

# Gregory R Lumpkin

## List of Publications by Year in descending order

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59  
papers

1,792  
citations

257450

24  
h-index

265206

42  
g-index

60  
all docs

60  
docs citations

60  
times ranked

1271  
citing authors

#	ARTICLE	IF	CITATIONS
1	Alpha-decay damage and aqueous durability of actinide host phases in natural systems. Journal of Nuclear Materials, 2001, 289, 136-166.	2.7	212
2	Geochemical alteration of pyrochlore group minerals; pyrochlore subgroup. American Mineralogist, 1995, 80, 732-743.	1.9	167
3	Nature of the chemical bond and prediction of radiation tolerance in pyrochlore and defect fluorite compounds. Journal of Solid State Chemistry, 2007, 180, 1512-1518.	2.9	119
4	Incorporation of Uranium in Zirconolite ( $\text{CaZrTi}_2\text{O}_7$ ). Journal of the American Ceramic Society, 2002, 85, 1853-1859.	3.8	117
5	Lanthanum pyrochlores and the effect of yttrium addition in the systems $\text{La}_2\text{YxZr}_2\text{O}_7$ and $\text{La}_2\text{YxHf}_2\text{O}_7$ . Journal of Solid State Chemistry, 2009, 182, 442-450.	2.9	87
6	In situ studies of ion irradiated zirconolite, pyrochlore and perovskite. Journal of Nuclear Materials, 1997, 250, 36-52.	2.7	78
7	Determination of 25 elements in the complex oxide mineral zirconolite by analytical electron microscopy. Micron, 1994, 25, 581-587.	2.2	55
8	The pyrochlore to defect fluorite phase transition in $\text{Y}_2\text{Sn}_2\text{Zr}_2\text{O}_7$ . RSC Advances, 2013, 3, 5090.	3.6	55
9	Gradual Structural Evolution from Pyrochlore to Defect-Fluorite in $\text{Y}_2\text{Sn}_2\text{Zr}_2\text{O}_7$ : Average vs Local Structure. Journal of Physical Chemistry C, 2013, 117, 26740-26749.	3.1	54
10	Temperature dependence of ion irradiation damage in the pyrochlores $\text{La}_2\text{Zr}_2\text{O}_7$ and $\text{La}_2\text{Hf}_2\text{O}_7$ . Journal of Physics Condensed Matter, 2004, 16, 8557-8570.	1.8	53
11	Crystal chemistry and structures of uranium-doped gadolinium zirconates. Journal of Nuclear Materials, 2013, 438, 144-153.	2.7	50
12	Ion irradiation of novel yttrium/ytterbium-based pyrochlores: The effect of disorder. Acta Materialia, 2011, 59, 7530-7537.	7.9	48
13	Heavy ion irradiation studies of columbite, brannerite, and pyrochlore structure types. Journal of Nuclear Materials, 2001, 289, 177-187.	2.7	46
14	Ion Irradiation of Ternary Pyrochlore Oxides. Chemistry of Materials, 2009, 21, 2746-2754.	6.7	46
15	The incorporation of plutonium in lanthanum zirconate pyrochlore. Journal of Nuclear Materials, 2013, 443, 444-451.	2.7	44
16	Experimental and atomistic modeling study of ion irradiation damage in thin crystals of the $\text{TiO}_2$ polymorphs. Physical Review B, 2008, 77, .	3.2	43
17	Ion-beam irradiation of lanthanum compounds in the systems $\text{La}_2\text{O}_3\text{-Al}_2\text{O}_3$ and $\text{La}_2\text{O}_3\text{-TiO}_2$ . Journal of Solid State Chemistry, 2010, 183, 2416-2420.	2.9	38
18	Nuclear waste forms. Geological Society Special Publication, 2004, 236, 37-63.	1.3	37

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19	Application of analytical electron microscopy to the study of radiation damage in the complex oxide mineral zirconolite. <i>Micron</i> , 1997, 28, 57-68.	2.2	31
20	Crystal structures of orthorhombic, hexagonal, and cubic compounds of the $\text{Sm}(x)\text{Yb}(2\hat{x})\text{TiO}_5$ series. <i>Journal of Solid State Chemistry</i> , 2014, 213, 182-192.	2.9	31
21	Synthesis and characterization of $\text{Nd}_2\text{Sn}_x\text{Zr}_{2\hat{x}}\text{O}_7$ pyrochlore ceramics. <i>Ceramics International</i> , 2014, 40, 651-657.	4.8	31
22	Alpha-recoil damage in titanite ( $\text{CaTiSiO}_5$ ): Direct observation and annealing study using high resolution transmission electron microscopy. <i>Journal of Materials Research</i> , 1991, 6, 560-564.	2.6	30
23	Combined neutron and X-ray diffraction determination of disorder in doped zirconolite-2M. <i>American Mineralogist</i> , 2012, 97, 291-298.	1.9	28
24	<i>In situ</i> radiation damage studies of $\text{La}_x\text{Sr}_{1-3x}\text{TiO}_3$ perovskites. <i>Journal of Applied Physics</i> , 2008, 103, .	2.5	25
25	New insights into phase distribution, phase composition and disorder in $\text{Y}_2(\text{Zr},\text{Sn})_2\text{O}_7$ ceramics from NMR spectroscopy. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 9049-9059.	2.8	22
26	Lightning-induced shock lamellae in quartz. <i>American Mineralogist</i> , 2015, 100, 1645-1648.	1.9	21
27	Microporous gold: Comparison of textures from Nature and experiments. <i>American Mineralogist</i> , 2014, 99, 1171-1174.	1.9	20
28	Soft chemical synthesis and structural characterization of $\text{Y}_2\text{Hf}_x\text{Ti}_{2\hat{x}}\text{O}_7$ . <i>Ceramics International</i> , 2015, 41, 5309-5317.	4.8	20
29	Ion-irradiation resistance of the orthorhombic $\text{Ln}_2\text{TiO}_5$ ( $\text{Ln}=\hat{\text{A}}\text{La, Pr, Nd, Sm, Eu, Gd, Tb and Dy}$ ) series. <i>Journal of Nuclear Materials</i> , 2015, 467, 683-691.	2.7	20
30	Ion irradiation of the $\text{TiO}_2$ polymorphs and cassiterite. <i>American Mineralogist</i> , 2010, 95, 192-195.	1.9	18
31	Crystal chemistry and durability of the spinel structure type in natural systems. <i>Progress in Nuclear Energy</i> , 2001, 38, 447-454.	2.9	17
32	New pathway for the preparation of pyrochlore $\text{Nd}_2\text{Zr}_2\text{O}_7$ nanoparticles. <i>Ceramics International</i> , 2015, 41, 7618-7625.	4.8	17
33	The crystal structures and corresponding ion-irradiation response for the $\text{Tb}(x)\text{Yb}(2\hat{x})\text{TiO}_5$ series. <i>Ceramics International</i> , 2018, 44, 511-519.	4.8	15
34	The ion-irradiation tolerance of the pyrochlore to fluorite $\text{Ho}(x)\text{Yb}(2-x)\text{TiO}_5$ and $\text{Er}_2\text{TiO}_5$ compounds: A TEM comparative study using both in-situ and bulk ex-situ irradiation approaches. <i>Journal of Nuclear Materials</i> , 2018, 507, 316-326.	2.7	13
35	Natural Pyrochlores: Analogues For Actinide Host Phases in Radioactive Waste Forms. <i>Materials Research Society Symposia Proceedings</i> , 1984, 44, 647.	0.1	12
36	In-situ irradiation of $\text{Ca}_{1-x}\text{La}_{2/3x}\text{TiO}_3$ defect perovskites: The role of vacancies in recovery. <i>Materialia</i> , 2018, 3, 186-191.	2.7	11

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37	Ion beam irradiation of ABO <sub>4</sub> compounds with the fergusonite, monazite, scheelite, and zircon structures. <i>Journal of the American Ceramic Society</i> , 2020, 103, 5502-5514.	3.8	9
38	Perspectives on Pyrochlores, Defect Fluorites, and Related Compounds: Building Blocks for Chemical Diversity and Functionality. <i>Frontiers in Chemistry</i> , 2021, 9, 778140.	3.6	9
39	Microstructural Evolution of an Ion Irradiated Ni&ndash;Mo&ndash;Cr&ndash;Fe Alloy at Elevated Temperatures. <i>Materials Transactions</i> , 2014, 55, 428-433.	1.2	8
40	Synthesis and ion-irradiation tolerance of the Dy <sub>2</sub> TiO <sub>5</sub> polymorphs. <i>Acta Materialia</i> , 2021, 204, 116518.	7.9	6
41	Chemistry and radiation effects of davidite. <i>American Mineralogist</i> , 2013, 98, 275-278.	1.9	5
42	Novel complex ceramic oxides, Ln <sub>2</sub> TiO <sub>5</sub> (Ln=La, Sm, Gd, Tb, Dy, Ho, Er, and Yb), for polyphase nuclear waste forms. <i>Journal of the American Ceramic Society</i> , 2020, 103, 5536-5545.	3.8	5
43	Profiling hot isostatically pressed canister wasteform interaction for Pu-bearing zirconolite-rich wasteforms. <i>Journal of the American Ceramic Society</i> , 2022, 105, 5359-5372.	3.8	5
44	Positron Annihilation in Off-Stoichiometric and Ta-Doped Zn <sub>2</sub> TiO <sub>4</sub> . <i>Journal of the American Ceramic Society</i> , 2013, 96, 3286-3289.	3.8	3
45	Crystal chemistry and ion-irradiation resistance of Ln <sub>2</sub> ZrO <sub>5</sub> compounds with Ln=Sm, Eu, Gd, and Tb. <i>Journal of the American Ceramic Society</i> , 0, , .	3.8	2
46	The ion irradiation tolerance of the fluorite RE <sub>2</sub> MO <sub>5</sub> (RE=Sm, and Yb, M=Ti, Zr, and Sn) system. <i>Journal of the Australian Ceramic Society</i> , 2022, 58, 287-298.	1.9	2
47	Aqueous Dissolution and Surface Alteration Studies of Nd-bearing Zirconolite in 0.001M Citric Acid at 90°C. <i>Materials Research Society Symposia Proceedings</i> , 2003, 807, 771.	0.1	1
48	Ion Irradiation of Ternary Pyrochlores. <i>Materials Research Society Symposia Proceedings</i> , 2008, 1122, 3.	0.1	1
49	Radiation Damage in Materials – Effects of Disorder. <i>Materials Research Society Symposia Proceedings</i> , 2009, 1193, .	0.1	1
50	11. Titanate ceramics for high-level nuclear waste immobilization. , 2017, , 223-242.		1
51	In Situ Radiation Damage Studies of Ca <sub>3</sub> Zr <sub>2</sub> FeAlSiO <sub>12</sub> and Ca <sub>3</sub> Hf <sub>2</sub> FeAlSiO <sub>12</sub> . <i>Materials Research Society Symposia Proceedings</i> , 2008, 1124, 1.	0.1	0
52	Pyrochlore to Fluorite Transitions – Ordering in Fluorites?. <i>Materials Research Society Symposia Proceedings</i> , 2008, 1122, 1.	0.1	0
53	On the Characterisation of Order-Disorder in Ion-Irradiated Pyrochlore Compounds by Electron Scattering Methods. <i>Materials Research Society Symposia Proceedings</i> , 2008, 1122, 3.	0.1	0
54	Mechanisms of Radiation Damage and Properties of Nuclear Materials. <i>Materials Research Society Symposia Proceedings</i> , 2009, 1215, 1.	0.1	0

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55	Ion Beam Irradiation of Lanthanum Compounds in the Series La <sub>2</sub> O <sub>3</sub> -TiO <sub>2</sub> . Materials Research Society Symposia Proceedings, 2010, 1265, 1.	0.1	0
56	The Structural Characterization of a Series of Uranium-containing Gadolinium Zirconates. Materials Research Society Symposia Proceedings, 2012, 1475, 179.	0.1	0
57	An Experimental Determination of the Thermophysical Properties of [NzP]-Structure Type Ceramics. Materials Research Society Symposia Proceedings, 2012, 1475, 215.	0.1	0
58	The Role of Sn, Zr and Hf in the Radiation Damage in II, III, IV and V Pyrochlores. Materials Research Society Symposia Proceedings, 2012, 1383, 29.	0.1	0
59	Radiation Damage of II, III, IV, V Pyrochlores - CaLnZrNbO <sub>7</sub> . Materials Research Society Symposia Proceedings, 2012, 1475, 571.	0.1	0