Xirui Lu

List of Publications by Year
in descending order

94 papers	1,587 citations	236833 25 h-index	377752 34 g-index
96 all docs	96 docs citations	96 times ranked	677 citing authors

#	Article	IF	Citations
1	Enhanced marine applicability of adsorbent for uranium via synergy of hyperbranched poly(amido) Tj ETQq1 1 0.784314 rgBT /Overlock	6.6	86
2	Porous NiFe-oxide nanocubes derived from prussian blue analogue as efficient adsorbents for the removal of toxic metal ions and organic dyes. Journal of Hazardous Materials, 2019, 379, 120786.	6.5	53
3	Rapid immobilization of simulated radioactive soil waste by microwave sintering. Journal of Hazardous Materials, 2017, 337, 20-26.	6.5	52
4	Phase evolution and chemical durability of co-doped Gd2Zr2O7 ceramics for nuclear waste forms. Ceramics International, 2015, 41, 6344-6349.	2.3	48
5	Bifunctional Phosphorylcholine-Modified Adsorbent with Enhanced Selectivity and Antibacterial Property for Recovering Uranium from Seawater. ACS Applied Materials & Interfaces, 2020, 12, 16959-16968.	4.0	48
6	Structure and performance evolution of the system (Gd1â^'Nd)2(Zr1â^'Ce)2O7 (0 â‰x, yâ‰ 1.0). Journal of the European Ceramic Society, 2015, 35, 3095-3102.	2.8	46
7	Phase structure and aqueous stability of TRPO waste incorporation into Gd2Zr2O7 pyrochlore. Ceramics International, 2015, 41, 11741-11747.	2.3	46
8	Rapid vitrification of uranium-contaminated soil: Effect and mechanism. Environmental Pollution, 2020, 263, 114539.	3.7	42
9	Polyguanidine-modified adsorbent to enhance marine applicability for uranium recovery from seawater. Journal of Hazardous Materials, 2021, 416, 126192.	6.5	40
10	Experimental investigation on structural evolution of granite at high temperature induced by microwave irradiation. Mineralogy and Petrology, 2019, 113, 745-754.	0.4	35
11	Phase evolution and microstructure studies on Nd3+ and Ce4+ co-doped zircon ceramics. Journal of the European Ceramic Society, 2015, 35, 2153-2161.	2.8	34
12	Phase evolution and chemical durability of Nd-doped zircon ceramics designed to immobilize trivalent actinides. Ceramics International, 2015, 41, 10044-10050.	2.3	34
13	Design and fabrication of Gd2Zr2O7-based waste forms for U3O8 immobilization in high capacity. Journal of Materials Science, 2016, 51, 5281-5289.	1.7	34
14	Rapid and efficient disposal of radioactive contaminated soil using microwave sintering method. Materials Letters, 2016, 175, 165-168.	1.3	34
15	Rapid fabrication and phase transition of Nd and Ce co-doped Gd2Zr2O7 ceramics by SPS. Journal of the European Ceramic Society, 2018, 38, 2863-2870.	2.8	33
16	Rapid solidification of Sr-contaminated soil by consecutive microwave sintering: mechanism and stability evaluation. Journal of Hazardous Materials, 2021, 407, 124761.	6.5	33
17	Nd and Ce simultaneous substitution driven structure modifications in Gd2â^'xNdxZr2â^'yCeyO7. Journal of the European Ceramic Society, 2015, 35, 1847-1853.	2.8	32
18	Spectroscopic Investigation of Enhanced Adsorption of U(VI) and Eu(III) on Magnetic Attapulgite in Binary System. Industrial & Engineering Chemistry Research, 2018, 57, 7533-7543.	1.8	32

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19	Boron assisted low temperature immobilization of iodine adsorbed by silver-coated silica gel. Journal of Nuclear Materials, 2019, 526, 151758.	1.3	32
20	Rapid synthesis of high densified single phase ceramic Gd2Zr2O7 by spark plasma sintering. Materials Letters, 2017, 196, 403-405.	1.3	31
21	B2O3â€“Bi2O3â€“ZnO based materials for low-sintering temperature immobilization of iodine adsorbed waste. Journal of Solid State Chemistry, 2020, 289, 121518.	1.4	31
22	Radiation stability of Gd2Zr2O7 and Nd2Ce2O7 ceramics as nuclear waste forms. Ceramics International, 2018, 44, 760-765.	2.3	30
23	The effect of boron on zeolite-4A immobilization of iodine waste forms with a novel preparation method. Journal of Radioanalytical and Nuclear Chemistry, 2020, 324, 579-587.	0.7	30
24	Fabrication and phase transition of Gd2Zr2O7 ceramics immobilized various simulated radionuclides. Journal of Nuclear Materials, 2015, 456, 467-470.	1.3	28
25	Chemical stability of Ce-doped zircon ceramics: Influence of pH, temperature and their coupling effects. Journal of Rare Earths, 2017, 35, 164-171.	2.5	27
26	Alpha-particle irradiation effects on uranium-bearing Gd 2 Zr 2 O 7 ceramics for nuclear waste forms. Journal of the European Ceramic Society, 2017, 37, 779-785.	2.8	25
27	High capacity immobilization of TRPO waste by Gd 2 Zr 2 O 7 pyrochlore. Materials Letters, 2014, 136, 1-3.	1.3	24
28	Rapid synthesis and chemical durability of Gd2Zr2-Ce O7 via SPS for nuclear waste forms. Ceramics International, 2018, 44, 20306-20310.	2.3	24
29	Microwave vitrification of uranium-contaminated soil for nuclear test site and chemical stability. Ceramics International, 2019, 45, 13334-13339.	2.3	23
30	Rapid immobilization of complex simulated radionuclides by as-prepared Gd2Zr2O7 ceramics without structural design. Journal of Nuclear Materials, 2019, 526, 151782.	1.3	22
31	Mechanical and leaching properties of neodymiumâ€contaminated soil glassâ€ceramics. Journal of the American Ceramic Society, 2021, 104, 2521-2529.	1.9	22
32	Rapid synthesis of single phase Gd2Zr2O7 pyrochlore waste forms by microwave sintering. Ceramics International, 2014, 40, 13191-13194.	2.3	21
33	Heavy-ion irradiation effects on Gd2Zr2O7 ceramics bearing complex nuclear waste. Journal of Alloys and Compounds, 2019, 771, 973-979.	2.8	21
34	Heavy-ion irradiation effects on uranium-contaminated soil for nuclear waste. Journal of Hazardous Materials, 2021, 405, 124273.	6.5	21
35	Preparation and heavy-ion irradiation effects of Gd₂Ce_xZr_{2âˆ’x}O₇ ceramics. RSC Advances, 2015, 5, 64247-64253.	1.7	18
36	Solubility of Nd3+ and Ce4+ in co-doped simulated radioactive contaminated soil after microwave vitrification. Ceramics International, 2020, 46, 6767-6773.	2.3	18

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37	Microstructure evolution of rapidly fabricated Gd2-Nd Zr2O7 (0.0 â‰ x â‰ 2.0) by spark plasma sintering. Ceramics International, 2018, 44, 2458-2462.	2.3	17
38	Transformation details of poly(acrylonitrile) to poly(amidoxime) during the amidoximation process. RSC Advances, 2021, 11, 1909-1915.	1.7	17
39	High capacity immobilization of U3O8 in Gd2Zr2O7 ceramics via appropriate occupation designs. Ceramics International, 2017, 43, 3015-3024.	2.3	16
40	Low-sintering-temperature borosilicate glass to immobilize silver-coated silica-gel with different iodine loadings. Journal of Hazardous Materials, 2021, 403, 123588.	6.5	16
41	Immobilization of iodine waste forms: A low-sintering temperature with Bi2O3-B2O3-ZnO glass. Annals of Nuclear Energy, 2021, 150, 107817.	0.9	16
42	Microstructure and performance studies of (Mo, Ru, Pd, Zr) tetra-doped gadolinium zirconate pyrochlore. Advances in Applied Ceramics, 2017, 116, 272-277.	0.6	15
43	Effect of alpha-particles irradiation on the phase evolution and chemical stability of Nd-doped zircon ceramics. Journal of Alloys and Compounds, 2017, 729, 483-491.	2.8	13
44	Rapid vitrification of simulated Sr2+ radioactive contaminated soil for nuclear emergencies. Journal of Radioanalytical and Nuclear Chemistry, 2019, 319, 115-121.	0.7	13
45	Role of amorphous silica gel in B2O3-Bi2O3-ZnO-SiO2 to immobilize iodine waste. Journal of Nuclear Materials, 2021, 543, 152619.	1.3	13
46	Chemical behavior of uranium contaminated soil solidified by microwave sintering. Journal of Radioanalytical and Nuclear Chemistry, 2019, 322, 2109-2117.	0.7	12
47	Microwave vitrification of simulated radioactively contaminated soil: Mechanism and performance. Journal of Solid State Chemistry, 2021, 293, 121757.	1.4	11
48	Synthesis of glass composite material with bismuthate glass powder and zeolite-4A for immobilization of iodine waste. Journal of Solid State Chemistry, 2021, 294, 121856.	1.4	11
49	Immobilisation of nuclear waste by microwave sintering with a natural magmatic rock. Philosophical Magazine Letters, 2018, 98, 155-160.	0.5	10
50	Atomic configurations of basal stacking faults and dislocation loops in GaN irradiated with Xe20+ ions at room temperature. Applied Surface Science, 2019, 486, 15-21.	3.1	10
51	Rapid synthesis of Gd 2 Zr 2 O 7 glassâ€ceramics using spark plasma sintering. Journal of the American Ceramic Society, 2020, 103, 597-603.	1.9	10
52	Helium ion irradiation effects on neodymium and cerium co-doped Gd 2 Zr 2 O 7 pyrochlore ceramic. Journal of Rare Earths, 2018, 36, 398-403.	2.5	9
53	Microwave irradiation reinforcement of weak muddy intercalation in slope. Applied Clay Science, 2019, 183, 105324.	2.6	9
54	Immobilization of uranium-contaminated soil into glass waste by microwave sintering: Experimental and theoretical study. Journal of Non-Crystalline Solids, 2021, 556, 120551.	1.5	9

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55	Characteristics of cerium doped aluminosilicate glass as simulated radioactive waste forms: Effect on structures and properties. Progress in Nuclear Energy, 2022, 150, 104299.	1.3	9
56	The immobilization on various concentrations of iodine in silver-coated silica gel via B2O3â€“Bi2O3 based material. Materials Chemistry and Physics, 2021, 259, 124040.	2.0	8
57	Solubility of Sr2+ in the Gd2Zr2O7 ceramics via appropriate occupation designs. Journal of Alloys and Compounds, 2019, 808, 151563.	2.8	7
58	Utilization of B₂O₃â€“Bi₂O₃â€“ZnO low-temperature glass-ceramics to immobilize iodine-loaded silver-coated silica-gel. Journal of Materials Chemistry C, 2021, 9, 10462-10471.	2.7	7
59	Effects of alpha irradiation on Nd2Zr2O7 matrix for nuclear waste forms. Journal of the Australian Ceramic Society, 2018, 54, 33-38.	1.1	6
60	Ab initio calculation of mechanical and thermodynamic properties of Gd2Zr2O7 pyrochlore. Materials Chemistry and Physics, 2020, 243, 122565.	2.0	6
61	Immobilization of simulated waste into pure Gd₂Zr₂O₇ pyrochlore without space occupancy design. Journal of the American Ceramic Society, 2020, 103, 4700-4712.	1.9	6
62	Low-temperature fabrication of glass-based iodine waste forms via a novel preparation method. Journal of Solid State Chemistry, 2021, 300, 122186.	1.4	6
63	Alpha-radiation effects of Gd2Zr2O7 bearing simulated multi-nuclides. Journal of the Australian Ceramic Society, 2019, 55, 831-836.	1.1	5
64	Immobilization of simulated An4+ in radioactive contaminated clay via microwave sintering. Materials Chemistry and Physics, 2020, 254, 123534.	2.0	5
65	Simulated self-irradiation effects of Gd2Ce2O7 nuclear waste form. Journal of Radioanalytical and Nuclear Chemistry, 2020, 324, 271-276.	0.7	5
66	Immobilization of silver-coated silica gel with varying iodine loading in silicate glass ceramics. Journal of Non-Crystalline Solids, 2021, 551, 120433.	1.5	5
67	Effect of improved trialkyl phosphine oxides waste content on phase composition and density of spark plasma sintered <scp> Gd ₂ Zr ₂ O ₇ </scp> ceramics. International Journal of Energy Research, 2021, 45, 8724-8734.	2.2	5
68	Novel method for efficient solidification the iodine contained waste by B2O3â€“Bi2O3 glass powder at very low temperature. Journal of Radioanalytical and Nuclear Chemistry, 2021, 329, 1467-1476.	0.7	5
69	Treatment of zeolite adsorbed material as a potential nuclear waste glassâ€ceramic matrix. Journal of the American Ceramic Society, 2022, 105, 257-267.	1.9	5
70	Application of poly(vinylphosphonic acid) modified poly(amidoxime) in uptake of uranium from seawater. RSC Advances, 2022, 12, 4054-4060.	1.7	5
71	Effective management of trialkyl phosphine oxides waste via Gd2Zr2O7 ceramic. Journal of Cleaner Production, 2022, 348, 131370.	4.6	5
72	High immobilizing capacity of natural granite as glass-ceramic matrix to simulated trivalent actinide waste. Radiation Physics and Chemistry, 2022, 195, 110067.	1.4	4

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73	Bismuth Coordinates with Iodine Atoms to Form Chemical Bonds for Existing Stabilization in Boron Glass. Inorganic Chemistry, 2022, 61, 9860-9867.	1.9	4
74	Phase and rietveld refinement of pyrochlore Gd2Zr2O7 used for immobilization of Pu (IV). Journal Wuhan University of Technology, Materials Science Edition, 2014, 29, 233-236.	0.4	3
75	The Immobilization of Triuranium Octoxide by Gadolinium Zirconate. Nuclear Technology, 2016, 193, 430-433.	0.7	3
76	Vitrification of radioactive contaminated soil by means of microwave energy. AIP Conference Proceedings, 2017, , .	0.3	3
77	Immobilization of iodine waste in B2O3â€“Bi2O3â€“ZnO based materials: maximum solid solubility. Journal of Radioanalytical and Nuclear Chemistry, 2020, 326, 1447-1456.	0.7	3
78	Xe20+ irradiation effects on soil holding simulated An4+ waste. Journal of Radioanalytical and Nuclear Chemistry, 2021, 327, 1159-1166.	0.7	3
79	Immobilization of iodine waste at low sintering temperature: Phase evolution and microstructure transformation. Annals of Nuclear Energy, 2022, 173, 109145.	0.9	3
80	Insight into the effect of Nd2O3 and CeO2 co-doped Gd2Zr2O7 ceramics without structural design: Phase evolution and chemical durability. Vacuum, 2022, 203, 111256.	1.6	3
81	Helium ionsâ€™ irradiation effects on Gd2Zr2O7 ceramics holding complex simulated radionuclides. Journal of Radioanalytical and Nuclear Chemistry, 2017, 314, 2113-2122.	0.7	2
82	Effects of heavy-ion irradiation on Gd2Zr2O7 bearing simulated TRPO waste. Ceramics International, 2018, 44, 14020-14025.	2.3	2
83	Application of silica gel to immobilise iodine waste by low-temperature sintering. Philosophical Magazine Letters, 2021, 101, 79-84.	0.5	2
84	Immobilize CeO2 as simulated nuclear waste in natural magmatic granite: maximum solid solubility. Journal of Radioanalytical and Nuclear Chemistry, 2021, 328, 795-803.	0.7	2
85	Direct immobilization of iodine-loaded silver-coated silica gel with silicate glass powders at low temperature. Journal of Radioanalytical and Nuclear Chemistry, 2021, 329, 401-410.	0.7	2
86	Effect of irradiation on the phase evolution and chemical stability of neodymium and cerium co-doped simulated radioactive contaminated soil. Journal of Environmental Chemical Engineering, 2022, 10, 106936.	3.3	2
87	Microwave vitrification of Sr-contaminated soil: microstructure, mechanical properties and chemical durability. Journal of Radioanalytical and Nuclear Chemistry, 2022, 331, 511-522.	0.7	2
88	Immobilization of simulated An4+ radioactively contaminated zeolite: Solidify mechanism and theory investigation. Journal of Solid State Chemistry, 2022, 311, 123095.	1.4	2
89	Solubilization of Pu-239 in Low-level Radioactive Contaminated Soil by the Addition of Microbial Leaching Solution of Acidithiobacillus Ferooxidans. Procedia Environmental Sciences, 2016, 31, 280-287.	1.3	1
90	Investigation of mechanical and thermodynamic properties of La 2 Zr 2 O 7 pyrochlore. International Journal of Energy Research, 0, , .	2.2	1

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91	Response of simulated An3+/An4+ radioactive soil vitrification under alpha-particle irradiation. Radiation Physics and Chemistry, 2021, 187, 109567.	1.4	1
92	Sintering Bi₂O₃â€“B₂O₃â€“ZnO ternary low temperature glass by hydration device to solidify iodine containing silver-coated silica gel. Radiochimica Acta, 2022, 110, 193-203.	0.5	1
93	Effect of soil particle size and types on the crystallization behavior for nuclear waste disposal. Journal of Radioanalytical and Nuclear Chemistry, 2020, 326, 137-145.	0.7	0
94	Investigation of the mechanism for simulated graphite waste treatment via microwave sintering technology. Journal of Hazardous Materials Letters, 2021, , 100046.	2.0	0