. , 2014, , .		0
121	Integrated Silicon-Organic Hybrid (SOH) Frequency Shifter. , 2014, , .		5
122	SFG characterization of a cationic ONLO dye in biological thin films. Proceedings of SPIE, 2013, , .	0.8	1
123	Novel cationic dye and crosslinkable surfactant for DNA biophotonics. Proceedings of SPIE, 2012, , .	0.8	2
124	Integration of New Organic Electro-Optic Materials into Silicon and Silicon Nitride Photonics and into Metamaterial and Plasmonic Device Structures. , 2011, , .		0
125	Enhanced lifetime of polymer light-emitting diodes using poly(thieno[3,4-b]thiophene)-based conductive polymers. , 2006, , .		1
126	Power dependence of NF3 plasma stability for in situ chamber cleaning. Journal of Applied Physics, 2004, 95, 4446-4451.	2.5	10