Zheng-Tian Lu

List of Publications by Year
in descending order

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97 papers	3,164 citations	201674 27 h-index	155660 55 g-index
99 all docs	99 docs citations	99 times ranked	2458 citing authors

#	Article	IF	Citations
1	Fast atom-trap analysis of 39Ar with isotope pre-enrichment. Review of Scientific Instruments, 2022, 93, 023203.	1.3	1
2	Planar-Integrated Magneto-Optical Trap. Physical Review Applied, 2022, 17, .	3.8	20
3	Generation of metastable krypton using a 124-nm laser. Physical Review A, 2022, 105, .	2.5	2
4	Cosmogenic nuclide techniques. Nature Reviews Methods Primers, 2022, 2, .	21.2	25
5	81Kr reveals one-million-year-old groundwater at the Atlantic coast of Argentina as a record of Mid-Pleistocene climate. Journal of Hydrology, 2022, 610, 127846.	5.4	2
6	Chronostratigraphy of the Larsen blue-ice area in northern Victoria Land, East Antarctica, and its implications for paleoclimate. Cryosphere, 2022, 16, 2301-2324.	3.9	1
7	Search for Monopole-Dipole Interactions at the Submillimeter Range with a <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>Xe</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>129</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow><mml:mtext>â^'</mml:mtext><mml:mrow /><mml:none /><mml:mrow><mml:mn>131</mml:mn></mml:mrow></mml:mmultiscri. Physical Review	7.8	8
8	Optically enhanced discharge excitation and trapping of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Ar</mml:mi><mml:mprescripts /><mml:none /><mml:mn>39</mml:mn></mml:mmultiscripts></mml:math>. Physical Review A, 2022, 105, .	2.5	1
9	Large-scale paleo water-table rise in a deep desert aquifer recorded by dissolved noble gases. Journal of Hydrology, 2022, 612, 128114.	5.4	2
10	Controls on the 36Cl/Cl input ratio of paleo-groundwater in arid environments: New evidence from 81Kr/Kr data. Science of the Total Environment, 2021, 762, 144106.	8.0	8
11	Underground production of 81Kr detected in subsurface fluids. Geochimica Et Cosmochimica Acta, 2021, 295, 65-79.	3.9	15
12	An atom trap system for 39Ar dating with improved precision. Review of Scientific Instruments, 2021, 92, 063204.	1.3	10
13	Monitoring atmospheric 85Kr by atom counting. Journal of Environmental Radioactivity, 2021, 233, 106604.	1.7	3
14	Optical Excitation and Trapping of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>Kr</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>81</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math>. Physical Review Letters, 2021, 127, 023201.	7.8	8
15	Stellar <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>s</mml:mi></mml:math> -process neutron capture cross sections on <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Kr</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>78</mml:mn><mml:mo>,</mml:mo><mml:mn>80</mml:mn><mml:mo>,</mml:mo><mml:mn>84</mml:mn>	2.9	6
16	Inflection Points on Groundwater Age and Geochemical Profiles Along Wellbores Light up Hierarchically Nested Flow Systems. Geophysical Research Letters, 2021, 48, e2020GL092337.	4.0	10
17	An extension of the TALDICE ice core age scale reaching back to MIS 10.1. Quaternary Science Reviews, 2021, 266, 107078.	3.0	10
18	Reconstruction of the atmospheric 39Ar/Ar history. Chemical Geology, 2021, 583, 120480.	3.3	6

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19	Search for topological defect dark matter with a global network of optical magnetometers. Nature Physics, 2021, 17, 1396-1401.	16.7	42
20	High-resolution spectroscopy of neutral Yb atoms in a solid Ne matrix. Physical Review A, 2021, 104, .	2.5	7
21	Latest development of radiokrypton dating â€“ A tool to find and study paleogroundwater. Quaternary International, 2020, 547, 166-171.	1.5	24
22	Electric quadrupole shifts of the precession frequencies of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Xe</mml:mi><mml:mprescripts /><mml:none /><mml:mn>131</mml:mn></mml:mmultiscripts></mml:math> atoms in rectangular cells. Physical Review A, 2020, 102, .	2.5	11
23	An electromagnetic separation system for the enrichment of 39Ar. Review of Scientific Instruments, 2020, 91, 033309.	1.3	2
24	Atmospheric ⁸¹Kr as an Integrator of Cosmicâ€Ray Flux on the Hundredâ€Thousandâ€Year Time Scale. Geophysical Research Letters, 2020, 47, e2019GL086381.	4.0	15
25	Identifying recharge processes into a vast â€œfossilâ€•aquifer based on dynamic groundwater 81Kr age evolution. Journal of Hydrology, 2020, 587, 124946.	5.4	11
26	Krypton-81 dating of the deep Continental Intercalaire aquifer with implications for chlorine-36 dating. Earth and Planetary Science Letters, 2020, 535, 116120.	4.4	18
27	Enhancement of the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Kr</mml:mi><mml:mprescripts /><mml:none /><mml:mn>81</mml:mn></mml:mmultiscripts></mml:math> and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Kr</mml:mi><mml:mprescripts /><mml:none /><mml:mn>85</mml:mn></mml:mmultiscripts></mml:math> count rates by optical pumping. Physical Review A, 2020, 101, .	2.5	7
28	Magic wavelengths of the Yb (6s2 S01â€“6s6p P13) intercombination transition. Physical Review A, 2020, 102, .	2.5	4
29	New determination of the gravitational constant G. National Science Review, 2020, 7, 1796-1797.	9.5	0
30	Radiokrypton unveils dual moisture sources of a deep desert aquifer. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 16222-16227.	7.1	31
31	Dual Separation of Krypton and Argon from Environmental Samples for Radioisotope Dating. Analytical Chemistry, 2019, 91, 13576-13581.	6.5	12
32	81Kr dating â€“ A tool for finding and studying paleogroundwater. E3S Web of Conferences, 2019, 98, 11002.	0.5	0
33	⁸¹Kr Dating at the Guliya Ice Cap, Tibetan Plateau. Geophysical Research Letters, 2019, 46, 6636-6643.	4.0	23
34	A Critical Review of State-of-the-Art and Emerging Approaches to Identify Fracking-Derived Gases and Associated Contaminants in Aquifers. Environmental Science & Technology, 2019, 53, 1063-1077.	10.0	56
35	Recent seawater intrusion into deep aquifer determined by the radioactive noble-gas isotopes 81Kr and 39Ar. Earth and Planetary Science Letters, 2019, 507, 21-29.	4.4	33
36	Field Degassing as a New Sampling Method for¹⁴C Analyses in Old Groundwater. Radiocarbon, 2018, 60, 349-366.	1.8	15

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37	Using 81Kr and noble gases to characterize and date groundwater and brines in the Baltic Artesian Basin on the one-million-year timescale. Geochimica Et Cosmochimica Acta, 2017, 205, 187-210.	3.9	59
38	Radiokrypton Dating with Atom Trap Trace Analysis. Procedia Earth and Planetary Science, 2017, 17, 41-44.	0.6	2
39	Improved limit on the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Ra</mml:mi><mml:mprescripts /><mml:none /><mml:mn>225</mml:mn></mml:mmultiscripts></mml:math>electric dipole moment. Physical Review C, 2016, 94, .	2.9	78
40	Radiokrypton dating coming of age. National Science Review, 2016, 3, 172-173.	9.5	5
41	First Measurement of the Atomic Electric Dipole Moment of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>Ra</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>225</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math>. Physical Review Letters, 2015, 114, 233002.	7.8	118
42	Continental degassing of 4He by surficial discharge of deep groundwater. Nature Geoscience, 2015, 8, 35-39.	12.9	56
43	Search For a Permanent Electric Dipole Moment (EDM) of ²²⁵Ra Atom. , 2015, , .		0
44	Note: Efficient generation of optical sidebands at GHz with a high-power tapered amplifier. Review of Scientific Instruments, 2014, 85, 046104.	1.3	1
45	Ion current as a precise measure of the loading rate of a magneto-optical trap. Optics Letters, 2014, 39, 409.	3.3	5
46	Measurement of the Hyperfine Quenching Rate of the Clock Transition in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>Yb</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>171</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math>. Physical Review Letters, 2014, 113, 033003.	7.8	8
47	Radiometric ⁸¹ Kr dating identifies 120,000-year-old ice at Taylor Glacier, Antarctica. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 6876-6881.	7.1	57
48	Krypton-81 in groundwater of the Culebra Dolomite near the Waste Isolation Pilot Plant, New Mexico. Journal of Contaminant Hydrology, 2014, 160, 12-20.	3.3	24
49	Tracer applications of noble gas radionuclides in the geosciences. Earth-Science Reviews, 2014, 138, 196-214.	9.1	119
50	Colloquium: Laser probing of neutron-rich nuclei in light atoms. Reviews of Modern Physics, 2013, 85, 1383-1400.	45.6	86
51	Noble gas radionuclides in Yellowstone geothermal gas emissions: A reconnaissance. Chemical Geology, 2013, 339, 43-51.	3.3	20
52	What trapped atoms reveal about global groundwater. Physics Today, 2013, 66, 74-75.	0.3	3
53	Analysis of 85Kr: a comparison at the 10-14 level using micro-liter samples. Scientific Reports, 2013, 3, 1596.	3.3	23
54	Efficient, tightly-confined trapping of226Ra. Physical Review C, 2012, 86, .	2.9	17

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55	An atom counter for measuring 81Kr and 85Kr in environmental samples. Geochimica Et Cosmochimica Acta, 2012, 91, 1-6.	3.9	89
56	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi>Ar</mml:mi><mml:mprescripts /><mml:none /><mml:mn>39</mml:mn></mml:mmultiscripts></mml:math>Detection at the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mn>10</mml:mn><mml:mrow><mml:mo>â^'</mml:mo><mml:mn>16</mml:mn></mml:mrow></m xmlns:mml="http://www.w3.org/1998/Math/MathML"	7.8	50
57	Physical Review Letters, 2011, 106, 103001.	2.5	9
58	Optical Excitation and Decay Dynamics of Ytterbium Atoms Embedded in a Solid Neon Matrix. Physical Review Letters, 2011, 107, 093001.	7.8	16
59	Progress toward an EDM measurement in 225Ra. Nuclear Physics A, 2010, 844, 53c-56c.	1.5	19
60	Atom Trap Trace Analysis of Rare Noble Gas Isotopes. Advances in Atomic, Molecular and Optical Physics, 2010, , 173-205.	2.3	5
61	SEARCH FOR THE ELECTRIC DIPOLE MOMENT OF RADIUM-225. , 2010, , .		0
62	The role of carrier gases in the production of metastable argon atoms in a rf discharge. Review of Scientific Instruments, 2009, 80, 036105.	1.3	5
63	Lifetime of the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>7</mml:mn><mml:mi>s</mml:mi><mml:mn>6</mml:mn><mml:mi>d</mml:mi></mml:mrow> xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mmultiscripts><mml:mi>D</mml:mi><mml:mprescripts /><mml:none	2.5	13
64	/><mml:mn>1</mml:mn></mml:mmultiscripts></mml:mrow><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>atomic Simple Atom, Extreme Nucleus-Laser Trapping and Probing of 6He and 8He. Nuclear Physics News, 2009, 19, 28-32.	0.4	0
65	Precision spectroscopy of the helium atom. Frontiers of Physics in China, 2009, 4, 165-169.	1.0	4
66	Atom Trap, Krypton-81, and Saharan Water. Nuclear Physics News, 2008, 18, 24-27.	0.4	0
67	Hyperfine Suppression of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mn>2</mml:mn><mml:mtext>a€‰</mml:mtext><mml:mmultiscripts><mml:mi>S</mml:mi><mml:mn>1</mml:mn> /><mml:mprescripts /><mml:none /><mml:mn>3</mml:mn></mml:mmultiscripts><mml:mo>â^'</mml:mo><mml:mn>3</mml:mn><mml:mtext>â€‰7</mml:mtext><mml:mtext><mml:mn /><mml:mprescripts /><mml:none	7.8	2
68	/><mml:mn>3</mml:mn></mml:mmultiscripts></mml:mrow></mml:math> Transitions in<mml:math xmlns: Physical Rev Halo Nuclei in Laser Light. Lecture Notes in Physics, 2008, , 131-153.	0.7	0
69	Thermal beam of metastable krypton atoms produced by optical excitation. Review of Scientific Instruments, 2007, 78, 023103.	1.3	19
70	Laser Trapping ofRa225andRa226with Repumping by Room-Temperature Blackbody Radiation. Physical Review Letters, 2007, 98, 093001.	7.8	79
71	Nuclear Charge Radius of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi>He</mml:mi><mml:mprescripts /><mml:none /><mml:mn>8</mml:mn></mml:mmultiscripts></mml:math>. Physical Review Letters, 2007, 99, 252501.	7.8	209
72	Beam of metastable krypton atoms extracted from a microwave-driven discharge. Review of Scientific Instruments, 2006, 77, 126105.	1.3	10

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73	Measurement of the lifetimes of the lowestP13state of neutral Ba and Ra. Physical Review A, 2006, 73, .	2.5	35
74	Searches for stable strangelets in ordinary matter: overview and a recent example. Nuclear Physics A, 2005, 754, 361-368.	1.5	9
75	Fine Structure of the1s3pâ€‰â€Šâ€ŠPJ3Level in AtomicHe4: Theory and Experiment. Physical Review Letters, 2005, 94, 133001.	7.8	17
76	Cosmogenic, radiogenic, and stable isotopic constraints on groundwater residence time in the Nubian Aquifer, Western Desert of Egypt. Geochemistry, Geophysics, Geosystems, 2005, 6, n/a-n/a.	2.5	58
77	Laser Spectroscopic Determination of theH6eNuclear Charge Radius. Physical Review Letters, 2004, 93, 142501.	7.8	198
78	Counting IndividualCa41Atoms with a Magneto-Optical Trap. Physical Review Letters, 2004, 92, 153002.	7.8	28
79	Search for Anomalously Heavy Isotopes of Helium in the Earthâ€™s Atmosphere. Physical Review Letters, 2004, 92, 022501.	7.8	25
80	An atom trap system for practical 81Kr dating. Review of Scientific Instruments, 2004, 75, 3224-3232.	1.3	21
81	One million year old groundwater in the Sahara revealed by krypton-81 and chlorine-36. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	208
82	TRACING NOBLE GAS RADIONUCLIDES IN THE ENVIRONMENT. Annual Review of Nuclear and Particle Science, 2004, 54, 39-67.	10.2	78
83	Towards measuring the charge radius of 6He and 8He. Nuclear Instruments & Methods in Physics Research B, 2003, 204, 536-539.	1.4	7
84	Towards ultrahigh sensitivity analysis of 41Ca. Nuclear Instruments & Methods in Physics Research B, 2003, 204, 701-704.	1.4	6
85	Laser spectroscopic measurement of helium isotope ratios. Geophysical Research Letters, 2003, 30, .	4.0	8
86	A new method of measuring 81 Kr and 85 Kr abundances in environmental samples. Geophysical Research Letters, 2003, 30, .	4.0	48
87	Laser-based methods for ultrasensitive trace-isotope analyses. Review of Scientific Instruments, 2003, 74, 1169-1179.	1.3	65
88	From helium-6 to krypton-81. AIP Conference Proceedings, 2001, , .	0.4	0
89	Atom trap trace analysis. AIP Conference Proceedings, 2001, , .	0.4	0
90	Beam of metastable krypton atoms extracted from a rf-driven discharge. Review of Scientific Instruments, 2001, 72, 271-272.	1.3	35

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91	ATTA â€“ A new method of ultrasensitive isotope trace analysis. Nuclear Instruments & Methods in Physics Research B, 2000, 172, 224-227.	1.4	20
92	Ultrasensitive Isotope Trace Analyses with a Magneto-Optical Trap. Science, 1999, 286, 1139-1141.	12.6	167
93	Frequency-stabilized diode laser with the Zeeman shift in an atomic vapor. Applied Optics, 1998, 37, 3295.	2.1	294
94	Performance of the laser driven polarized hydrogen source at IUCF. , 1998, , .		0
95	Efficient Collection of221Fr into a Vapor Cell Magneto-optical Trap. Physical Review Letters, 1997, 79, 994-997.	7.8	84
96	Comparison of the cold-collision losses for laser-trapped sodium in different ground-state hyperfine sublevels. Physical Review A, 1994, 50, R4449-R4452.	2.5	25
97	Laser trapping of short-lived radioactive isotopes. Physical Review Letters, 1994, 72, 3791-3794.	7.8	64