Wei Zheng

List of Publications by Year
in descending order

124 papers	4,578 citations	126907 33 h-index	114465 63 g-index
131 all docs	131 docs citations	131 times ranked	3426 citing authors

#	Article	IF	Citations
1	Raman tensor of graphite: Symmetry of G, D and Dâ€² phonons. Science China Materials, 2022, 65, 268-272.	6.3	2
2	Lu-Alloyed SnO_x Films With Tunable Optical Bandgap for Deep Ultraviolet Detection. IEEE Electron Device Letters, 2022, 43, 84-87.	3.9	7
3	Pt/ZnGa₂O₄/p-Si Back-to-Back Heterojunction for Deep UV Sensitive Photovoltaic Photodetection with Ultralow Dark Current and High Spectral Selectivity. ACS Applied Materials & Interfaces, 2022, 14, 5653-5660.	8.0	19
4	Semipolar (11â€“22) AlN Grown on m-Plane Sapphire by Flow-Rate Modulation Epitaxy for Vacuum-Ultraviolet Photodetection. Crystal Growth and Design, 2022, 22, 1731-1737.	3.0	4
5	Anomalous Blue Shift of Exciton Luminescence in Diamond. Nano Letters, 2022, 22, 1604-1608.	9.1	12
6	Ultra-Hard (41 GPa) Isotopic Pure ¹⁰BP Semiconductor Microwires for Flexible Photodetection and Pressure Sensing. ACS Nano, 2022, 16, 4004-4013.	14.6	5
7	Vacuum Ultraviolet (120â€“200 nm) Avalanche Photodetectors. Advanced Optical Materials, 2022, 10, .	7.3	27
8	Ultrafast (600Âps) Î±-ray scintillators. PhotoniX, 2022, 3, .	13.5	38
9	Strong Electronâ€“Phonon Coupling in Î²-Ga₂O₃: A Huge Broadening of Self-Trapped Exciton Emission and a Significant Red Shift of the Direct Bandgap. Journal of Physical Chemistry Letters, 2022, 13, 3053-3058.	4.6	19
10	Ultrahigh EQE (38.1%) Deepâ€UV Photodiode with Chemicallyâ€Doped Graphene as Hole Transport Layer. Advanced Optical Materials, 2022, 10, .	7.3	5
11	Nanosecond and Highly Sensitive Scintillator Based on All-Inorganic Perovskite Single Crystals. ACS Applied Materials & Interfaces, 2022, 14, 1489-1495.	8.0	12
12	Ternary compound MgTiO3 combined with graphene for solar-blind deep ultraviolet photodetection. Journal of Alloys and Compounds, 2022, 911, 165031.	5.5	14
13	Extracting carrier concentration of black c-BN single crystal by mid-infrared reflectance spectroscopy. Vacuum, 2022, 202, 111132.	3.5	2
14	Extremely High Photovoltage (3.16 V) Achieved in Vacuum-Ultraviolet-Oriented van der Waals Photovoltaics. ACS Photonics, 2022, 9, 2101-2108.	6.6	12
15	Low-Temperature Solution-Processed Lu₂O₃ Films for Deep-UV Photovoltaic Detectors With High Sensitivity. IEEE Electron Device Letters, 2022, 43, 1295-1298.	3.9	5
16	Effect of Annealing Temperature on Solar-Blind Ultraviolet Photodetectors Based on Solution-Processed Scandium Oxide Films. IEEE Electron Device Letters, 2022, 43, 1507-1510.	3.9	2
17	2D van der Waals Molecular Crystal Î²â€HgI₂: Economical, Rapid, and Substrateâ€Free Liquidâ€Phase Synthesis and Strong Inâ€Plane Optical Anisotropy. Small, 2021, 17, e2005368.	10.0	6
18	ZnGa2O4 deep-ultraviolet photodetector based on Si substrate. Materials Letters, 2021, 283, 128805.	2.6	18

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19	Efficient sky-blue radioluminescence of microcrystalline Cs₃Cu₂I₅ based large-scale eco-friendly composite scintillators for high-sensitive ionizing radiation detection. Materials Chemistry Frontiers, 2021, 5, 4739-4745.	5.9	13
20	High-Pressure O2 Annealing Enhances the Crystallinity of Ultrawide-Band-Gap Sesquioxides Combined with Graphene for Vacuum-Ultraviolet Photovoltaic Detection. ACS Applied Materials & Interfaces, 2021, 13, 16660-16668.	8.0	5
21	Laser Tuning in Layered <i>h</i>-BN Crystals. Journal of Physical Chemistry Letters, 2021, 12, 3795-3801.	4.6	6
22	Identification of TO and LO phonons in cubic natBP, 10BP and 11BP crystals. Applied Physics Letters, 2021, 118, .	3.3	9
23	Real-Time Tracking of Emitter Generation in a Zero-Dimensional Perovskite. Chemistry of Materials, 2021, 33, 3721-3728.	6.7	20
24	Performanceâ€Enhanced CsPbBr 3 /HfO 2 /Si Heterostructure Optoelectronics through the Tunneling Effect. Advanced Materials Interfaces, 2021, 8, 2100279.	3.7	1
25	Self-assembled eco-friendly metal halide heterostructures for bright and color-tunable white radioluminescence. Cell Reports Physical Science, 2021, 2, 100437.	5.6	16
26	Lu2O3: A promising ultrawide bandgap semiconductor for deep UV photodetector. Applied Physics Letters, 2021, 118, .	3.3	18
27	Laser tuning in AlN single crystals. Science China Materials, 2021, 64, 2877-2882.	6.3	3
28	Temperature-Dependent Phonon Shifts in van der Waals Crystals. Journal of Physical Chemistry Letters, 2021, 12, 5261-5270.	4.6	29
29	Bandgap Engineering of ZrGaO Films for Deep-Ultraviolet Detection. IEEE Electron Device Letters, 2021, 42, 895-898.	3.9	10
30	High-Efficiency Down-Conversion Radiation Fluorescence and Ultrafast Photoluminescence (1.2 ns) at the Interface of Hybrid Cs₄PbBr₆â€“CsI Nanocrystals. Journal of Physical Chemistry Letters, 2021, 12, 7342-7349.	4.6	16
31	Ultrawide-bandgap (6.14 eV) (AlGa)2O3/Ga2O3 heterostructure designed by lattice matching strategy for highly sensitive vacuum ultraviolet photodetection. Science China Materials, 2021, 64, 3027-3036.	6.3	20
32	Amorphous (LuGa)2O3 film for deep-ultraviolet photovoltaic detector. Materials Letters, 2021, 297, 129980.	2.6	4
33	Micron-Thick Hexagonal Boron Nitride Crystalline Film for Vacuum Ultraviolet Photodetection with Improved Sensitivity and Spectral Response. ACS Applied Electronic Materials, 2021, 3, 3774-3780.	4.3	4
34	Doped metasurfaces: Etched structure-free flims based on regular spatially doped semiconductor and compatible with general optical ones. IScience, 2021, 24, 102907.	4.1	0
35	Narrow band emission from layered Î±-HgI2 micro-/nano-sheets with high Huang-Rhys factor. Journal of Luminescence, 2021, 237, 118161.	3.1	2
36	Pt/(InGa)₂O₃/<i>n</i>-Si Heterojunction-Based Solar-Blind Ultraviolet Photovoltaic Detectors with an Ideal Absorption Cutoff Edge of 280 nm. ACS Applied Materials & Interfaces, 2021, 13, 44568-44576.	8.0	14

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37	Temperature-dependent optical phonon shifts and splitting in cubic ¹⁰BP, ^{nat}BP, and ¹¹BP crystals. Optics Letters, 2021, 46, 4844.	3.3	7
38	Extraction of carrier concentration and mobility of ZnO by mid-infrared reflectance spectroscopy. Journal of Luminescence, 2021, 239, 118365.	3.1	8
39	Photophysics in Cs₃Cu₂I₅ and CsCu₂I₃. Materials Chemistry Frontiers, 2021, 5, 7088-7107.	5.9	39
40	Observation of negative differential resistance in SiO2/Si heterostructures. Cell Reports Physical Science, 2021, 2, 100622.	5.6	2
41	Super-hard â€œTanghuluâ€ cubic BP microwire covered with amorphous SiO2 balls. Heliyon, 2021, 7, e08300.	3.2	3
42	Confronting the Air Instability of Cesium Tin Halide Perovskites by Metal Ion Incorporation. Journal of Physical Chemistry Letters, 2021, 12, 10996-11004.	4.6	8
43	Fermi-Surface Modulation of Graphene Synergistically Enhances the Open-Circuit Voltage and Quantum Efficiency of Photovoltaic Solar-Blind Ultraviolet Detectors. Journal of Physical Chemistry Letters, 2021, 12, 11106-11113.	4.6	5
44	A Solar-Blind Ultraviolet Photodetector With Graphene/MgZnO/GaN Vertical Structure. Frontiers in Materials, 2021, 8, .	2.4	8
45	Ultrawide Band Gap Oxide Nanodots (<i>E</i>_g > 4.8 eV) for a High-Performance Deep Ultraviolet Photovoltaic Detector. ACS Applied Materials & Interfaces, 2020, 12, 6030-6036.	8.0	39
46	In-plane enhanced epitaxy for step-flow AlN yielding a high-performance vacuum-ultraviolet photovoltaic detector. CrystEngComm, 2020, 22, 654-659.	2.6	19
47	Amorphous boron nitride for vacuum-ultraviolet photodetection. Applied Physics Letters, 2020, 117, .	3.3	24
48	Raman Tensor of Layered SnS₂. Journal of Physical Chemistry Letters, 2020, 11, 10094-10099.	4.6	14
49	Silicon Nitride Deep-Ultraviolet Photoconductive Detector. IEEE Electron Device Letters, 2020, 41, 1316-1319.	3.9	9
50	Experimental Evidence on Stability of N Substitution for O in ZnO Lattice. Journal of Physical Chemistry Letters, 2020, 11, 8901-8907.	4.6	17
51	Quasiphonon polaritons. Heliyon, 2020, 6, e05277.	3.2	8
52	Ultraâ€Long Van Der Waals CdBr₂ Micro/Nanobelts. Small Methods, 2020, 4, 2000501.	8.6	8
53	X-ray radiation excited ultralong (>20,000 seconds) intrinsic phosphorescence in aluminum nitride single-crystal scintillators. Nature Communications, 2020, 11, 4351.	12.8	31
54	Dual Self-Trapped Exciton Emission with Ultrahigh Photoluminescence Quantum Yield in CsCu₂I₃ and Cs₃Cu₂I₅ Perovskite Single Crystals. Journal of Physical Chemistry C, 2020, 124, 20469-20476.	3.1	108

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55	Raman Tensor of van der Waals MoSe₂. Journal of Physical Chemistry Letters, 2020, 11, 4311-4316.	4.6	28
56	Raman tensor of layered WS2. Science China Materials, 2020, 63, 1848-1854.	6.3	17
57	Vacuum-Ultraviolet Photon Detections. IScience, 2020, 23, 101145.	4.1	98
58	A CTAB-mediated antisolvent vapor route to shale-like Cs₄PbBr₆ microplates showing an eminent photoluminescence. RSC Advances, 2020, 10, 10023-10029.	3.6	5
59	Raman tensor of layered black arsenic. Journal of Raman Spectroscopy, 2020, 51, 1324-1330.	2.5	19
60	Raman Tensor of Layered Td-WTe₂. Journal of Physical Chemistry C, 2020, 124, 16596-16603.	3.1	16
61	Multistep Thermodynamics Yielding Deep Ultraviolet Transparent Conductive Ga₂O₃ Films. Journal of Physical Chemistry C, 2020, 124, 16722-16727.	3.1	9
62	Near vacuum-ultraviolet aperiodic oscillation emission of AlN films. Science Bulletin, 2020, 65, 827-831.	9.0	21
63	Sensitive and Fast Direct Conversion Xâ€Ray Detectors Based on Singleâ€Crystalline HgI₂ Photoconductor and ZnO Nanowire Vacuum Diode. Advanced Materials Technologies, 2020, 5, 1901108.	5.8	15
64	Ligand Tailoring Oxide Colloidal Quantum Dots for Siliconâ€Integrated Ultraviolet Photodiode. Advanced Electronic Materials, 2020, 6, 1901238.	5.1	7
65	Ultra-high Photovoltage (2.45 V) Forming in Graphene Heterojunction via Quasi-Fermi Level Splitting Enhanced Effect. IScience, 2020, 23, 100818.	4.1	33
66	All-silicon photovoltaic detectors with deep ultraviolet selectivity. PhotoniX, 2020, 1, .	13.5	71
67	Raman tensor of layered black phosphorus. PhotoniX, 2020, 1, .	13.5	29
68	Vacuum-ultraviolet photodetectors. PhotoniX, 2020, 1, .	13.5	126
69	Raman tensor of layered MoS₂. Optics Letters, 2020, 45, 1313.	3.3	29
70	Deep-ultraviolet aperiodic-oscillation emission of AlGaN films. Optics Letters, 2020, 45, 1719.	3.3	8
71	High-Performance Solar Blind Ultraviolet Photodetector Based on Single Crystal Orientation Mg-Alloyed Ga₂O₃ Film Grown by a Nonequilibrium MOCVD Scheme. ACS Applied Electronic Materials, 2019, 1, 1653-1659.	4.3	31
72	Vacuum-Ultraviolet-Oriented van der Waals Photovoltaics. ACS Photonics, 2019, 6, 1869-1875.	6.6	49

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73	Dual-channel ultra-narrowband mid-infrared filter based on bilayer metallic grating. Optik, 2019, 199, 163352.	2.9	6
74	Allâ€Inorganic CsCu₂I₃ Single Crystal with Highâ€PLQY (â‰ˆ15.7%) Intrinsic Whiteâ€Light Emission via Strongly Localized 1D Excitonic Recombination. Advanced Materials, 2019, 31, e1905079.	21.0	229
75	Brushed Crystallized Ultrathin Oxides: Recrystallization and Deep-Ultraviolet Imaging Application. ACS Applied Electronic Materials, 2019, 1, 2166-2173.	4.3	15
76	Gallium oxide solar-blind ultraviolet photodetectors: a review. Journal of Materials Chemistry C, 2019, 7, 8753-8770.	5.5	353
77	Balanced Photodetection in Mixed-Dimensional Phototransistors Consisting of CsPbBr3 Quantum Dots and Few-Layer MoS2. ACS Applied Nano Materials, 2019, 2, 2599-2605.	5.0	30
78	Ultrahigh EQE (15%) Solarâ€Blind UV Photovoltaic Detector with Organicâ€“Inorganic Heterojunction via Dual Builtâ€In Fields Enhanced Photogenerated Carrier Separation Efficiency Mechanism. Advanced Functional Materials, 2019, 29, 1900935.	14.9	106
79	Oxides/graphene heterostructure for deep-ultraviolet photovoltaic photodetector. Carbon, 2019, 147, 427-433.	10.3	37
80	TMK1-mediated auxin signalling regulates differential growth of the apical hook. Nature, 2019, 568, 240-243.	27.8	156
81	Ultrafast Photovoltaic-Type Deep Ultraviolet Photodetectors Using Hybrid Zero-/Two-Dimensional Heterojunctions. ACS Applied Materials & Interfaces, 2019, 11, 8412-8418.	8.0	53
82	Correction to â€œVacuum-Ultraviolet-Oriented van der Waals Photovoltaicsâ€ ACS Photonics, 2019, 6, 3338-3338.	6.6	0
83	Raman Tensor of WSe₂ via Angle-Resolved Polarized Raman Spectroscopy. Journal of Physical Chemistry C, 2019, 123, 29337-29342.	3.1	23
84	Ultra-Robust Deep-UV Photovoltaic Detector Based on Graphene/(AlGa)2O3/GaN with High-Performance in Temperature Fluctuations. ACS Applied Materials & Interfaces, 2019, 11, 48071-48078.	8.0	36
85	Ultrawideâ€Bandgap Amorphous MgGaO: Nonequilibrium Growth and Vacuum Ultraviolet Application. Advanced Optical Materials, 2019, 7, 1801272.	7.3	36
86	Graphene Interdigital Electrodes for Improving Sensitivity in a Ga₂O₃:Zn Deep-Ultraviolet Photoconductive Detector. ACS Applied Materials & Interfaces, 2019, 11, 1013-1020.	8.0	86
87	Enhanced performance of solar-blind ultraviolet photodetector based on Mg-doped amorphous gallium oxide film. Vacuum, 2019, 159, 204-208.	3.5	38
88	Vacuum ultraviolet photovoltaic arrays. Photonics Research, 2019, 7, 98.	7.0	57
89	Broadband graphene-based photoacoustic microscopy with high sensitivity. Nanoscale, 2018, 10, 8606-8614.	5.6	24
90	Laser Tuning in van der Waals Crystals. ACS Nano, 2018, 12, 2001-2007.	14.6	31

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91	Anisotropic temperatureâ€dependence of optical phonons in layered <scp>PbI₂</scp>. Journal of Raman Spectroscopy, 2018, 49, 775-779.	2.5	23
92	Balanced Photodetection in One-Step Liquid-Phase-Synthesized CsPbBr₃ Micro-/Nanoflake Single Crystals. ACS Applied Materials & Interfaces, 2018, 10, 1865-1870.	8.0	60
93	Vacuum-Ultraviolet Photovoltaic Detector. ACS Nano, 2018, 12, 425-431.	14.6	193
94	Growth, characterization and optoelectronic applications of pure-phase large-area CsPb₂Br₅ flake single crystals. Journal of Materials Chemistry C, 2018, 6, 446-451.	5.5	88
95	High quality Î²-Ga2O3 film grown with N2O for high sensitivity solar-blind-ultraviolet photodetector with fast response speed. Journal of Alloys and Compounds, 2018, 735, 150-154.	5.5	142
96	Amorphous-MgGaO Film Combined with Graphene for Vacuum-Ultraviolet Photovoltaic Detector. ACS Applied Materials & Interfaces, 2018, 10, 42681-42687.	8.0	33
97	Aqueous Solution Growth of Millimeter-Sized Nongreen-Luminescent Wide Bandgap Cs₄PbBr₆ Bulk Crystal. Crystal Growth and Design, 2018, 18, 6393-6398.	3.0	59
98	High-sensitive and fast response to 255 nm deep-UV light of CH 3 NH 3 PbX 3 (X = Cl, Br, I) bulk crystals. Royal Society Open Science, 2018, 5, 180905.	2.4	25
99	Vacuum Ultraviolet Photodetection in Two-Dimensional Oxides. ACS Applied Materials & Interfaces, 2018, 10, 20696-20702.	8.0	68
100	Elucidation of â€œphase differenceâ€• in Raman tensor formalism. Photonics Research, 2018, 6, 709.	7.0	28
101	Vacuum-Ultraviolet Photodetection in Few-Layered h-BN. ACS Applied Materials & Interfaces, 2018, 10, 27116-27123.	8.0	106
102	One-step on-chip synthesis of highly-luminescent Cs4PbBr6 microcrystal. Materials Letters, 2018, 232, 118-121.	2.6	23
103	Vacuumâ€Ultraviolet Photovoltaic Detector with Improved Response Speed and Responsivity via Heating Annihilation Trap State Mechanism. Advanced Optical Materials, 2018, 6, 1800697.	7.3	102
104	High-Performance Graphene/Î²-Ga₂O₃ Heterojunction Deep-Ultraviolet Photodetector with Hot-Electron Excited Carrier Multiplication. ACS Applied Materials & Interfaces, 2018, 10, 22419-22426.	8.0	162
105	Effects of photonic crystal structures on the imaging properties of a ZnO:Ga image converter. Optics Letters, 2018, 43, 5647.	3.3	8
106	Raman spectroscopy regulation in van der Waals crystals. Photonics Research, 2018, 6, 991.	7.0	25
107	An ultrafast-temporally-responsive flexible photodetector with high sensitivity based on high-crystallinity organicâ€"inorganic perovskite nanoflake. Nanoscale, 2017, 9, 12718-12726.	5.6	83
108	Band alignment of MAPb(I1â€"<i>x</i>Br<i>x</i>)3 thin films by vacuum deposition. Applied Physics Letters, 2016, 109, .	3.3	9

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109	A possible high-mobility signal in bulk MoTe2: Temperature independent weak phonon decay. AIP Advances, 2016, 6, .	1.3	13
110	A Strategy of Transparent Conductive Oxide for UV Focal Plane Array Detector: Twoâ€Step Thermodynamic Process. Advanced Electronic Materials, 2016, 2, 1600320.	5.1	25
111	Highâ€Crystalline 2D Layered PbI₂ with Ultrasmooth Surface: Liquidâ€Phase Synthesis and Application of Highâ€Speed Photon Detection. Advanced Electronic Materials, 2016, 2, 1600291.	5.1	98
112	2D Materials: High-Crystalline 2D Layered PbI2 with Ultrasmooth Surface: Liquid-Phase Synthesis and Application of High-Speed Photon Detection (Adv. Electron. Mater. 11/2016). Advanced Electronic Materials, 2016, 2, .	5.1	3
113	Photodetectors: Lowâ€Dimensional Structure Vacuumâ€Ultravioletâ€Sensitive (<i>Î»</i> < 200 nm) Photodetector with Fastâ€Response Speed Based on Highâ€Quality AlN Micro/Nanowire (Adv. Mater.) Tj ETQq1 1 0.784314 rgBT /Overl	21.0	6
114	Lowâ€Dimensional Structure Vacuumâ€Ultravioletâ€Sensitive (<i>Î»</i> < 200 nm) Photodetector with Fastâ€Response Speed Based on Highâ€Quality AlN Micro/Nanowire. Advanced Materials, 2015, 27, 3921-3927.	21.0	208
115	Crystal Growth of Î±-HgI₂ by the Temperature Difference Method for High Sensitivity X-ray Detection. Crystal Growth and Design, 2015, 15, 3383-3387.	3.0	14
116	Raman tensor of AlN bulk single crystal. Photonics Research, 2015, 3, 38.	7.0	66
117	Synthesis of two-dimensional Î²-Ga₂O₃nanosheets for high-performance solar blind photodetectors. Journal of Materials Chemistry C, 2014, 2, 3254-3259.	5.5	167
118	Strongly anisotropic behavior of A1(TO) phonon mode in bulk AlN. Journal of Alloys and Compounds, 2014, 584, 374-376.	5.5	28
119	Lattice deformation of wurtzite Mg Zn1â^'O alloys: An extended X-ray absorption fine structure study. Journal of Alloys and Compounds, 2014, 582, 157-160.	5.5	11
120	Manganese <i>K</i>- and <i>L</i>₃-Edge X-Ray Absorption Fine Structure Study of Zn_{1-x}Mn_xTe. Advanced Materials Research, 2013, 634-638, 2489-2492.	0.3	3
121	Study of Mg_XZn_{1-X}O Alloys (0<x<0.15) by X-Ray Absorption Spectroscopy. Advanced Materials Research, 2013, 663, 361-365.	0.3	6
122	Effect of temperature distribution on growth habit of AlN crystal. Shenzhen Daxue Xuebao (Ligong) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	0.2	4
123	Growth of <i>p</i>-Type AlN Crystals by C and Si Codoping. Advanced Materials Research, 0, 306-307, 246-250.	0.3	2
124	Super-Hard â€œTanghuluâ€ Cubic BP Microrod Covered with Amorphous SiO ₂ Balls. SSRN Electronic Journal, 0, , .	0.4	0