Zhifu Liu

List of Publications by Year in descending order

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82 papers	4,081 citations	201674 27 h-index	114465 63 g-index
86 all docs	86 docs citations	86 times ranked	5245 citing authors

#	Article	IF	Citations
1	Crystal Growth of the Perovskite Semiconductor CsPbBr₃: A New Material for High-Energy Radiation Detection. Crystal Growth and Design, 2013, 13, 2722-2727.	3.0	1,234
2	High spectral resolution of gamma-rays at room temperature by perovskite CsPbBr3 single crystals. Nature Communications, 2018, 9, 1609.	12.8	381
3	Ultralarge Hyperpolarizability Twisted Ï€-Electron System Electro-Optic Chromophores:Â Synthesis, Solid-State and Solution-Phase Structural Characteristics, Electronic Structures, Linear and Nonlinear Optical Properties, and Computational Studies. Journal of the American Chemical Society, 2007, 129, 3267-3286.	13.7	258
4	CsPbBr3 perovskite detectors with 1.4% energy resolution for high-energy Î³-rays. Nature Photonics, 2021, 15, 36-42.	31.4	210
5	Dimensional Reduction: A Design Tool for New Radiation Detection Materials. Advanced Materials, 2011, 23, 4163-4167.	21.0	185
6	Electromagnetic Wave Absorbing Properties of Amorphous Carbon Nanotubes. Scientific Reports, 2014, 4, 5619.	3.3	148
7	Exceptional Molecular Hyperpolarizabilities in Twisted Ï€-Electron System Chromophores. Angewandte Chemie - International Edition, 2005, 44, 7922-7925.	13.8	131
8	Thallium Chalcohalides for X-ray and Î³-ray Detection. Journal of the American Chemical Society, 2011, 133, 10030-10033.	13.7	105
9	Resolving the Energy of Î³-Ray Photons with MAPbI₃ Single Crystals. ACS Photonics, 2018, 5, 4132-4138.	6.6	100
10	Î±-Particle Detection and Charge Transport Characteristics in the A₃M₂I₉ Defect Perovskites (A = Cs, Rb; M = Bi, Sb). ACS Photonics, 2018, 5, 3748-3762.	6.6	88
11	Thallium Chalcogenide-Based Wide-Band-Gap Semiconductors: TlGaSe₂ for Radiation Detectors. Chemistry of Materials, 2011, 23, 3120-3128.	6.7	87
12	Morphology-controlled synthesis of SrTiO₃/TiO₂ heterostructures and their photocatalytic performance for water splitting. RSC Advances, 2016, 6, 21111-21118.	3.6	62
13	Demonstration of Energy-Resolved Î³-Ray Detection at Room Temperature by the CsPbCl₃ Perovskite Semiconductor. Journal of the American Chemical Society, 2021, 143, 2068-2077.	13.7	62
14	Organic electro-optic modulator using transparent conducting oxides as electrodes. Optics Express, 2005, 13, 7380.	3.4	61
15	Direct thermal neutron detection by the 2D semiconductor 6LiInP2Se6. Nature, 2020, 577, 346-349.	27.8	59
16	CsHgInS₃: a New Quaternary Semiconductor for Î³-ray Detection. Chemistry of Materials, 2012, 24, 4434-4441.	6.7	56
17	Photoconductivity in the Chalcohalide Semiconductor, SbSeI: a New Candidate for Hard Radiation Detection. Inorganic Chemistry, 2013, 52, 7045-7050.	4.0	55
18	CsCdInQ₃ (Q = Se, Te): New Photoconductive Compounds As Potential Materials for Hard Radiation Detection. Chemistry of Materials, 2013, 25, 2089-2099.	6.7	50

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19	Photoconductivity in Tl₆SI₄: A Novel Semiconductor for Hard Radiation Detection. Chemistry of Materials, 2013, 25, 2868-2877.	6.7	45
20	Defect Antiperovskite Compounds Hg₃Q₂I₂ (Q = S, Se, and Te) for Room-Temperature Hard Radiation Detection. Journal of the American Chemical Society, 2017, 139, 7939-7951.	13.7	45
21	Crystal Growth and Characterization of the X-ray and Î³-ray Detector Material Cs₂Hg₆S₇. Crystal Growth and Design, 2012, 12, 3250-3256.	3.0	42
22	Crystal Growth of Tl₄CdI₆: A Wide Band Gap Semiconductor for Hard Radiation Detection. Crystal Growth and Design, 2014, 14, 2401-2410.	3.0	35
23	Near-infrared transparent electrodes for precision Tengâ€“Man electro-optic measurements: In2O3 thin-film electrodes with tunable near-infrared transparency. Applied Physics Letters, 2005, 87, 161107.	3.3	34
24	Nonlinear photonic crystal waveguide structures based on barium titanate thin films and their optical properties. Applied Physics Letters, 2007, 90, 201104.	3.3	34
25	Hard Radiation Detection from the Selenophosphate Pb₂P₂Se₆. Advanced Functional Materials, 2015, 25, 4874-4881.	14.9	33
26	TlSn₂I₅, a Robust Halide Antiperovskite Semiconductor for Î³-Ray Detection at Room Temperature. ACS Photonics, 2017, 4, 1805-1813.	6.6	33
27	Photonic Crystal Waveguide Electro-Optic Modulator With a Wide Bandwidth. Journal of Lightwave Technology, 2013, 31, 1601-1607.	4.6	29
28	Performance simulation for ferroelectric thin-film based waveguide electro-optic modulators. Optics Communications, 2005, 255, 319-330.	2.1	27
29	Heavy metal ternary halides for room-temperature x-ray and gamma-ray detection. Proceedings of SPIE, 2013, , .	0.8	26
30	Cs₂Hg₃S₄: A Low-Dimensional Direct Bandgap Semiconductor. Chemistry of Materials, 2015, 27, 370-378.	6.7	26
31	$chi ^{(2)}$ Modulator With 40-GHz Modulation Utilizing BaTiO3 Photonic Crystal Waveguides. IEEE Journal of Quantum Electronics, 2017, 53, 1-10.	1.9	26
32	Thallous chalcogenide (Tl6I4Se) for radiation detection at X-ray and Î³-ray energies. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 659, 333-335.	1.6	19
33	Cu₂I₂Se₆: A Metalâ€“Inorganic Framework Wide-Bandgap Semiconductor for Photon Detection at Room Temperature. Journal of the American Chemical Society, 2018, 140, 1894-1899.	13.7	19
34	Inorganic Halide Perovskitoid TlPbI₃ for Ionizing Radiation Detection. Advanced Functional Materials, 2021, 31, 2006635.	14.9	16
35	Mercury Chalcohalide Semiconductor Hg₃Se₂Br₂ for Hard Radiation Detection. Crystal Growth and Design, 2016, 16, 6446-6453.	3.0	15
36	Role of Stoichiometry in the Growth of Large Pb₂P₂Se₆ Crystals for Nuclear Radiation Detection. ACS Photonics, 2018, 5, 566-573.	6.6	15

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37	Investigation of defect levels in Cs2Hg6S7 single crystals by photoconductivity and photoluminescence spectroscopies. Journal of Applied Physics, 2012, 112, 063702.	2.5	14
38	Carrier recombination mechanism in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>CsPbB</mml:mi><mml:msub><mml:mi mathvariant="normal">r</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> revealed by time-resolved photoluminescence spectroscopy. Physical Review B, 2019, 100, .	3.2	14
39	Refined Synthesis and Crystal Growth of Pb₂P₂Se₆ for Hard Radiation Detectors. Crystal Growth and Design, 2016, 16, 5100-5109.	3.0	12
40	Formation of native defects in the Î³-ray detector material Cs2Hg6S7. Applied Physics Letters, 2012, 101, .	3.3	11
41	Investigation of Semi-Insulating Cs₂Hg₆S₇ and Cs₂Hg_{6-x}Cd_xS₇ Alloy for Hard Radiation Detection. Crystal Growth and Design, 2014, 14, 5949-5956.	3.0	11
42	TlSbS₂: a Semiconductor for Hard Radiation Detection. ACS Photonics, 2017, 4, 2891-2898.	6.6	11
43	Photoluminescence spectroscopy of excitonic emission in CsPbCl3 perovskite single crystals. Journal of Luminescence, 2022, 243, 118661.	3.1	11
44	An Effective Purification Process for the Nuclear Radiation Detector Tl₆SeI₄. Crystal Growth and Design, 2018, 18, 3484-3493.	3.0	9
45	Cascaded Bragg reflectors for a barium titanate thin film electro-optic modulator. Journal of Optics, 2008, 10, 015302.	1.5	8
46	Dynamic response of polydomain ferroelectric barium titanate epitaxial thin films and its field dependence. Journal of Applied Physics, 2008, 104, 064115.	2.5	8
47	Mercury and antimony chalcohalide semiconductors as new candidates for radiation detection applications at room temperature. Proceedings of SPIE, 2012, , .	0.8	8
48	Excitons in CsPbBr₃ Halide Perovskite. Journal of Physical Chemistry Letters, 2021, 12, 9301-9307.	4.6	8
49	Optical investigation of defects in semi-insulating <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">Tl</mml:mi><mml:mn>6</mml:mn></mml:msub></mml:math><mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">I</mml:mi><mml:mn>4</mml:mn></mml:msub><mml:mtext>S</mml:mtext></mml:math>single crystals. Physical Review B, 2014, 90, .	3.2	7
50	Controlling the Vapor Transport Crystal Growth of Hg₃Se₂I₂ Hard Radiation Detector Using Organic Polymer. Crystal Growth and Design, 2019, 19, 2074-2080.	3.0	7
51	Improved Crystal Growth of Tl₆SeI₄ for Î³-Ray Detection Material by Oxide Impurity Removal. Crystal Growth and Design, 2017, 17, 6096-6104.	3.0	6
52	Defect levels in CsPbCl3 single crystals determined by thermally stimulated current spectroscopy. Journal of Applied Physics, 2022, 132, .	2.5	6
53	Self-assembled materials and devices that process light. , 2004, , .		5
54	Study of domain reversal and its field-dependence in epitaxial BaTiO3 thin films. Journal of Applied Physics, 2010, 107, 124106.	2.5	5

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55	Electro-optic waveguide modulators by the integration of self-assembled superlattices with polymeric and semiconductor materials. , 2003, , .		4
56	Simulation and Fabrication of Two Dimensional Nonlinear Photonic Crystals using Barium Titanate Thin Films. Materials Research Society Symposia Proceedings, 2007, 1014, 1.	0.1	4
57	Design and fabrication of electro-optic waveguides with self-assembled superlattice films. Optics and Laser Technology, 2007, 39, 285-289.	4.6	4
58	Purification and Improved Nuclear Radiation Detection of Tl₆SI₄ Semiconductor. Crystal Growth and Design, 2019, 19, 4738-4744.	3.0	4
59	Noise sources and their limitations on the performance of compound semiconductor hard radiation detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 916, 133-140.	1.6	4
60	Enhancement of the pockels effect in photonic crystal modulators through slow light. Optics Letters, 2016, 41, 5531.	3.3	4
61	Dimensionally reduced heavy atom semiconductors as candidate materials for Î³-ray detection: the case of Cs₂Hg₆S₇. Materials Research Society Symposia Proceedings, 2011, 1341, 1.	0.1	3
62	Tl-based wide gap semiconductor materials for x-ray and gamma ray detection. , 2011, , .		3
63	Alkali Metal Chalcogenides for Radiation Detection. Materials Research Society Symposia Proceedings, 2011, 1341, 1.	0.1	3
64	Characterization of thallium-based ternary semiconductor compounds for radiation detection. , 2012, , .		3
65	Electronic defects in the halide antiperovskite semiconductor <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Hg</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">I</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review B, 2017, 96, .	3.2	3
66	Ultrafast modulators based on nonlinear photonic crystal waveguides. Proceedings of SPIE, 2011, , .	0.8	2
67	Ultrahigh Bandwidth, Low VÏ€ Photonic Crystal BaTiO3 Modulators. , 2015, , .		2
68	Integrated BaTiO3 modulator with 8 dB extinction at 50 GHz and 25 km reach. , 2016, , .		2
69	Deep Level and Nearâ€Bandâ€Edge Recombination in Semiconducting Antiperovskite Hg₃Se₂I₂ Single Crystals. Advanced Optical Materials, 2018, 6, 1800328.	7.3	2
70	Low-voltage organic electro-optic modulators using transparent conducting oxides as electrodes. , 2005, , .		1
71	Barium titanate thin film electro-optic modulator low half-wave voltage at 1310 nm. , 2005, , .		1
72	Small Footprint Barium Titanate Photonic Crystal Modulators for Photonic Integrated Circuits. , 2015, , .		1

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73	Monte Carlo simulation of transport properties in wide gap Hg3Se2I2. Semiconductor Science and Technology, 2019, 34, 115003.	2.0	1
74	BaTiO3 Modulator Devices for Silicon Photonics. , 2014, , .		1
75	Electro-optic modulators based on organic single-crystal films. , 2001, , .		0
76	Waveguide electro-optic modulators based on intrinsically polar self-assembled superlattices (SASs). , 2002, , .		0
77	Precision Teng-Man Electro-Optic Measurements Using Highly Near-Infrared Transparent Electrodes. Materials Research Society Symposia Proceedings, 2006, 928, 1.	0.1	0
78	Bragg Reflector Waveguide and Electro-Optic Modulator Based on Barium Titanate Epitaxial Thin Films. Materials Research Society Symposia Proceedings, 2007, 1014, 1.	0.1	0
79	Hexagonal photonic crystal waveguide based on barium titanate thin films. Proceedings of SPIE, 2011, , .	0.8	0
80	50 GHz electro-optic modulators with BaTiO<inf>3</inf> epitaxial thin film platform for short distance optical communications. , 2017, , .		0
81	Photonic Crystal Waveguide Structures Based on Epitaxial Barium Titanate Thin Films. , 2010, , .		0
82	Electrical Loss Mechanisms of Thin Film Electro-Optic Modulators for High-Bandwidth Applications. , 2013, , .		0