Zhifu Liu

List of Publications by Year in descending order

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	Photoluminescence spectroscopy of excitonic emission in CsPbCl3 perovskite single crystals. Journal of Luminescence, 2022, 243, 118661.	3.1	11
2	Defect levels in CsPbCl3 single crystals determined by thermally stimulated current spectroscopy. Journal of Applied Physics, 2022, 132, .	2.5	6
3	CsPbBr3 perovskite detectors with 1.4% energy resolution for high-energy Î³-rays. Nature Photonics, 2021, 15, 36-42.	31.4	210
4	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
5	Inorganic Halide Perovskitoid TlPbI₃ for Ionizing Radiation Detection. Advanced Functional Materials, 2021, 31, 2006635.	14.9	16
6	Excitons in CsPbBr₃ Halide Perovskite. Journal of Physical Chemistry Letters, 2021, 12, 9301-9307.	4.6	8
7	Direct thermal neutron detection by the 2D semiconductor 6LiInP2Se6. Nature, 2020, 577, 346-349.	27.8	59
8	Monte Carlo simulation of transport properties in wide gap Hg3Se2I2. Semiconductor Science and Technology, 2019, 34, 115003.	2.0	1
9	Purification and Improved Nuclear Radiation Detection of Tl₆SI₄ Semiconductor. Crystal Growth and Design, 2019, 19, 4738-4744.	3.0	4
10	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
11	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
12	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
13	High spectral resolution of gamma-rays at room temperature by perovskite CsPbBr3 single crystals. Nature Communications, 2018, 9, 1609.	12.8	381
14	An Effective Purification Process for the Nuclear Radiation Detector Tl₆SeI₄. Crystal Growth and Design, 2018, 18, 3484-3493.	3.0	9
15	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
16	Role of Stoichiometry in the Growth of Large Pb₂P₂Se₆ Crystals for Nuclear Radiation Detection. ACS Photonics, 2018, 5, 566-573.	6.6	15
17	Deep Level and Nearâ€Bandâ€Edge Recombination in Semiconducting Antiperovskite Hg₃Se₂I₂ Single Crystals. Advanced Optical Materials, 2018, 6, 1800328.	7.3	2
18	Resolving the Energy of Î³-Ray Photons with MAPbI₃ Single Crystals. ACS Photonics, 2018, 5, 4132-4138.	6.6	100

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19	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
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	TlSn₂I₅, a Robust Halide Antiperovskite Semiconductor for Î³-Ray Detection at Room Temperature. ACS Photonics, 2017, 4, 1805-1813.	6.6	33
22	TlSbS₂: a Semiconductor for Hard Radiation Detection. ACS Photonics, 2017, 4, 2891-2898.	6.6	11
23	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
24	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
25	$chi ^{(2)}$ Modulator With 40-GHz Modulation Utilizing BaTiO3 Photonic Crystal Waveguides. IEEE Journal of Quantum Electronics, 2017, 53, 1-10.	1.9	26
26	50 GHz electro-optic modulators with BaTiO<inf>3</inf> epitaxial thin film platform for short distance optical communications. , 2017, , .		0
27	Mercury Chalcohalide Semiconductor Hg₃Se₂Br₂ for Hard Radiation Detection. Crystal Growth and Design, 2016, 16, 6446-6453.	3.0	15
28	Refined Synthesis and Crystal Growth of Pb₂P₂Se₆ for Hard Radiation Detectors. Crystal Growth and Design, 2016, 16, 5100-5109.	3.0	12
29	Integrated BaTiO3 modulator with 8 dB extinction at 50 GHz and 25 km reach. , 2016, , .		2
30	Morphology-controlled synthesis of SrTiO₃/TiO₂ heterostructures and their photocatalytic performance for water splitting. RSC Advances, 2016, 6, 21111-21118.	3.6	62
31	Enhancement of the pockels effect in photonic crystal modulators through slow light. Optics Letters, 2016, 41, 5531.	3.3	4
32	Hard Radiation Detection from the Selenophosphate Pb₂P₂Se₆. Advanced Functional Materials, 2015, 25, 4874-4881.	14.9	33
33	Small Footprint Barium Titanate Photonic Crystal Modulators for Photonic Integrated Circuits. , 2015, , .		1
34	Cs₂Hg₃S₄: A Low-Dimensional Direct Bandgap Semiconductor. Chemistry of Materials, 2015, 27, 370-378.	6.7	26
35	Ultrahigh Bandwidth, Low VÏ€ Photonic Crystal BaTiO3 Modulators. , 2015, , .		2
36	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

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37	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
38	Crystal Growth of Tl₄CdI₆: A Wide Band Gap Semiconductor for Hard Radiation Detection. Crystal Growth and Design, 2014, 14, 2401-2410.	3.0	35
39	Electromagnetic Wave Absorbing Properties of Amorphous Carbon Nanotubes. Scientific Reports, 2014, 4, 5619.	3.3	148
40	BaTiO3 Modulator Devices for Silicon Photonics. , 2014, , .		1
41	Photoconductivity in Tl₆SI₄: A Novel Semiconductor for Hard Radiation Detection. Chemistry of Materials, 2013, 25, 2868-2877.	6.7	45
42	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
43	CsCdInQ₃ (Q = Se, Te): New Photoconductive Compounds As Potential Materials for Hard Radiation Detection. Chemistry of Materials, 2013, 25, 2089-2099.	6.7	50
44	Photonic Crystal Waveguide Electro-Optic Modulator With a Wide Bandwidth. Journal of Lightwave Technology, 2013, 31, 1601-1607.	4.6	29
45	Photoconductivity in the Chalcohalide Semiconductor, SbSeI: a New Candidate for Hard Radiation Detection. Inorganic Chemistry, 2013, 52, 7045-7050.	4.0	55
46	Heavy metal ternary halides for room-temperature x-ray and gamma-ray detection. Proceedings of SPIE, 2013, , .	0.8	26
47	Electrical Loss Mechanisms of Thin Film Electro-Optic Modulators for High-Bandwidth Applications. , 2013, , .		0
48	Characterization of thallium-based ternary semiconductor compounds for radiation detection. , 2012, , .		3
49	Investigation of defect levels in Cs2Hg6S7 single crystals by photoconductivity and photoluminescence spectroscopies. Journal of Applied Physics, 2012, 112, 063702.	2.5	14
50	CsHgInS₃: a New Quaternary Semiconductor for Î³-ray Detection. Chemistry of Materials, 2012, 24, 4434-4441.	6.7	56
51	Mercury and antimony chalcohalide semiconductors as new candidates for radiation detection applications at room temperature. Proceedings of SPIE, 2012, , .	0.8	8
52	Formation of native defects in the Î³-ray detector material Cs2Hg6S7. Applied Physics Letters, 2012, 101, .	3.3	11
53	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
54	Hexagonal photonic crystal waveguide based on barium titanate thin films. Proceedings of SPIE, 2011, , .	0.8	0

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55	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
56	Thallium Chalcogenide-Based Wide-Band-Gap Semiconductors: TlGaSe₂ for Radiation Detectors. Chemistry of Materials, 2011, 23, 3120-3128.	6.7	87
57	Ultrafast modulators based on nonlinear photonic crystal waveguides. Proceedings of SPIE, 2011, , .	0.8	2
58	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
59	Thallium Chalcohalides for X-ray and Î³-ray Detection. Journal of the American Chemical Society, 2011, 133, 10030-10033.	13.7	105
60	Tl-based wide gap semiconductor materials for x-ray and gamma ray detection. , 2011, , .		3
61	Dimensional Reduction: A Design Tool for New Radiation Detection Materials. Advanced Materials, 2011, 23, 4163-4167.	21.0	185
62	Alkali Metal Chalcogenides for Radiation Detection. Materials Research Society Symposia Proceedings, 2011, 1341, 1.	0.1	3
63	Study of domain reversal and its field-dependence in epitaxial BaTiO3 thin films. Journal of Applied Physics, 2010, 107, 124106.	2.5	5
64	Photonic Crystal Waveguide Structures Based on Epitaxial Barium Titanate Thin Films. , 2010, , .		0
65	Cascaded Bragg reflectors for a barium titanate thin film electro-optic modulator. Journal of Optics, 2008, 10, 015302.	1.5	8
66	Dynamic response of polydomain ferroelectric barium titanate epitaxial thin films and its field dependence. Journal of Applied Physics, 2008, 104, 064115.	2.5	8
67	Nonlinear photonic crystal waveguide structures based on barium titanate thin films and their optical properties. Applied Physics Letters, 2007, 90, 201104.	3.3	34
68	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
69	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
70	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
71	Design and fabrication of electro-optic waveguides with self-assembled superlattice films. Optics and Laser Technology, 2007, 39, 285-289.	4.6	4
72	Precision Teng-Man Electro-Optic Measurements Using Highly Near-Infrared Transparent Electrodes. Materials Research Society Symposia Proceedings, 2006, 928, 1.	0.1	0

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73	Performance simulation for ferroelectric thin-film based waveguide electro-optic modulators. Optics Communications, 2005, 255, 319-330.	2.1	27
74	Exceptional Molecular Hyperpolarizabilities in Twisted Ï€-Electron System Chromophores. Angewandte Chemie - International Edition, 2005, 44, 7922-7925.	13.8	131
75	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
76	Low-voltage organic electro-optic modulators using transparent conducting oxides as electrodes. , 2005, , .		1
77	Barium titanate thin film electro-optic modulator low half-wave voltage at 1310 nm. , 2005, , .		1
78	Organic electro-optic modulator using transparent conducting oxides as electrodes. Optics Express, 2005, 13, 7380.	3.4	61
79	Self-assembled materials and devices that process light. , 2004, , .		5
80	Electro-optic waveguide modulators by the integration of self-assembled superlattices with polymeric and semiconductor materials. , 2003, , .		4
81	Waveguide electro-optic modulators based on intrinsically polar self-assembled superlattices (SASs). , 2002, , .		0
82	Electro-optic modulators based on organic single-crystal films. , 2001, , .		0