Xiaoyu Dai

List of Publications by Year in descending order

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113 papers	3,941 citations	117625 34 h-index	138484 58 g-index
113 all docs	113 docs citations	113 times ranked	2783 citing authors

#	Article	IF	Citations
1	Sensitivity enhancement by using few-layer black phosphorus-graphene/TMDCs heterostructure in surface plasmon resonance biochemical sensor. Sensors and Actuators B: Chemical, 2017, 249, 542-548.	7.8	322
2	Facile fabrication and characterization of two-dimensional bismuth(<scp>iii</scp>) sulfide nanosheets for high-performance photodetector applications under ambient conditions. Nanoscale, 2018, 10, 2404-2412.	5.6	166
3	Sensitivity Improved SPR Biosensor Based on the MoS2/Grapheneâ€“Aluminum Hybrid Structure. Journal of Lightwave Technology, 2017, 35, 82-87.	4.6	165
4	Few-layer Ti3C2Tx MXene: A promising surface plasmon resonance biosensing material to enhance the sensitivity. Sensors and Actuators B: Chemical, 2018, 277, 210-215.	7.8	163
5	Critical coupling with graphene-based hyperbolic metamaterials. Scientific Reports, 2014, 4, 5483.	3.3	158
6	Black-phosphorus-analogue tin monosulfide: an emerging optoelectronic two-dimensional material for high-performance photodetection with improved stability under ambient/harsh conditions. Journal of Materials Chemistry C, 2018, 6, 9582-9593.	5.5	153
7	Tunable and multichannel terahertz perfect absorber due to Tamm surface plasmons with graphene. Photonics Research, 2017, 5, 536.	7.0	139
8	Enhanced Photodetection Properties of Tellurium@Selenium Rollâ€toâ€Roll Nanotube Heterojunctions. Small, 2019, 15, e1900902.	10.0	120
9	Ultrasensitive biosensors based on long-range surface plasmon polariton and dielectric waveguide modes. Photonics Research, 2016, 4, 262.	7.0	93
10	Low threshold optical bistability at terahertz frequencies with graphene surface plasmons. Scientific Reports, 2015, 5, 12271.	3.3	83
11	Controllable Raman soliton self-frequency shift in nonlinear metamaterials. Physical Review A, 2011, 84, .	2.5	80
12	Thermally tunable and omnidirectional terahertz photonic bandgap in the one-dimensional photonic crystals containing semiconductor InSb. Journal of Applied Physics, 2011, 109, 053104.	2.5	78
13	Multi-channel perfect absorber based on a one-dimensional topological photonic crystal heterostructure with graphene. Optics Letters, 2018, 43, 4256.	3.3	73
14	Tunable optical bistability at the graphene-covered nonlinear interface. Applied Physics Letters, 2014, 104, .	3.3	72
15	Enhanced spin Hall effect of reflected light with guided-wave surface plasmon resonance. Photonics Research, 2017, 5, 467.	7.0	71
16	Nonlinear optical response, all optical switching, and all optical information conversion in NbSe₂nanosheets based on spatial self-phase modulation. Nanoscale, 2019, 11, 4515-4522.	5.6	61
17	Electrically Tunable Goosâ€“HÃnchen Shift of Light Beam Reflected From a Graphene-on-Dielectric Surface. IEEE Photonics Journal, 2013, 5, 6500108-6500108.	2.0	55
18	Low threshold optical bistability in one-dimensional gratings based on graphene plasmonics. Optics Express, 2017, 25, 5972.	3.4	53

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19	Ultrasensitive Terahertz Biosensors Based on Fano Resonance of a Graphene/Waveguide Hybrid Structure. Sensors, 2017, 17, 1924.	3.8	52
20	Broadband nonlinear optical resonance and all-optical switching of liquid phase exfoliated tungsten diselenide. Photonics Research, 2018, 6, 1040.	7.0	52
21	Tunable optical bistability of dielectric/nonlinear graphene/dielectric heterostructures. Optics Express, 2015, 23, 6497.	3.4	50
22	Sensitivity Enhancement of a Surface Plasmon Resonance with Tin Selenide (SnSe) Allotropes. Sensors, 2019, 19, 173.	3.8	50
23	Two-dimensional beta-lead oxide quantum dots. Nanoscale, 2018, 10, 20540-20547.	5.6	49
24	High-Performance Lossy-Mode Resonance Sensor Based on Few-Layer Black Phosphorus. Journal of Physical Chemistry C, 2018, 122, 7368-7373.	3.1	47
25	Giant and controllable Goos-HÃnchen shifts based on surface plasmon resonance with graphene-MoS₂ heterostructure. Optical Materials Express, 2018, 8, 3036.	3.0	47
26	Highly Sensitive Terahertz Gas Sensor Based on Surface Plasmon Resonance With Graphene. IEEE Photonics Journal, 2018, 10, 1-7.	2.0	46
27	Sensitivity Enhanced by MoS2â€“Graphene Hybrid Structure in Guided-Wave Surface Plasmon Resonance Biosensor. Plasmonics, 2018, 13, 281-285.	3.4	46
28	Tunable terahertz/infrared coherent perfect absorption in a monolayer black phosphorus. Optics Express, 2018, 26, 5488.	3.4	44
29	Long-Range Surface Plasmon With Graphene for Enhancing the Sensitivity and Detection Accuracy of Biosensor. IEEE Photonics Journal, 2016, 8, 1-9.	2.0	41
30	A promising nonlinear optical material and its applications for all-optical switching and information converters based on the spatial self-phase modulation (SSPM) effect of TaSe₂ nanosheets. Journal of Materials Chemistry C, 2019, 7, 3811-3816.	5.5	41
31	Fano resonance in double waveguides with graphene for ultrasensitive biosensor. Optics Express, 2018, 26, 16884.	3.4	40
32	Sensitivity enhancement of surface plasmon resonance sensors with 2D franckeite nanosheets. Results in Physics, 2019, 13, 102320.	4.1	39
33	Omnidirectional and multiple-channeled high-quality filters of photonic heterostructures containing single-negative materials. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2007, 24, A28.	1.5	38
34	Omnidirectional gaps of one-dimensional photonic crystals containing indefinite metamaterials. Journal of the Optical Society of America B: Optical Physics, 2007, 24, 2033.	2.1	35
35	Tunable Fano resonances of a graphene/waveguide hybrid structure at mid-infrared wavelength. Optics Express, 2016, 24, 4740.	3.4	35
36	Spatial self-phase modulation and all-optical switching of graphene oxide dispersions. Journal of Alloys and Compounds, 2019, 771, 900-904.	5.5	35

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37	High sensitivity refractive index sensor based on surface plasmon resonance with topological insulator. Results in Physics, 2019, 14, 102477.	4.1	34
38	Theoretical Investigation of Multilayer Ti₃C₂T_x MXene as the Plasmonic Material for Surface Plasmon Resonance Sensors in Near Infrared Region. IEEE Sensors Journal, 2019, 19, 11834-11838.	4.7	34
39	Graphene Tamm plasmon-induced low-threshold optical bistability at terahertz frequencies. Optical Materials Express, 2019, 9, 139.	3.0	34
40	Absorption enhancement and total absorption in a graphene-waveguide hybrid structure. AIP Advances, 2017, 7, .	1.3	33
41	Independently tunable omnidirectional multichannel filters based on the fractal multilayers containing negative-index materials. Optics Letters, 2008, 33, 1255.	3.3	32
42	Manipulating the optical bistability at terahertz frequency in the Fabry-Perot cavity with graphene. Optics Express, 2015, 23, 31181.	3.4	32
43	Recent Advances in Spatial Selfâ€Phase Modulation with 2D Materials and its Applications. Annalen Der Physik, 2020, 532, 2000322.	2.4	32
44	Enlargement of zero averaged refractive index gaps in the photonic heterostructures containing negative-index materials. Physical Review E, 2007, 76, 056604.	2.1	31
45	Improving the Performance of an SPR Biosensor Using Long-Range Surface Plasmon of Ga-Doped Zinc Oxide. Sensors, 2018, 18, 2098.	3.8	31
46	Resonant optical tunneling-induced enhancement of the photonic spin Hall effect. Journal Physics D: Applied Physics, 2018, 51, 145104.	2.8	29
47	Two-dimensional Bi₂S₃-based all-optical photonic devices with strong nonlinearity due to spatial self-phase modulation. Nanophotonics, 2019, 8, 2225-2234.	6.0	27
48	Ultra-Sensitive Refractive Index Sensors Based on Bloch Surface Waves With Transition Metal Dichalcogenides. IEEE Sensors Journal, 2019, 19, 8675-8680.	4.7	24
49	GeSe nanosheets modified surface plasmon resonance sensors for enhancing sensitivity. Nanophotonics, 2020, 9, 327-336.	6.0	24
50	Enhancement of photonic spin Hall effect via bound states in the continuum. Journal Physics D: Applied Physics, 2019, 52, 045401.	2.8	23
51	Perfect Terahertz Absorption with Graphene Surface Plasmons in the Modified Otto Configuration. Plasmonics, 2017, 12, 1825-1831.	3.4	20
52	Broadband nonlinear optical response in GeSe nanoplates and its applications in all-optical diode. Nanophotonics, 2020, 9, 2007-2015.	6.0	20
53	Liquidâ€Exfoliated Fewâ€Layer InSe Nanosheets for Broadband Nonlinear Allâ€Optical Applications. Advanced Optical Materials, 2020, 8, 1901862.	7.3	20
54	Liquid phase exfoliated boron nanosheets for all-optical modulation and logic gates. Science Bulletin, 2020, 65, 1030-1038.	9.0	20

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55	Graphene-based low-threshold and tunable optical bistability in one-dimensional photonic crystal Fano resonance heterostructure at optical communication band. Optics Express, 2020, 28, 34948.	3.4	20
56	Ultrasensitive terahertz sensing in all-dielectric asymmetric metasurfaces based on quasi-BIC. Journal of the Optical Society of America B: Optical Physics, 2022, 39, 286.	2.1	20
57	High Sensitivity Intensity-Interrogated Bloch Surface Wave Biosensor With Graphene. IEEE Sensors Journal, 2018, 18, 106-110.	4.7	19
58	Enhanced Photonic Spin Hall Effect with a Bimetallic Film Surface Plasmon Resonance. Plasmonics, 2018, 13, 1467-1473.	3.4	18
59	Terahertz Biochemical Sensor Based on Strong Coupling Between Waveguide Mode and Surface Plasmons of Double-Layer Graphene. IEEE Sensors Journal, 2018, 18, 7436-7441.	4.7	18
60	Topological insulator overlayer to enhance the sensitivity and detection limit of surface plasmon resonance sensor. Nanophotonics, 2020, 9, 1941-1951.	6.0	18
61	Tunable Group Delay of the Optical Pulse Reflection From Fabryâ€“Perot Cavity With the Insertion of Graphene Sheets. IEEE Photonics Journal, 2014, 6, 1-9.	2.0	17
62	Enhanced and Tunable Goosâ€“HÃnchen Shift in a Cavity Containing Colloidal Ferrofluids. IEEE Photonics Journal, 2015, 7, 1-10.	2.0	16
63	Low-threshold optical bistability in a metasurface with graphene. Journal Physics D: Applied Physics, 2017, 50, 434003.	2.8	16
64	Highly Sensitive Surface Plasmon Resonance Sensor Modified With 2D Tiâ„C MXene for Solution Detection. IEEE Sensors Journal, 2021, 21, 347-352.	4.7	16
65	Topological Slow Light Rainbow Trapping and Releasing Based on Gradient Valley Photonic Crystal. Journal of Lightwave Technology, 2022, 40, 5152-5156.	4.6	16
66	Optical single sideband millimeter-wave signal generation and transmission using 120Â°Âhybrid coupler. Optics Communications, 2018, 411, 21-26.	2.1	15
67	Enhanced nonlinear optical responses of graphene in multi-frequency topological edge modes. Optics Express, 2019, 27, 32746.	3.4	15
68	Nonlinear TE-polarized SPPs on a graphene cladded parallel plate waveguide. Journal of Applied Physics, 2017, 121, 103103.	2.5	14
69	Giant tunable Goosâ€“HÃnchen shifts based on surface plasmon resonance with Dirac semimetal films. Journal Physics D: Applied Physics, 2019, 53, 015107.	2.8	14
70	Photodetectors: Enhanced Photodetection Properties of Tellurium@Selenium Rollâ€toâ€Roll Nanotube Heterojunctions (Small 23/2019). Small, 2019, 15, 1970125.	10.0	14
71	Application of Few-Layer Transition Metal Dichalcogenides to Detect the Refractive Index Variation in Lossy-Mode Resonance Sensors With High Figure of Merit. IEEE Sensors Journal, 2019, 19, 5030-5034.	4.7	14
72	Enhancement of graphene Faraday rotation in the one-dimensional topological photonic crystals. Optics Express, 2020, 28, 24560.	3.4	14

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73	High Figure of Merit Lossy Mode Resonance Sensor with Graphene. Plasmonics, 2019, 14, 929-934.	3.4	13
74	Low threshold optical bistability based on topological edge state in photonic crystal heterostructure with Dirac semimetal. Optics Express, 2022, 30, 20847.	3.4	13
75	Tunable THz Angular/Frequency Filters in the Modified Kretschmannâ€“Raether Configuration With the Insertion of Single Layer Graphene. IEEE Photonics Journal, 2015, 7, 1-8.	2.0	12
76	Dual-Band Infrared Near-Perfect Absorption by Fabry-Perot Resonances and Surface Phonons. Plasmonics, 2018, 13, 803-809.	3.4	12
77	Extend the omnidirectional zero-average-index photonic band gap using the band edge formalism: Application to the metamaterial with Drude dispersion. Journal of Applied Physics, 2010, 108, .	2.5	11
78	Enhancing Photonic Spin Hall Effect in the Surface Plasmon Resonance Structure Covered by the Grapheneâ€“MoS2 Heterostructure. IEEE Photonics Journal, 2017, 9, 1-10.	2.0	11
79	Ultrasensitive Multiple Guided-Mode Biosensor With Few-Layer Black Phosphorus. Journal of Lightwave Technology, 2020, 38, 1564-1571.	4.6	11
80	Low-Threshold and Tunable Optical Bistability Based on Topological Edge State in One-Dimensional Photonic Crystal Heterostructure With Graphene. IEEE Access, 2020, 8, 196386-196393.	4.2	11
81	Determination of tilt degree and Weyl-node separation by the spatial Imbert-Fedorov shift near the Brewster angle. Physical Review A, 2022, 105, .	2.5	10
82	Tunable and enhanced Faraday rotation induced by the epsilon-near-zero response of a Weyl semimetal. Physical Review A, 2022, 105, .	2.5	10
83	All-optical applications for passive photonic devices of TaS2 nanosheets with strong Kerr nonlinearity. Journal of Alloys and Compounds, 2019, 806, 999-1007.	5.5	9
84	Tunable mid-infrared perfect absorber based on the critical coupling of graphene and black phosphorus nanoribbons. Results in Physics, 2019, 15, 102677.	4.1	9
85	Tunable and Multichannel Terahertz Perfect Absorber Due to Tamm Plasmons with Topological Insulators. Plasmonics, 2020, 15, 83-91.	3.4	9
86	Magneto-optical control of Imbertâ€“Fedorov shifts of a light beam reflected from interfaced monolayer graphene. Journal of the Optical Society of America B: Optical Physics, 2018, 35, 2889.	2.1	9
87	Excitation of graphene magneto-plasmons in terahertz range and giant Kerr rotation. Journal of Applied Physics, 2019, 125, .	2.5	7
88	Spinâ€“orbit interactions in a nonlinear medium due to a nonlinear-induced geometric phase. Optics Letters, 2021, 46, 2758.	3.3	7
89	Ultrasensitive and Tunable Sensor Based on Plasmon-Induced Transparency in a Black Phosphorus Metasurface. Plasmonics, 2021, 16, 1071-1077.	3.4	7
90	Self-Referenced Refractive Index Biosensing with Graphene Fano Resonance Modes. Biosensors, 2021, 11, 400.	4.7	7

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91	MoTe2 quantum dots-based all-optical switching. Optics Communications, 2022, 506, 127573.	2.1	7
92	Modulation instability in second harmonic generation in metamaterials with quadratic nonlinearity. Applied Physics B: Lasers and Optics, 2015, 121, 465-472.	2.2	6
93	SPPs in a double layer graphene system with an anisotropic dielectric. Results in Physics, 2019, 15, 102718.	4.1	6
94	Nonlinear absorption-induced transparency and extinction of boron nanosheets. Optical Materials, 2020, 108, 110199.	3.6	6
95	High Sensitivity Terahertz Biosensor Based on Mode Coupling of a Graphene/Bragg Reflector Hybrid Structure. Biosensors, 2021, 11, 377.	4.7	6
96	Engineering rainbow trapping and releasing in valley photonic crystal with electro-optical material. Journal of the Optical Society of America B: Optical Physics, 2022, 39, 1241.	2.1	6
97	Tunable reflected group delay from the graphene/hBN heterostructure at infrared frequencies. Results in Physics, 2019, 15, 102681.	4.1	4
98	High Figure of Merit in Lossy Mode Resonance Sensors with PtSe2 Thin Film. Plasmonics, 2021, 16, 729-735.	3.4	4
99	Theoretical Model for a Highly Sensitive Near Infrared Biosensor Based on Bloch Surface Wave with Dirac Semimetal. Biosensors, 2021, 11, 390.	4.7	4
100	Enhanced and tunable asymmetric Imbertâ€“Fedorov and Goosâ€“HÃnchen shifts based on epsilon-near-zero response of Weyl semi-metal. Journal Physics D: Applied Physics, 2022, 55, 395106.	2.8	4
101	Formation and Energy Exchange of Vector Dark Solitons in Fiber Lasers. IEEE Photonics Journal, 2015, 7, 1-9.	2.0	3
102	Superluminal Pulse Reflection From Graphene Covered Lossless Dielectric Slab. IEEE Journal of Quantum Electronics, 2015, 51, 1-6.	1.9	3
103	Graphene Based Waveguides. , 0, , .		3
104	Fano Resonance in Waveguide Coupled Surface Exciton Polaritons: Theory and Application in Biosensor. Sensors, 2018, 18, 4437.	3.8	3
105	Bandgap tunable preparation of GaS nanosheets and their application in photoelectrochemical photodetectors. Science China Technological Sciences, 2022, 65, 2297-2303.	4.0	3
106	Goosâ€“HÃnchen shifts of a light beam reflected from the interface of colloidal ferrofluids. Optik, 2013, 124, 5103-5106.	2.9	2
107	Tunable Optical Bistability in One-Dimensional Photonic Crystal with a Nonlinear Defect Coupled by Graphene Sheets. Advances in Condensed Matter Physics, 2017, 2017, 1-6.	1.1	2
108	Ultrasensitive Terahertz Imaging Sensors Based on the Strong Coupling of Surface Phonon Polariton and Graphene Surface Plasmon Polariton. IEEE Photonics Journal, 2018, 10, 1-9.	2.0	2

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109	Omnidirectional and controllable switching behavior in a multiple photonic quantum well system with single-negative material heterostructure. Optik, 2012, 123, 1157-1160.	2.9	1
110	Enhanced and controllable nonlinear effects in composite with aligned gold spheroid arrays. Journal of Nonlinear Optical Physics and Materials, 2015, 24, 1550013.	1.8	1
111	Thermotunable Terahertz Negative-Index Metamaterials with Dielectric Spheres Embedded in Semiconductor Host. Advances in Condensed Matter Physics, 2018, 2018, 1-6.	1.1	1
112	BOUNDED TRAVELING WAVE SOLUTIONS TO THE SHORT PULSE EQUATION. Journal of Nonlinear Optical Physics and Materials, 2012, 21, 1250049.	1.8	0
113	SPATIAL XPM-PAIRED SOLITONS IN NONLINEAR METAMATERIALS. Journal of Nonlinear Optical Physics and Materials, 2013, 22, 1350009.	1.8	0