Xiankai Sun

List of Publications by Year
in descending order

116 papers	3,039 citations	172457 29 h-index	168389 53 g-index
116 all docs	116 docs citations	116 times ranked	3403 citing authors

#	Article	IF	Citations
1	Anisotropic Dirac cone and slow edge states in a photonic Floquet lattice. Physical Review B, 2022, 105, .	3.2	0
2	Secondâ€Harmonic Generation in Etchless Lithium Niobate Nanophotonic Waveguides with Bound States in the Continuum. Laser and Photonics Reviews, 2022, 16, .	8.7	35
3	Terahertz topological photonic waveguide switch for on-chip communication. Photonics Research, 2022, 10, 1090.	7.0	21
4	Photonic integrated circuits with bound states in the continuum: erratum. Optica, 2022, 9, 683.	9.3	1
5	Hofstadter butterfly and topological edge states in a quasiperiodic photonic crystal cavity array. Optics Express, 2022, 30, 26620.	3.4	1
6	Phononic integrated circuitry with an etchless fabrication process. , 2021, , .		0
7	Demonstration of on-chip gigahertz acousto-optic modulation at near-visible wavelengths. , 2021, , .		1
8	Experimental Demonstration of Dualâ€Band Nanoâ€Electromechanical Valleyâ€Hall Topological Metamaterials. Advanced Materials, 2021, 33, e2006521.	21.0	26
9	Gigahertz Acousto-Optic Modulation and Frequency Shifting on Etchless Lithium Niobate Integrated Platform. ACS Photonics, 2021, 8, 798-803.	6.6	28
10	Fabrication-Tolerant and Low-Loss Hybrid Plasmonic Slot Waveguide Mode Converter. Journal of Lightwave Technology, 2021, 39, 2106-2112.	4.6	3
11	Nanomechanical topological insulators with an auxiliary orbital degree of freedom. Nature Nanotechnology, 2021, 16, 576-583.	31.5	26
12	Demonstration of n-Ga₂O₃/p-GaN Diodes by Wet-Etching Lift-Off and Transfer-Print Technique. IEEE Electron Device Letters, 2021, 42, 509-512.	3.9	8
13	Experimental investigation of the angular symmetry of optical force in a solid dielectric. Optica, 2021, 8, 1435.	9.3	5
14	Broadband meta-converters for multiple Laguerre-Gaussian modes. Photonics Research, 2021, 9, 1689.	7.0	9
15	Ultralowâ€Loss Etchless Lithium Niobate Integrated Photonics at Nearâ€Visible Wavelengths. Advanced Optical Materials, 2021, 9, 2100060.	7.3	23
16	Compact High Resolution Speckle Spectrometer by Using Linear Coherent Integrated Network on Silicon Nitride Platform at 776 nm. Laser and Photonics Reviews, 2021, 15, 2100039.	8.7	22
17	Demonstration of on-chip gigahertz acousto-optic modulation at near-visible wavelengths. Nanophotonics, 2021, 10, 4323-4329.	6.0	3
18	Observation of chiral edge states in gapped nanomechanical graphene. Science Advances, 2021, 7, .	10.3	33

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19	Inverse-Designed Optical Devices and Modules for High-Density Photonic Integration. , 2021, , .		0
20	Optically Controlled Topologically Protected Acoustic Wave Amplification. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-10.	2.9	6
21	Ultra-Broadband Hyperuniform Disordered Silicon Photonic Polarizers. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-9.	2.9	13
22	Inverse-Designed Photonic Jumpers With Ultracompact Size and Ultralow Loss. Journal of Lightwave Technology, 2020, 38, 6623-6628.	4.6	9
23	Nonmetallic Broadband Visible-Light Absorbers With Polarization and Incident Angle Insensitivity. IEEE Photonics Journal, 2020, 12, 1-7.	2.0	1
24	Bound-States-in-Continuum Hybrid Integration of 2D Platinum Diselenide on Silicon Nitride for High-Speed Photodetectors. ACS Photonics, 2020, 7, 2643-2649.	6.6	32
25	High-speed infrared two-dimensional platinum diselenide photodetectors. Applied Physics Letters, 2020, 116, .	3.3	33
26	Giant Enhancement of Rotation Sensing with <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mrow><mml:mi mathvariant="script">P</mml:mi><mml:mi mathvariant="script">T</mml:mi></mml:mrow></mml:math> -Symmetric Circular Bragg Lasers. Physical Review Applied, 2020, 13, .	3.8	3
27	Acousto-optic modulation of photonic bound state in the continuum. Light: Science and Applications, 2020, 9, 1.	16.6	542
28	High-dimensional communication on etchless lithium niobate platform with photonic bound states in the continuum. Nature Communications, 2020, 11, 2602.	12.8	73
29	Ultra-thin curved visible microdisk lasers with three-dimensional whispering gallery modes. Nanophotonics, 2020, 9, 2997-3002.	6.0	10
30	Acousto-optic modulation of photonic bound state in the continuum. , 2020, , .		1
31	Photonic Integrated Circuits with Bound States in the Continuum: Principle and Applications. , 2020, , .		0
32	High-dimensional communication on etchless lithium niobate platform with photonic bound states in the continuum. , 2020, , .		4
33	Topologically protected acoustic wave amplification in an optomechanical array. , 2020, , .		0
34	Hybrid two-dimensional-material photonics with bound states in the continuum. , 2020, , .		0
35	Graphene-silicon nitride photodetector with bound state in the continuum. , 2020, , .		0
36	Photonic integrated circuits with bound states in the continuum. , 2020, , .		1

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37	Graphene-assisted electro-optomechanical integration on a silicon-on-insulator platform. Optics Express, 2020, 28, 14386.	3.4	1
38	Topological Photonic Integrated Circuits Based on Valley Kink States. Laser and Photonics Reviews, 2019, 13, 1900087.	8.7	80
39	Hybrid 2Dâ€Material Photonics with Bound States in the Continuum. Advanced Optical Materials, 2019, 7, 1901306.	7.3	43
40	Carrier-mediated cavity optomechanics in a semiconductor laser. Physical Review A, 2019, 99, .	2.5	4
41	Subwavelength Engineering in Silicon Photonic Devices. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-13.	2.9	17
42	Hyperuniform disordered photonic bandgap polarizers. Journal of Applied Physics, 2019, 126, .	2.5	12
43	Inverse-designed low-loss and wideband polarization-insensitive silicon waveguide crossing. Optics Letters, 2019, 44, 77.	3.3	43
44	Photonic integrated circuits with bound states in the continuum. Optica, 2019, 6, 1342.	9.3	130
45	Parityâ€“time-symmetric mechanical array with the cavity optomechanical effect. , 2019, , .		0
46	Parityâ€“time-symmetric circular Bragg lasers: enhanced modal discrimination between azimuthal modes. , 2019, , .		0
47	Ultranarrow-band metagrating absorbers for sensing and modulation. , 2019, , .		1
48	Fully suspended slot waveguide platform. Journal of Applied Physics, 2018, 123, .	2.5	33
49	Ultranarrow-band metagrating absorbers for sensing and modulation. Optics Express, 2018, 26, 28197.	3.4	45
50	Photonic welding points for arbitrary on-chip optical interconnects. Nanophotonics, 2018, 7, 1679-1686.	6.0	11
51	Giant enhancement of stimulated Brillouin scattering with engineered phoxonic crystal waveguides. Optics Express, 2018, 26, 1255.	3.4	16
52	Circular Bragg lasers with radial PT symmetry: Design and analysis with a coupled-mode approach. Photonics Research, 2018, 6, A38.	7.0	9
53	Tailorable dual-wavelength-band coupling in a transverse-electric-mode focusing subwavelength grating coupler. Optics Letters, 2018, 43, 2985.	3.3	33
54	Parityâ€“time-symmetric mechanical systems by the cavity optomechanical effect. Optics Letters, 2018, 43, 4088.	3.3	7

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55	Genetic-algorithm-optimized wideband on-chip polarization rotator with an ultrasmall footprint. , 2018, , .		0
56	Recent progress in nano-optomechanical devices at microwave frequencies. , 2018, , .		0
57	Fully suspended mid-infrared racetrack resonator with subwavelength grating cladding. , 2017, , .		2
58	Genetic-algorithm-optimized wideband on-chip polarization rotator with an ultrasmall footprint. Optics Letters, 2017, 42, 3093.	3.3	113
59	Genetically optimized on-chip wideband ultracompact reflectors and Fabryâ€“Perot cavities. Photonics Research, 2017, 5, B15.	7.0	76
60	Fully suspended slot waveguides for high refractive index sensitivity. Optics Letters, 2017, 42, 1245.	3.3	42
61	Cavity-enhanced thermo-optic bistability and hysteresis in a graphene-on-Si_3N_4 ring resonator. Optics Letters, 2017, 42, 1950.	3.3	34
62	Fully suspended nanophotonic waveguide resonators with high quality factor and tailorable operational bandwidth. , 2017, , .		1
63	Hybrid graphene/silicon integrated optical isolators with photonic spinâ€“orbit interaction. Applied Physics Letters, 2016, 108, .	3.3	12
64	Parityâ€“time-symmetric circular Bragg lasers: a proposal and analysis. Scientific Reports, 2016, 6, 37688.	3.3	20
65	Spin-orbit interaction of light in photonic nanowaveguides: A proposal of graphene-based optical isolators. , 2016, , .		0
66	Ultraviolet optomechanical crystal cavities with ultrasmall modal mass and high optomechanical coupling rate. Scientific Reports, 2016, 6, 37134.	3.3	5
67	Hyperuniform Disordered Network Polarizers. IEEE Journal of Selected Topics in Quantum Electronics, 2016, 22, 288-294.	2.9	34
68	Monolithically integrated, ultrahigh-frequency cavity nano-optoelectromechanical system with on-chip germanium waveguide photodetector. Optics Letters, 2014, 39, 2514.	3.3	10
69	Aluminum nitride piezo-acousto-photonic crystal nanocavity with high quality factors. Applied Physics Letters, 2013, 102, .	3.3	54
70	Cavity piezooptomechanics: Piezoelectrically excited, optically transduced optomechanical resonators. Applied Physics Letters, 2013, 102, 021110.	3.3	40
71	Nonlinear optical effects of ultrahigh-Q silicon photonic nanocavities immersed in superfluid helium. Scientific Reports, 2013, 3, 1436.	3.3	26
72	Aluminum nitride piezo-optomechanical nanobeam cavity. , 2013, , .		0

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73	Nonlinear optical effects of ultrahigh-Q wavelength-sized silicon disk cavities immersed in superfluid helium. , 2013, , .		0
74	A 116-Î¼m-radius disk cavity in a sunflower-type circular photonic crystal with ultrahigh quality factor. Optics Letters, 2012, 37, 3195.	3.3	12
75	Wavelength-sized Optomechanical Disk Resonator Embedded in a Sunflower Circular Photonic Crystal. , 2012, , .		1
76	Femtogram dispersive L3-nanobeam optomechanical cavities: design and experimental comparison. Optics Express, 2012, 20, 26486.	3.4	16
77	Integrated high frequency aluminum nitride optomechanical resonators. Applied Physics Letters, 2012, 100, 171111.	3.3	53
78	GHz aluminum nitride optomechanical wheel resonators. , 2012, , .		0
79	High-Q silicon optomechanical microdisk resonators at gigahertz frequencies. Applied Physics Letters, 2012, 100, .	3.3	65
80	A superhigh-frequency optoelectromechanical system based on a slotted photonic crystal cavity. Applied Physics Letters, 2012, 101, .	3.3	28
81	Aluminum nitride as a new material for chip-scale optomechanics and nonlinear optics. New Journal of Physics, 2012, 14, 095014.	2.9	207
82	Femtogram Doubly Clamped Nanomechanical Resonators Embedded in a High-Q Two-Dimensional Photonic Crystal Nanocavity. Nano Letters, 2012, 12, 2299-2305.	9.1	80
83	GHz Optomechanical Wheel and Disk Resonators with High Mechanical Q Factors in Air. , 2012, , .		0
84	Dispersive coupling and optimization of femtogram L3-nanobeam optomechanical cavities. , 2012, , .		0
85	Wavelength-sized Optomechanical Disk Resonator Embedded in a Sunflower Circular Photonic Crystal. , 2012, , .		1
86	Nano-optomechanical circuits on silicon substrates. , 2012, , .		0
87	Femtogram Doubly-Clamped Nanomechanical Resonator Embedded in a High-Q Two-Dimensional Photonic Crystal Nanocavity. , 2012, , .		0
88	GHz optomechanical resonators with high mechanical Q factor in air. Optics Express, 2011, 19, 22316.	3.4	41
89	Radial Bragg Resonators. Springer Series in Optical Sciences, 2010, , 361-391.	0.7	1
90	Electrically Pumped Supermode Si/InGaAsP Hybrid Lasers. , 2010, , .		1

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91	Advanced silicon processing for active planar photonic devices. Journal of Vacuum Science & Technology B, 2009, 27, 3180.	1.3	1
92	A comparative study of modal properties of surface-emitting circular bragg micro-lasers. , 2009, , .		0
93	Adiabaticity criterion and the shortest adiabatic mode transformer in a coupled-waveguide system. Optics Letters, 2009, 34, 280.	3.3	145
94	Electrically pumped hybrid evanescent Si/InGaAsP lasers. Optics Letters, 2009, 34, 1345.	3.3	93
95	Surface-emitting circular DFB, disk-, and ring-Bragg resonator lasers with chirped gratings II: nonuniform pumping and far-field patterns. Optics Express, 2009, 17, 1.	3.4	22
96	Surface-emitting circular DFB, disk-, and ring-Bragg resonator lasers with chirped gratings III: gain saturation effects and above-threshold analysis. Optics Express, 2009, 17, 10119.	3.4	7
97	Supermode control in integrated hybrid Si/III–V optoelectronic circuits for modal gain enhancement. , 2009, , .		0
98	How Short Can an Adiabatic Mode Transformer Be in a Coupled Waveguide System?. , 2009, , .		2
99	Above-Threshold Analysis of Large-Area, High-Power, Vertically-Emitting Circular Bragg Lasers. , 2009, , .		0
100	Hybrid Electrically Pumped Evanescent Si/InGaAsP Lasers. , 2009, , .		0
101	A unified theory for surface emitting chirped circular grating lasers. Proceedings of SPIE, 2009, , .	0.8	2
102	Engineering supermode silicon/III-V hybrid waveguides for laser oscillation. Journal of the Optical Society of America B: Optical Physics, 2008, 25, 923.	2.1	45
103	Room temperature continuous wave operation of single-mode, edge-emitting photonic crystal Bragg lasers. Optics Express, 2008, 16, 502.	3.4	16
104	Surface-emitting circular DFB, disk- and ring- Bragg resonator lasers with chirped gratings: a unified theory and comparative study. Optics Express, 2008, 16, 9155.	3.4	22
105	Engineering surface-emitting annular Bragg lasers for single-mode, high-efficiency, high-power applications. , 2008, , .		0
106	Optimal design of vertically emitting circular Bragg disk resonator lasers. , 2008, , .		1
107	Designing Large-Area, High-Efficiency, Single-Defect-Mode Vertically-Emitting Annular Bragg Lasers. , 2008, , .		0
108	Room temperature continuous wave operation of single-mode, edge-emitting photonic crystal Bragg lasers. , 2008, , .		0

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109	Continuous-wave operation of electrically pumped, single-mode, edge-emitting photonic crystal Bragg lasers. Applied Physics Letters, 2007, 90, 261116.	3.3	4
110	Spatial modal control of two-dimensional photonic crystal Bragg lasers. Optics Letters, 2007, 32, 2273.	3.3	6
111	Supermode Si/III-V hybrid lasers, optical amplifiers and modulators: A proposal and analysis. Optics Express, 2007, 15, 9147.	3.4	52
112	Modal properties and modal control in vertically emitting annular Bragg lasers. Optics Express, 2007, 15, 17323.	3.4	17
113	Optimal Design and Reduced Threshold in Vertically Emitting Circular Bragg Disk Resonator Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2007, 13, 359-366.	2.9	17
114	Heteroepitaxy of ZnO film on Si (111) substrate using a 3Câ€“SiC buffer layer. Thin Solid Films, 2005, 478, 218-222.	1.8	48
115	Temperature-dependent photoluminescence of nanocrystalline ZnO thin films grown on Si (100) substrates by the solâ€“gel process. Applied Physics Letters, 2005, 86, 131910.	3.3	91
116	Advanced Plasma Processing: Etching, Deposition, and Wafer Bonding Techniques for Semiconductor Applications. , 0, , .		15