Brian J Riley

List of Publications by Year
in descending order

122	3,686	186265 28	155660 55
papers	citations	h-index	g-index

151	151	151	3086
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Crystalline compounds for remediation of rare-earth fission products: A review. Journal of Rare Earths, 2022, 40, 365-380.	4.8	5
2	Effects of composition and canister centerline cooling on microstructure, phase distribution, and chemical durability of dehalogenated iron phosphate waste forms. Journal of Non-Crystalline Solids, 2022, 579, 121319.	3.1	1
3	Metallic technetium sequestration in nickel core/shell microstructure during $Fe(OH)_2$ transformation with Ni doping. Journal of Hazardous Materials, 2022, 425, 127779.	12.4	3
4	Thermal conversion in air of rare-earth fluorides to rare-earth oxyfluorides and rare-earth oxides. Journal of Nuclear Materials, 2022, 561, 153538.	2.7	0
5	$Cs_3Bi_2I_9$-hydroxyapatite composite waste forms for cesium and iodine immobilization. Journal of Advanced Ceramics, 2022, 11, 712-728.	17.4	13
6	Sol-gel derived silica: A review of polymer-tailored properties for energy and environmental applications. Microporous and Mesoporous Materials, 2022, 336, 111874.	4.4	31
7	Review and experimental comparison of the durability of iodine waste forms in semi-dynamic leach testing. Chemical Engineering Journal Advances, 2022, 11, 100300.	5.2	7
8	Role of Zeolite Structural Properties toward Iodine Capture: A Head-to-head Evaluation of Framework Type and Chemical Composition. ACS Applied Materials & Interfaces, 2022, 14, 18439-18452.	8.0	27
9	Silver-Loaded Xerogel Nanostructures for Iodine Capture: A Comparison of Thiolated versus Unthiolated Sorbents. ACS Applied Nano Materials, 2022, 5, 9478-9494.	5.0	10
10	Immobilization of cesium and iodine into $Cs_3Bi_2I_9$ perovskite-silica composites and core-shell waste forms with high waste loadings and chemical durability. Journal of Hazardous Materials, 2021, 401, 123279.	12.4	24
11	Molten salt reactors and electrochemical reprocessing: synthesis and chemical durability of potential waste forms for metal and salt waste streams. International Materials Reviews, 2021, 66, 339-363.	19.3	11
12	Syntheses and Crystal Structures of Rare-Earth Oxyapatites $Ca_2RE_8(SiO_4)_6O_2$ (REâ€‰=â€‰Pr, Tb, Ho, Tm). Journal of Chemical Crystallography, 2021, 51, 293-300.	1.1	6
13	Influence of ion site occupancies on the unit cell parameters, specific volumes, and densities of $M_8(AlSiO_4)_6X_2$ sodalites where Mâ€‰=â€‰Li, Na, K, Rb, and Ag and Xâ€‰=â€‰Cl, Br, and I. Physics and Chemistry of Minerals, 2021, 48, 1.	3.8	1
14	Molecular Iodine Interactions with Fe, Ni, Cr, and Stainless Steel Alloys. Industrial & Engineering Chemistry Research, 2021, 60, 2447-2454.	3.7	5
15	Singleâ€componentâ€atâ€aâ€time variation study for glassâ€ceramic waste forms. Journal of the American Ceramic Society, 2021, 104, 3738-3749.	3.8	1
16	Effect of reduced dehalogenation on the performance of Y zeolite-based sintered waste forms. Journal of Nuclear Materials, 2021, 545, 152753.	2.7	1
17	Iodine Capture with Mechanically Robust Heat-Treated Agâ€“Alâ€“Siâ€“O Xerogel Sorbents. ACS Omega, 2021, 6, 11628-11638.	3.5	14
18	Molecular iodine interactions with metal substrates: Towards the understanding of iodine interactions in the environment following a nuclear accident. Journal of Nuclear Materials, 2021, 546, 152771.	2.7	4

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19	Perovskite-Derived Cs₂SnCl₆â€“Silica Composites as Advanced Waste Forms for Chloride Salt Wastes. Environmental Science & Technology, 2021, 55, 7605-7614.	10.0	3
20	Polyacrylonitrile Composites of Agâ€“Alâ€“Siâ€“O Aerogels and Xerogels as Iodine and Iodide Sorbents. ACS Applied Polymer Materials, 2021, 3, 3344-3353.	4.4	11
21	Micrometer-sized magnetite synthesis using Fe(OH)2(s) as a precursor for technetium sequestration from liquid nuclear waste streams. Journal of Nuclear Materials, 2021, 552, 152964.	2.7	2
22	Adsorption of iodine on metal coupons in humid and dry environments. Journal of Nuclear Materials, 2021, 556, 153204.	2.7	3
23	Energy-Dispersive X-ray Spectroscopy and Atom-probe Tomography Data Quantifying Component-Ratios of Multicomponent Nano-Precipitates in Ion-Irradiated Ceria. Data in Brief, 2021, 39, 107460.	1.0	0
24	Review of molten salt reactor off-gas management considerations. Nuclear Engineering and Design, 2021, 385, 111529.	1.7	24
25	Dechlorination Apparatus for Treating Chloride Salt Wastes: System Evaluation and Scale-Up. ACS Omega, 2021, 6, 32239-32252.	3.5	2
26	Iodine Vapor Reactions with Pure Metal Wires at Temperatures of 100â€“139 Â°C in Air. Industrial & Engineering Chemistry Research, 2021, 60, 17162-17173.	3.7	11
27	Dehalogenation of electrochemical processing salt simulants with ammonium phosphates and immobilization of salt cations in an iron phosphate glass waste form. Journal of Nuclear Materials, 2020, 529, 151949.	2.7	16
28	Iodosodalite synthesis with hot isostatic pressing of precursors produced from aqueous and hydrothermal processes. Journal of Nuclear Materials, 2020, 538, 152222.	2.7	18
29	Solâ€“gel synthesis of iodosodalite precursors and subsequent consolidation with a glass binder made from oxides and solâ€“gel routes. Journal of Sol-Gel Science and Technology, 2020, 96, 564-575.	2.4	7
30	Zinc-in-titania waste form for immobilizing lanthanide fission products from electrochemical reprocessing. Journal of Nuclear Materials, 2020, 539, 152313.	2.7	4
31	Metalâ€“Organic Frameworkâ€“Polyacrylonitrile Composite Beads for Xenon Capture. ACS Applied Materials & Interfaces, 2020, 12, 45342-45350.	8.0	25
32	Electrochemical Salt Wasteform Development: A Review of Salt Treatment and Immobilization Options. Industrial & Engineering Chemistry Research, 2020, 59, 9760-9774.	3.7	19
33	Hybrid Sorbents for ¹²⁹I Capture from Contaminated Groundwater. ACS Applied Materials & Interfaces, 2020, 12, 26113-26126.	8.0	19
34	Gaseous Iodine Sorbents: A Comparison between Ag-Loaded Aerogel and Xerogel Scaffolds. ACS Applied Materials & Interfaces, 2020, 12, 26127-26136.	8.0	38
35	Glass waste form options for rare-earth fission products from electrochemical reprocessing. Journal of Non-Crystalline Solids, 2020, 545, 120161.	3.1	6
36	Environmental Remediation with Functional Aerogels and Xerogels. Global Challenges, 2020, 4, 2000013.	3.6	12

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37	Synthesis and characterization of sintered Hâ€“Y zeolite-derived waste forms for dehalogenated electrorefiner salt. Ceramics International, 2020, 46, 17707-17716.	4.8	9
38	Evaluation of Getter Metals in Naâ€“Alâ€“Siâ€“O Aerogels and Xerogels for the Capture of Iodine Gas. ACS Applied Materials & Interfaces, 2020, 12, 19682-19692.	8.0	34
39	Crystal structures and comparisons of huntite aluminum borates<i>RE</i>Al₃(BO₃)₄(<i>RE</i>= Tb, Dy and Ho). Acta Crystallographica Section E: Crystallographic Communications, 2020, 76, 339-343.	0.5	4
40	Dehydration synthesis and crystal structure of terbium oxychloride, TbOCl. Acta Crystallographica Section E: Crystallographic Communications, 2020, 76, 621-624.	0.5	2
41	Synthesis and crystal structure of a mixed alkaline-earth powellite, Ca_{0.84}Sr_{0.16}MoO₄. Acta Crystallographica Section E: Crystallographic Communications, 2020, 76, 121-124.	0.5	0
42	Crystal structures and comparisons of potassium rare-earth molybdates K(MoO) (= Tb, Dy, Ho, Er, Yb,) Tj ETQq0 0 0 rgBT /Overlock 10 T	0.5	0
43	Crystal structures and comparisons of potassium rare-earth molybdates K<i>RE</i>(MoO₄)₂ (<i>RE</i> = Tb, Dy, Ho, Er, Yb, and Lu). Acta Crystallographica Section E: Crystallographic Communications, 2020, 76, 1871-1875.	0.5	3
44	Method Development for High Temperature In-Situ Neutron Diffraction Measurements of Glass Crystallization on Cooling from Melt. MRS Advances, 2019, 4, 1009-1019.	0.9	0
45	Glass structure and crystallization in boro-alumino-silicate glasses containing rare earth and transition metal cations: a US-UK collaborative program. MRS Advances, 2019, 4, 1029-1043.	0.9	6
46	Crystallization study of rare earth and molybdenum containing nuclear waste glass ceramics. Journal of the American Ceramic Society, 2019, 102, 5149-5163.	3.8	11
47	Molten salt reactor waste and effluent management strategies: A review. Nuclear Engineering and Design, 2019, 345, 94-109.	1.7	56
48	Laboratory-scale quartz crucible melter tests for vitrifying a high-MoO3 raffinate waste simulant. Progress in Nuclear Energy, 2019, 110, 13-23.	2.9	2
49	Investigation of physical and chemical properties for upgraded SAP (SiO2Al2O3P2O5) waste form to immobilize radioactive waste salt. Journal of Nuclear Materials, 2019, 515, 382-391.	2.7	13
50	Synthesis of Nd3BSi2O10 using a LiCl-flux method. Journal of Nuclear Materials, 2019, 515, 370-381.	2.7	4
51	Kinetics of oxyapatite [Ca2Nd8(SiO4)6O2] and powellite [(Ca,Sr,Ba)MoO4] dissolution in glass-ceramic nuclear waste forms in acidic, neutral, and alkaline conditions. Journal of Nuclear Materials, 2019, 515, 227-237.	2.7	17
52	Viscosities and working region predictions for bismuth aluminoborosilicate glasses. International Journal of Applied Glass Science, 2019, 10, 190-201.	2.0	2
53	Synthesis and crystal structure of a neodymium borosilicate, Nd₃BSi₂O₁₀. Acta Crystallographica Section E: Crystallographic Communications, 2019, 75, 700-702.	0.5	3
54	Syntheses, crystal structures, and comparisons of rare-earth oxyapatites Ca₂ <i>RE</i> ₈(SiO₄)₆O₂ (<i>RE</i> = La, Nd, Sm, Eu, or Yb) and NaLa₉(SiO₄)₆O₂. Acta Crystallographica Section E: Crystallographic Communications, 2019, 75, 1020-1025.	0.5	16

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55	Crystal structure and chemistry of tricadmium digermanium tetraarsenide, Cd₃Ge₂As₄. Acta Crystallographica Section E: Crystallographic Communications, 2019, 75, 1291-1296.	0.5	0
56	Iodosodalite Waste Forms from Low-Temperature Aqueous Process. MRS Advances, 2018, 3, 1093-1103.	0.9	17
57	Liquidus temperature in the spinel primary phase field: A comparison between optical and crystal fraction methods. Journal of Non-Crystalline Solids, 2018, 483, 1-9.	3.1	6
58	Immobilization of LiCl-Li2O pyroprocessing salt wastes in chlorosodalite using glass-bonded hydrothermal and salt-occlusion methods. Journal of Nuclear Materials, 2018, 502, 236-246.	2.7	6
59	Waste form evaluation for RECl3 and REO fission products separated from used electrochemical salt. Progress in Nuclear Energy, 2018, 104, 102-108.	2.9	14
60	Synthesis and characterization of oxyapatite [Ca2Nd8(SiO4)6O2] and mixed-alkaline-earth powellite [(Ca,Sr,Ba)MoO4] for a glass-ceramic waste form. Journal of Nuclear Materials, 2018, 510, 623-634.	2.7	21
61	Glass-bonded iodosodalite waste form for immobilization of 129I. Journal of Nuclear Materials, 2018, 504, 109-121.	2.7	50
62	Chalcogenide Aerogels as Sorbents for Noble Gases (Xe, Kr). ACS Applied Materials & Interfaces, 2017, 9, 33389-33394.	8.0	25
63	Glass binder development for a glass-bonded sodalite ceramic waste form. Journal of Nuclear Materials, 2017, 489, 42-63.	2.7	34
64	Synthesis and characterization of iodosodalite. Journal of the American Ceramic Society, 2017, 100, 2273-2284.	3.8	33
65	Silver-Loaded Aluminosilicate Aerogels As Iodine Sorbents. ACS Applied Materials & Interfaces, 2017, 9, 32907-32919.	8.0	53
66	Assessment of lead tellurite glass for immobilizing electrochemical salt wastes from used nuclear fuel reprocessing. Journal of Nuclear Materials, 2017, 495, 405-420.	2.7	16
67	Reduction and Simultaneous Removal of ⁹⁹Tc and Cr by Fe(OH)₂(s) Mineral Transformation. Environmental Science & Technology, 2017, 51, 8635-8642.	10.0	68
68	Conversion of Nuclear Waste to Molten Glass: Coldâ€Cap Reactions in CrucibleÂTests. Journal of the American Ceramic Society, 2016, 99, 2964-2970.	3.8	36
69	Ion-Exchange Interdiffusion Model with Potential Application to Long-Term Nuclear Waste Glass Performance. Journal of Physical Chemistry C, 2016, 120, 9374-9384.	3.1	30
70	Dilute condition corrosion behavior of glass-ceramic waste form. Journal of Nuclear Materials, 2016, 482, 1-11.	2.7	25
71	Component effects on crystallization of RE-containing aluminoborosilicate glass. Journal of Nuclear Materials, 2016, 478, 261-267.	2.7	12
72	Sodalite as a vehicle to increase Re retention in waste glass simulant during vitrification. Journal of Nuclear Materials, 2016, 479, 331-337.	2.7	11

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73	Removal of TcO₄^{â€“} from Representative Nuclear Waste Streams with Layered Potassium Metal Sulfide Materials. Chemistry of Materials, 2016, 28, 3976-3983.	6.7	56
74	Materials and processes for the effective capture and immobilization of radioiodine: A review. Journal of Nuclear Materials, 2016, 470, 307-326.	2.7	437
75	Solution-derived sodalite made with Si- and Ge-ethoxide precursors for immobilizing electrorefiner salt. Journal of Nuclear Materials, 2016, 468, 140-146.	2.7	10
76	Liquidus temperature and chemical durability of selected glasses to immobilize rare earth oxides waste. Journal of Nuclear Materials, 2015, 465, 657-663.	2.7	28
77	Consolidation of Tin Sulfide Chalcogels and Xerogels with and without Adsorbed Iodine. Industrial & Engineering Chemistry Research, 2015, 54, 11259-11267.	3.7	17
78	Melter Feed Reactions at <i>TÂ</i>â‰<i>Â</i>700Â°C for Nuclear Waste Vitrification. Journal of the American Ceramic Society, 2015, 98, 3105-3111.	3.8	21
79	Incorporating technetium in minerals and other solids: A review. Journal of Nuclear Materials, 2015, 466, 526-538.	2.7	35
80	Infrared-transparent glass ceramics: An exploratory study. Journal of Non-Crystalline Solids, 2015, 410, 160-173.	3.1	14
81	Temperature Distribution within a Cold Cap during Nuclear Waste Vitrification. Environmental Science & Technology, 2015, 49, 8856-8863.	10.0	45
82	Chalcogenide Aerogels as Sorbents for Radioactive Iodine. Chemistry of Materials, 2015, 27, 2619-2626.	6.7	186
83	The Influence of Constitutional Supercooling on the Distribution of Te-Particles in Melt-Grown CZT. Journal of Electronic Materials, 2015, 44, 4604-4621.	2.2	7
84	Efficacy of a solution-based approach for making sodalite waste forms for an oxide reduction salt utilized in the reprocessing of used uranium oxide fuel. Journal of Nuclear Materials, 2015, 459, 313-322.	2.7	11
85	The effect of high-level waste glass composition on spinel liquidus temperature. Journal of Non-Crystalline Solids, 2014, 384, 32-40.	3.1	22
86	Cold crucible induction melter studies for making glass ceramic waste forms: A feasibility assessment. Journal of Nuclear Materials, 2014, 444, 481-492.	2.7	82
87	Compositional trends of Î^3-induced optical changes observed in chalcogenide glasses of binary AsS system. Journal of Non-Crystalline Solids, 2014, 386, 95-99.	3.1	11
88	Polyacrylonitrile-Chalcogel Hybrid Sorbents for Radioiodine Capture. Environmental Science & Technology, 2014, 48, 5832-5839.	10.0	90
89	Radiation stability test on multiphase glass ceramic and crystalline ceramic waste forms. Nuclear Instruments & Methods in Physics Research B, 2014, 326, 293-297.	1.4	19
90	Iodine solubility in a low-activity waste borosilicate glass at 1000Â°C. Journal of Nuclear Materials, 2014, 452, 178-188.	2.7	60

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91	Infrared-transmitting glass-ceramics: a review. Proceedings of SPIE, 2013, , .	0.8	8
92	Sublimationâ€“Condensation of Multiscale Tellurium Structures. Journal of Physical Chemistry C, 2013, 117, 10128-10134.	3.1	5
93	Solution-based approaches for making high-density sodalite waste forms to immobilize spent electrochemical salts. Journal of Nuclear Materials, 2013, 442, 350-359.	2.7	31
94	Structure of Rheniumâ€Containing Sodium Borosilicate Glass. International Journal of Applied Glass Science, 2013, 4, 42-52.	2.0	25
95	Structure and Chemistry in Halide Leadâ€“Tellurite Glasses. Journal of Physical Chemistry C, 2013, 117, 3456-3466.	3.1	21
96	Chalcogen-Based Aerogels As Sorbents for Radionuclide Remediation. Environmental Science & Technology, 2013, 47, 7540-7547.	10.0	161
97	Fourier-transform infrared spectroscopy for rapid screening and live-cell monitoring: application to nanotoxicology. Nanomedicine, 2013, 8, 145-156.	3.3	3
98	Crystallization of Rhenium Salts in a Simulated Lowâ€Activity Waste Borosilicate Glass. Journal of the American Ceramic Society, 2013, 96, 1150-1157.	3.8	20
99	Gamma Radiation Effects on Physical, Optical, and Structural Properties of Binary <scp><scp>Asâ€“S</scp></scp> Glasses. Journal of the American Ceramic Society, 2012, 95, 1048-1055.	3.8	12
100	Rhenium Solubility in Borosilicate Nuclear Waste Glass: Implications for the Processing and Immobilization of Technetium-99. Environmental Science & Technology, 2012, 46, 12616-12622.	10.0	62
101	Structural analysis of some sodium and alumina rich high-level nuclear waste glasses. Journal of Non-Crystalline Solids, 2012, 358, 674-679.	3.1	30
102	Tricadmium Digermanium Tetraarsenide: A New Crystalline Phase Made with a Doubleâ€Containment Ampoule Method. Journal of the American Ceramic Society, 2012, 95, 2161-2168.	3.8	5
103	Multiâ€Phase Glassâ€Ceramics as a Waste Form for Combined Fission Products: Alkalis, Alkaline Earths, Lanthanides, and Transition Metals. Journal of the American Ceramic Society, 2012, 95, 1297-1303.	3.8	82
104	Solutionâ€Derived, Chlorideâ€Containing Minerals as a Waste Form for Alkali Chlorides. Journal of the American Ceramic Society, 2012, 95, 3115-3123.	3.8	24
105	Tellurite glass as a waste form for mixed alkaliâ€“chloride waste streams: Candidate materials selection and initial testing. Journal of Nuclear Materials, 2012, 424, 29-37.	2.7	41
106	Effect of Alumina Source on the Rate of Melting Demonstrated with Nuclear Waste Glass Batch. International Journal of Applied Glass Science, 2012, 3, 59-68.	2.0	32
107	Chalcogen-based aerogels as a multifunctional platform for remediation of radioactive iodine. RSC Advances, 2011, 1, 1704.	3.6	85
108	The Liquidus Temperature of Nuclear Waste Glasses: An International Roundâ€Robin Study. International Journal of Applied Glass Science, 2011, 2, 321-333.	2.0	9

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109	Thermal and gamma-ray induced relaxation in Asâ€"S glasses: modelling and experiment. Journal Physics D: Applied Physics, 2011, 44, 395402.	2.8	6
110	The Predictive Power of Electronic Polarizability for Tailoring the Refractivity of Highâ€Index Glasses: Optical Basicity Versus the Single Oscillator Model. Journal of the American Ceramic Society, 2010, 93, 1650-1662.	3.8	22
111	Cluster formation of silica particles in glass batches during melting. Journal of Non-Crystalline Solids, 2010, 356, 1359-1367.	3.1	66
112	Structure-optical property correlations of arsenic sulfide glasses in visible, infrared, and sub-millimeter regions. Journal of Non-Crystalline Solids, 2010, 356, 1288-1293.	3.1	23
113	Synthesis and Characterization of Bulk, Vitreous Cadmium Germanium Arsenide. Journal of the American Ceramic Society, 2009, 92, 1236-1243.	3.8	10
114	Binary Phase Diagram of the Manganese Oxideâ€"Iron Oxide System. Journal of the American Ceramic Society, 2009, 92, 2378-2384.	3.8	44
115	DC Ionization Conductivity of Amorphous Semiconductors for Radiation Detection Applications. IEEE Transactions on Nuclear Science, 2009, 56, 863-868.	2.0	3
116	Electron backscatter diffraction of a Ge growth tip from a vertical gradient freeze furnace. Journal of Crystal Growth, 2008, 311, 10-14.	1.5	7
117	Differential etching of chalcogenides for infrared photonic waveguide structures. Journal of Non-Crystalline Solids, 2008, 354, 813-816.	3.1	6
118	Adsorbed Proteins Influence the Biological Activity and Molecular Targeting of Nanomaterials. Toxicological Sciences, 2007, 100, 303-315.	3.1	414
119	Single-mode low-loss chalcogenide glass waveguides for the mid-infrared. Optics Letters, 2006, 31, 1860.	3.3	130
120	Chalcogenide glasses and structures for quantum sensing. , 2004, 5359, 234.		11
121	Liquidus Temperature of Rare Earth-Alumino-Borosilicate Glasses for Treatment of Americium and Curium. Materials Research Society Symposia Proceedings, 1999, 608, 677.	0.1	11
122	Synthesis of Dysprosium Oxychloride (DyOCl). Journal of Chemical Crystallography, 0, , 1.	1.1	1