

Lei R Cao

List of Publications by Year in descending order

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92
papers

8,497
citations

279487

23
h-index

64668

79
g-index

96
all docs

96
docs citations

96
times ranked

10473
citing authors

#	ARTICLE	IF	CITATIONS
1	Electron-hole diffusion lengths > 175 μm in solution-grown $\text{CH}_3\text{NH}_3\text{PbI}_3$ single crystals. <i>Science</i> , 2015, 347, 967-970.	6.0	4,642
2	Sensitive X-ray detectors made of methylammonium lead tribromide perovskite single crystals. <i>Nature Photonics</i> , 2016, 10, 333-339.	15.6	1,271
3	Monolithic integration of hybrid perovskite single crystals with heterogenous substrate for highly sensitive X-ray imaging. <i>Nature Photonics</i> , 2017, 11, 315-321.	15.6	580
4	Dopant compensation in alloyed $\text{CH}_3\text{NH}_3\text{PbBr}_3$ - xCu perovskite single crystals for gamma-ray spectroscopy. <i>Nature Materials</i> , 2017, 16, 826-833.	13.3	475
5	Optical signatures of deep level defects in Ga_2O_3 . <i>Applied Physics Letters</i> , 2018, 112, .	1.5	113
6	Organohalide Lead Perovskites: More Stable than Glass under Gamma-Ray Radiation. <i>Advanced Materials</i> , 2019, 31, e1805547.	11.1	92
7	Review of using gallium nitride for ionizing radiation detection. <i>Applied Physics Reviews</i> , 2015, 2, .	5.5	73
8	Determination of X-ray detection limit and applications in perovskite X-ray detectors. <i>Nature Communications</i> , 2021, 12, 5258.	5.8	72
9	Neutron depth profiling technique for studying aging in Li-ion batteries. <i>Electrochimica Acta</i> , 2011, 56, 4735-4743.	2.6	71
10	In Situ Quantification and Visualization of Lithium Transport with Neutrons. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 9498-9502.	7.2	69
11	Low defects density CsPbBr_3 single crystals grown by an additive assisted method for gamma-ray detection. <i>Journal of Materials Chemistry C</i> , 2020, 8, 11360-11368.	2.7	63
12	Detection of charged particles with a methylammonium lead tribromide perovskite single crystal. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2017, 848, 106-108.	0.7	61
13	Enhanced binding of metabotropic glutamate receptor type 5 (mGluR5) PET tracers in the brain of parkinsonian primates. <i>NeuroImage</i> , 2008, 42, 248-251.	2.1	56
14	Performance of Perovskite CsPbBr_3 Single Crystal Detector for Gamma-Ray Detection. <i>IEEE Transactions on Nuclear Science</i> , 2020, 67, 443-449.	1.2	50
15	Preliminary study of airborne particulate matter in a Beijing sampling station by instrumental neutron activation analysis. <i>Atmospheric Environment</i> , 2002, 36, 1951-1956.	1.9	45
16	Cerebellar Neurons Possess a Vesicular Compartment Structurally and Functionally Similar to Glut4-Storage Vesicles from Peripheral Insulin-Sensitive Tissues. <i>Journal of Neuroscience</i> , 2009, 29, 5193-5201.	1.7	42
17	Demonstration of Large-Size Vertical Ga_2O_3 Schottky Barrier Diodes. <i>IEEE Transactions on Power Electronics</i> , 2021, 36, 41-44.	5.4	38
18	Quasi-2D Perovskite Crystalline Layers for Printable Direct Conversion X-Ray Imaging. <i>Advanced Materials</i> , 2022, 34, e2106498.	11.1	37

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19	Comparison of Zr, Bi, Ti, and Ga as Metal Contacts in Inorganic Perovskite CsPbBr ₃ Gamma-Ray Detector. IEEE Transactions on Nuclear Science, 2020, 67, 2255-2262.	1.2	35
20	Evaluation of freestanding GaN as an alpha and neutron detector. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 719, 13-16.	0.7	34
21	Profiling lithium distribution in Sn anode for lithium-ion batteries with neutrons. Journal of Radioanalytical and Nuclear Chemistry, 2014, 301, 277-284.	0.7	27
22	Bulk GaN alpha-particle detector with large depletion region and improved energy resolution. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2017, 849, 11-15.	0.7	25
23	Characterization of a new external neutron beam facility at the Ohio State University. Journal of Radioanalytical and Nuclear Chemistry, 2012, 291, 321-327.	0.7	24
24	Neutron irradiation effects on gallium nitride-based Schottky diodes. Applied Physics Letters, 2013, 103, .	1.5	23
25	Radiation effects on the electrode and electrolyte of a lithium-ion battery. Journal of Power Sources, 2016, 318, 242-250.	4.0	23
26	Neutron depth profiling of Li-ion cell electrodes with a gas-controlled environment. Journal of Power Sources, 2014, 248, 489-497.	4.0	21
27	Effects of neutron and gamma radiation on lithium-ion batteries. Nuclear Instruments & Methods in Physics Research B, 2015, 345, 27-32.	0.6	18
28	The effect of boron doping and gamma irradiation on the structure and properties of microwave chemical vapor deposited boron-doped diamond films. Journal of Materials Research, 2009, 24, 1498-1512.	1.2	16
29	Demonstrating the Feasibility of Al as Anode Current Collector in Li-Ion Batteries via <i>In Situ</i> Neutron Depth Profiling. Chemistry of Materials, 2016, 28, 556-563.	3.2	16
30	Evaluation of polyvinyl toluene scintillators for fast neutron imaging. Journal of Radioanalytical and Nuclear Chemistry, 2018, 318, 543-551.	0.7	16
31	Neutron irradiation effects on metal-gallium nitride contacts. Journal of Applied Physics, 2014, 115, .	1.1	15
32	Methods for improving the power conversion efficiency of nuclear-voltaic batteries. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 927, 133-139.	0.7	15
33	Noise evaluation of a digital neutron imaging device. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2012, 674, 46-50.	0.7	14
34	Neutron irradiation and forming gas anneal impact on ² Ga ₂ O ₃ deep level defects. Journal Physics D: Applied Physics, 2020, 53, 465102.	1.3	14
35	Metrological role of neutron activation analysis. IA. Inherent characteristics of relative INAA as a primary ratio method of measurement. Accreditation and Quality Assurance, 2001, 6, 488-492.	0.4	13
36	Radiochemical neutron-activation analysis of uncertified ultra-trace rare earth elements in two biological certified reference materials. Analytical and Bioanalytical Chemistry, 2002, 372, 397-400.	1.9	12

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37	Study of PM2.5 in Beijing suburban site by neutron activation analysis and source apportionment. Journal of Radioanalytical and Nuclear Chemistry, 2004, 261, 87-94.	0.7	12
38	An analysis of radiation effects on NdFeB permanent magnets. Nuclear Instruments & Methods in Physics Research B, 2015, 342, 200-205.	0.6	12
39	Quantifying spatial resolution in a fast neutron radiography system. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2022, 1027, 166331.	0.7	12
40	Ab initio study of radiation effects on the Li4Ti5O12 electrode used in lithium-ion batteries. AIP Advances, 2015, 5, .	0.6	11
41	Study of GaN Radiation Sensor After In-core Neutron Irradiation. IEEE Transactions on Nuclear Science, 2014, 61, 2040-2044.	1.2	10
42	Transient current analysis of a GaN radiation detector by TCAD. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 761, 7-12.	0.7	10
43	Silicon carbide detectors for high flux neutron monitoring at near-core locations. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 953, 163110.	0.7	10
44	Observation of phase transitions in hydrogenated Yttrium films via normalized infrared emissivity. Journal of Alloys and Compounds, 2010, 490, 42-46.	2.8	9
45	Gamma-ray rejection, or detection, with gadolinium as a converter. Radiation Protection Dosimetry, 2012, 151, 586-590.	0.4	9
46	Characterization of a boron carbide-based polymer neutron sensor. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 803, 82-88.	0.7	9
47	Thermal and radiation response of 4H α -SiC Schottky diodes with direct-write electrical contacts. Applied Physics Letters, 2020, 116, .	1.5	9
48	Performance of 5- \times PIN diamond diodes as thermal neutron detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 961, 163601.	0.7	9
49	A radioactive tracer dilution method to determine the mass of molten salt. Journal of Radioanalytical and Nuclear Chemistry, 2017, 314, 387-393.	0.7	8
50	Cold-neutron depth profiling as a research tool for the study of surface oxides on metals Special Issue on Neutron Scattering in Canada.. Canadian Journal of Physics, 2010, 88, 751-758.	0.4	7
51	A Low-cost Neutron Radiography Device. Physics Procedia, 2013, 43, 54-65.	1.2	7
52	Gamma radiation effects on Li-ion battery electrolyte in neutron depth profiling for lithium quantification. Journal of Radioanalytical and Nuclear Chemistry, 2015, 305, 675-680.	0.7	7
53	Scintillators and detectors for MeV X-ray and neutron imaging. , 2020, , .		7
54	Combinatorial study of thin film metal hydride by prompt gamma activation analysis. Journal of Radioanalytical and Nuclear Chemistry, 2010, 283, 63-68.	0.7	6

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55	A review of low-level ionizing radiation and risk models of leukemia. <i>Journal of Radiation Oncology</i> , 2013, 2, 263-270.	0.7	6
56	The effect of thermal reactor neutron irradiation on semi-insulating GaN. <i>Radiation Effects and Defects in Solids</i> , 2013, 168, 924-932.	0.4	6
57	Characterization of magnetic degradation mechanism in a high-neutron-flux environment. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2014, 334, 43-47.	0.6	6
58	Heteroepitaxial diamond growth on 4H-SiC using microwave plasma chemical vapor deposition. <i>Heliyon</i> , 2017, 3, e00404.	1.4	6
59	Metrological role of neutron activation analysis. II. Parametric INAA – an ideal back-up for INAA as a primary ratio method of measurement. <i>Accreditation and Quality Assurance</i> , 2002, 7, 50-54.	0.4	5
60	The Potential of Using Li-Ion Batteries for Radiation Detection. <i>IEEE Transactions on Nuclear Science</i> , 2013, 60, 662-667.	1.2	5
61	Ex-situ and in-situ observations of the effects of gamma radiation on lithium ion battery performance. <i>Journal of Power Sources</i> , 2017, 357, 19-25.	4.0	5
62	Determination of molten salt mass using ²² Na tracer mixed with ¹⁵⁴ Eu and ¹³⁷ Cs. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2018, 318, 457-463.	0.7	5
63	Depth-resolved cathodoluminescence and surface photovoltage spectroscopies of gallium vacancies in ¹² -Ga ₂ O ₃ with neutron irradiation and forming gas anneals. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2021, 39, .	0.6	5
64	Fast neutron computed tomography of multi-material complex objects. , 2021, , .		5
65	Metrological role of neutron activation analysis. III. Role of INAA in sampling behavior characterization. <i>Accreditation and Quality Assurance</i> , 2002, 7, 101-105.	0.4	4
66	Neutron conversion efficiency and gamma interference with gadolinium. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2014, 300, 953-961.	0.7	4
67	Monte Carlo study of radiation-induced demagnetization using the two-dimensional Ising model. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2015, 360, 111-117.	0.6	4
68	Field Mapping System Design for the Superconducting Cyclotron CYCIAE-230. <i>IEEE Transactions on Applied Superconductivity</i> , 2018, 28, 1-4.	1.1	4
69	Isotopic concentration of uranium from alpha spectrum of electrodeposited source on 4H-SiC detector at 500°C. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2019, 320, 441-449.	0.7	4
70	Direct metal contacts printing on 4H-SiC for alpha detectors and inhomogeneous Schottky barriers. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2021, 989, 164961.	0.7	4
71	Perovskite detectors for x-ray imaging and gamma spectroscopy: overview and current state-of-the-art. , 2021, , .		4
72	Large area vertical Ga ₂ O ₃ Schottky diodes for X-ray detection. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2021, 1013, 165664.	0.7	4

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73	Design, Construction, Installation, Mapping and Shimming for a 416 ton Compact Cyclotron Magnet. IEEE Transactions on Applied Superconductivity, 2016, , 1-1.	1.1	3
74	Determination of the thickness of an electrodeposited thorium film with SiC alpha detectors. Journal of Radioanalytical and Nuclear Chemistry, 2017, 311, 1127-1133.	0.7	3
75	4H-SiC alpha spectrometry for nuclear forensics with electrodeposited sources. Journal of Radioanalytical and Nuclear Chemistry, 2018, 318, 667-672.	0.7	3
76	Direct printing of metal contacts on 4H-SiC for radiation detection. AIP Advances, 2019, 9, .	0.6	3
77	Origin of the X-Ray-Induced Damage in Perovskite Solar Cells. IEEE Transactions on Nuclear Science, 2022, 69, 1850-1856.	1.2	3
78	The effects of radiation-induced demagnetization on the performance of the brushless DC motor in robot servo systems. , 2014, , .		2
79	Inorganic Perovskite CsPbBr ₃ Gamma-Ray Detector. , 2022, , 33-54.		2
80	Gamma-ray spectra analyses of molten salts in spent nuclear fuels pyroprocessing facilities for mass measurement. Journal of Radioanalytical and Nuclear Chemistry, 2022, 331, 3085-3091.	0.7	2
81	Study of GaN radiation sensor after in-core neutron irradiation. , 2013, , .		1
82	A methodology for solving the one-dimensional mono-energetic transport equation in homogeneous semi-infinite medium. Journal of Non-Equilibrium Thermodynamics, 2014, .	2.4	1
83	Study on radiation induced performance degradation of BLDC motor in robot servo systems. International Journal of Mechatronics and Automation, 2015, 5, 154.	0.1	1
84	Isotope production by the high current proton beam of CYCIAE-100. Nuclear Instruments & Methods in Physics Research B, 2020, 463, 119-122.	0.6	1
85	Characterization of Polyvinyl Toluene (PVT) scintillators for fast neutron imaging. , 2018, , .		1
86	A neutron flux monitor for a reactor neutron beam facility. , 2012, , .		0
87	Fabrication and characterization of an irradiation facility for large-sample geometry. Journal of Radioanalytical and Nuclear Chemistry, 2013, 296, 83-88.	0.7	0
88	Testing of harmonic drive degrading under radiation environment. International Journal of Mechatronics and Automation, 2015, 5, 69.	0.1	0
89	Analysis of radiation effects on DC motorized manipulator. , 2016, , .		0
90	Magnetic Field Measurement, Shimming and Processing for 230 MeV Superconducting Cyclotron Main Magnet. IEEE Transactions on Applied Superconductivity, 2020, 30, 1-5.	1.1	0

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91	Acquiring and Modeling of Si Solar-Cell Transient Response to Pulsed X-Ray. IEEE Transactions on Nuclear Science, 2021, 68, 1152-1160.	1.2	0
92	Acquisition and Evaluation of Gamma-ray Energy Spectrum with CsPbBr ₃ . , 0, , .		0