

Karl R Whittle

List of Publications by Year in descending order

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86
papers

1,858
citations

257450

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276875

41
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90
all docs

90
docs citations

90
times ranked

1955
citing authors

#	ARTICLE	IF	CITATIONS
1	Radiation tolerance of Mn ²⁺ AX _n phases, Ti ₃ AlC ₂ and Ti ₃ SiC ₂ . Acta Materialia, 2010, 58, 4362-4368.	7.9	177
2	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
3	Solid solubilities of (La, Nd) ₂ (Zr, Ti)O ₇ phases deduced by neutron diffraction. Journal of Solid State Chemistry, 2005, 178, 800-810.	2.9	107
4	Lanthanum pyrochlores and the effect of yttrium addition in the systems La _{2-x} Y _x Zr ₂ O ₇ and La _{2-x} Y _x Hf ₂ O ₇ . Journal of Solid State Chemistry, 2009, 182, 442-450.	2.9	87
5	<i>In situ</i> Raman spectroscopy of A-site doped barium titanate. Applied Physics Letters, 2007, 91, .	3.3	72
6	Cation Disorder in Pyrochlore Ceramics: ⁸⁹ Y MAS NMR and First-Principles Calculations. Journal of Physical Chemistry C, 2009, 113, 18874-18883.	3.1	62
7	Neutron diffraction and MAS NMR of Cesium Tungstate defect pyrochlores. Journal of Solid State Chemistry, 2006, 179, 512-521.	2.9	59
8	The pyrochlore to defect fluorite phase transition in Y ₂ Sn _{2-x} Zr _x O ₇ . RSC Advances, 2013, 3, 5090.	3.6	55
9	Gradual Structural Evolution from Pyrochlore to Defect-Fluorite in Y _{2-x} Sn _{2-x} Zr _x 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 La ₂ Zr ₂ O ₇ and La ₂ Hf ₂ O ₇ . Journal of Physics Condensed Matter, 2004, 16, 8557-8570.	1.8	53
11	¹¹⁹ Sn MAS NMR and first-principles calculations for the investigation of disorder in stannate pyrochlores. Physical Chemistry Chemical Physics, 2011, 13, 488-497.	2.8	49
12	Ion irradiation of novel yttrium/ytterbium-based pyrochlores: The effect of disorder. Acta Materialia, 2011, 59, 7530-7537.	7.9	48
13	⁸⁹ Y Magic-Angle Spinning NMR of Y ₂ Ti _{2-x} Sn _x O ₇ Pyrochlores. Journal of Physical Chemistry B, 2006, 110, 10358-10364.	2.6	47
14	Ion Irradiation of Ternary Pyrochlore Oxides. Chemistry of Materials, 2009, 21, 2746-2754.	6.7	46
15	Systematic calculation of threshold displacement energies: Case study in rutile. Physical Review B, 2012, 85, .	3.2	44
16	Experimental and atomistic modeling study of ion irradiation damage in thin crystals of the TiO ₂ polymorphs. Physical Review B, 2008, 77, .	3.2	43
17	Exploiting the Chemical Shielding Anisotropy to Probe Structure and Disorder in Ceramics: ⁸⁹ Y MAS NMR and First-Principles Calculations. Journal of Physical Chemistry C, 2012, 116, 4273-4286.	3.1	41
18	Ion-beam irradiation of lanthanum compounds in the systems La ₂ O ₃ •Al ₂ O ₃ and La ₂ O ₃ •TiO ₂ . Journal of Solid State Chemistry, 2010, 183, 2416-2420.	2.9	38

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19	Structures and phase diagram for the system $\text{CaTiO}_3\text{-La}_{2/3}\text{TiO}_3$. <i>Journal of Solid State Chemistry</i> , 2007, 180, 1083-1092.	2.9	33
20	Using Machine Learning To Identify Factors That Govern Amorphization of Irradiated Pyrochlores. <i>Chemistry of Materials</i> , 2017, 29, 2574-2583.	6.7	33
21	Crystal structures of orthorhombic, hexagonal, and cubic compounds of the $\text{Sm}(x)\text{Yb}(2-x)\text{TiO}_5$ series. <i>Journal of Solid State Chemistry</i> , 2014, 213, 182-192.	2.9	31
22	Microstructures and Tensile Properties of Ultrafine-Grained $\text{Ni}_{1-3.5}\text{wt}\% \text{SiCNP}$ Composites Prepared by a Powder Metallurgy Route. <i>Acta Metallurgica Sinica (English Letters)</i> , 2015, 28, 809-816.	2.9	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	The structure and ordering of zirconium and hafnium containing garnets studied by electron channelling, neutron diffraction and Mössbauer spectroscopy. <i>Journal of Solid State Chemistry</i> , 2007, 180, 785-791.	2.9	24
25	New insights into phase distribution, phase composition and disorder in $\text{Y}_2(\text{Zr,Sn})_2\text{O}_7$ ceramics from NMR spectroscopy. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 9049-9059.	2.8	22
26	Synthesis of the ferroelectric solid solution, $\text{Pb}(\text{Zr}_{1-x}\text{Ti}_x)\text{O}_3$ on a single substrate using a modified molecular beam epitaxy technique. <i>Applied Physics Letters</i> , 2007, 90, 202907.	3.3	21
27	Disorder and Dynamics in Pollucite from ^{133}Cs and ^{27}Al NMR. <i>Journal of the American Ceramic Society</i> , 2005, 88, 1575-1583.	3.8	20
28	Hydrolytic Stability of Mesoporous Zirconium Titanate Frameworks Containing Coordinating Organic Functionalities. <i>ACS Applied Materials & Interfaces</i> , 2013, 5, 4120-4128.	8.0	20
29	Soft chemical synthesis and structural characterization of $\text{Y}_2\text{Hf}_x\text{Ti}_{2-x}\text{O}_7$. <i>Ceramics International</i> , 2015, 41, 5309-5317.	4.8	20
30	Ion-irradiation resistance of the orthorhombic Ln_2TiO_5 ($\text{Ln}=\text{La, Pr, Nd, Sm, Eu, Gd, Tb}$ and Dy) series. <i>Journal of Nuclear Materials</i> , 2015, 467, 683-691.	2.7	20
31	Ion irradiation of the TiO_2 polymorphs and cassiterite. <i>American Mineralogist</i> , 2010, 95, 192-195.	1.9	18
32	Probing Long- and Short-Range Disorder in $\text{Y}_2\text{Ti}_2\text{Hf}_x\text{O}_7$ by Diffraction and Spectroscopy Techniques. <i>Journal of Physical Chemistry C</i> , 2016, 120, 26465-26479.	3.1	18
33	Technetium and ruthenium incorporation into rutile TiO_2 . <i>Journal of Nuclear Materials</i> , 2013, 441, 380-389.	2.7	16
34	Phase Transitions in Lanthanum-Doped Strontium Bismuth Tantalate. <i>Chemistry of Materials</i> , 2008, 20, 6427-6433.	6.7	15
35	Phase Composition and Disorder in $\text{La}_2(\text{Sn,Ti})_2\text{O}_7$ Ceramics: New Insights from NMR Crystallography. <i>Journal of Physical Chemistry C</i> , 2016, 120, 20288-20296.	3.1	15
36	The influence of crystal structure on ion-irradiation tolerance in the $\text{Sm}(x)\text{Yb}(2-x)\text{TiO}_5$ series. <i>Journal of Nuclear Materials</i> , 2016, 471, 17-24.	2.7	15

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37	Phase transitions in BaTiO ₃ : a high-pressure neutron diffraction study. Zeitschrift Fur Kristallographie - Crystalline Materials, 2005, 220, .	0.8	14
38	Title is missing!. Journal of Materials Science Letters, 2001, 20, 431-434.	0.5	13
39	On a Long Term Strategy for the Success of Nuclear Power. Energies, 2017, 10, 867.	3.1	13
40	¹⁷ O solid-state NMR spectroscopy of A ₂ B ₂ O ₇ oxides: quantitative isotopic enrichment and spectral acquisition?. RSC Advances, 2018, 8, 7089-7101.	3.6	13
41	Cobalt and nickel uptake by silica-based extractants. Separation Science and Technology, 2018, 53, 1552-1562.	2.5	13
42	The ion-irradiation tolerance of the pyrochlore to fluorite Ho(x)Yb(2-x)TiO ₅ and Er ₂ TiO ₅ compounds: A TEM comparative study using both in-situ and bulk ex-situ irradiation approaches. Journal of Nuclear Materials, 2018, 507, 316-326.	2.7	13
43	Characterization of Ordering in A-Site Deficient Perovskite Ca _{1-x} La _{2x/3} TiO ₃ Using STEM/EELS. Inorganic Chemistry, 2016, 55, 9937-9948.	4.0	12
44	Ionisation efficiency improvements for AMS measurement of actinides. Nuclear Instruments & Methods in Physics Research B, 2010, 268, 820-823.	1.4	11
45	In-situ irradiation of Ca _{1-x} La _{2x/3} TiO ₃ defect perovskites: The role of vacancies in recovery. Materialia, 2018, 3, 186-191.	2.7	11
46	Density and structural effects in the radiation tolerance of TiO ₂ polymorphs. Journal of Physics Condensed Matter, 2013, 25, 355402.	1.8	10
47	Resistance to amorphisation in Ca _{1-x} La _{2x/3} TiO ₃ perovskites – a bulk ion-irradiation study. Acta Materialia, 2019, 180, 180-188.	7.9	10
48	A determination of the structure of liquid Ga ₂ Te ₃ using combined X-ray diffraction and neutron diffraction with isotopic substitution. Molecular Physics, 2001, 99, 767-772.	1.7	9
49	Synthesis of Prussian blue-embedded porous polymer for detection and removal of Cs ions. Polymer, 2018, 158, 320-326.	3.8	9
50	Ion beam irradiation of ABO ₄ compounds with the fergusonite, monazite, scheelite, and zircon structures. Journal of the American Ceramic Society, 2020, 103, 5502-5514.	3.8	9
51	Crystal Chemistry and Cation Ordering in Zirconolite 2M. Materials Research Society Symposia Proceedings, 2006, 932, 1.	0.1	8
52	Microstructural Evolution of an Ion Irradiated Ni–Mo–Cr–Fe Alloy at Elevated Temperatures. Materials Transactions, 2014, 55, 428-433.	1.2	8
53	Comparison of a new mass-concentration, chain-reaction model with the population-balance model for early- and late-stage aggregation of shattered graphene oxide nanoparticles. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2019, 582, 123862.	4.7	8
54	Iron-57 Mössbauer spectroscopy study of phases in the CaZrTi ₂ ~ ^{2x} Nb _x Fe _x O ₇ zirconolite system. Hyperfine Interactions, 2006, 166, 363-366.	0.5	7

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55	Optimization of synthesis of the solid solution, $\text{Pb}(\text{Zr}_{1-x}\text{Ti}_x)\text{O}_3$ on a single substrate using a high-throughput modified molecular-beam epitaxy technique. <i>Journal of Materials Research</i> , 2009, 24, 164-172.	2.6	7
56	Aggregation and sedimentation of shattered graphene oxide nanoparticles in dynamic environments: a solid-body rotational approach. <i>Environmental Science: Nano</i> , 2018, 5, 1859-1872.	4.3	7
57	Phase Distribution, Composition, and Disorder in $\text{Y}_2(\text{Hf,Sn})_2\text{O}_7$ Ceramics: Insights from Solid-State NMR Spectroscopy and First-Principles Calculations. <i>Journal of Physical Chemistry C</i> , 2020, 124, 17073-17084.	3.1	7
58	The effect of caesium on barium hollandites studied by neutron diffraction and magic-angle spinning (MAS) nuclear magnetic resonance. <i>Journal of Materials Science</i> , 2007, 42, 9379-9391.	3.7	6
59	Synthesis and Characterisation of Ln_2TiO_5 Compounds. <i>Materials Research Society Symposia Proceedings</i> , 2008, 1107, 1.	0.1	6
60	Neutron and Resonant X-ray Diffraction Studies of Zirconolite-2M. <i>Materials Research Society Symposia Proceedings</i> , 2008, 1107, 1.	0.1	5
61	Radiation effects in Zr and Hf containing garnets. <i>Journal of Nuclear Materials</i> , 2015, 462, 508-513.	2.7	5
62	Formation of iron-doped mullite ($\text{Al}_{4+2x}\text{Si}_{2-2x}\text{O}_{10-x}$) by temperature- and time-resolved X-ray powder diffraction and EXAFS, and by ^{27}Al MAS NMR spectroscopy. <i>Polyhedron</i> , 1999, 18, 1083-1087.	2.2	3
63	A determination of the electronic conductivity of aerodynamically levitated high temperature liquid metals and semiconductors by contactless methods. <i>Journal of Non-Crystalline Solids</i> , 2002, 312-314, 299-304.	3.1	3
64	Radiation Damage in Pyrochlore and Related Compounds. <i>Materials Research Society Symposia Proceedings</i> , 2006, 932, 1.	0.1	3
65	Impact of copper(II) on activation product removal from reactor decommissioning effluents in South Korea. <i>Journal of Industrial and Engineering Chemistry</i> , 2020, 82, 261-268.	5.8	3
66	Electron backscatter diffraction characterization of plasma immersion ion implantation effects in stainless steel. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2013, 295, 38-41.	1.4	2
67	Prismatic core high temperature reactor fuel modelling incorporating fuel rotation. <i>Nuclear Engineering and Design</i> , 2018, 331, 153-161.	1.7	2
68	The Effect of Cs On The Structural Properties Of Barium Titanate Hollandites. <i>Materials Research Society Symposia Proceedings</i> , 2004, 824, 213.	0.1	1
69	On the nanostructure of radiation-amorphized zircon and pyrochlores: a small-angle x-ray scattering study. <i>Zeitschrift Fur Kristallographie - Crystalline Materials</i> , 2005, 220, .	0.8	1
70	Ion Irradiation of Ternary Pyrochlores. <i>Materials Research Society Symposia Proceedings</i> , 2008, 1122, 3.	0.1	1
71	Radiation Damage in Materials – Effects of Disorder. <i>Materials Research Society Symposia Proceedings</i> , 2009, 1193, .	0.1	1
72	A Model for Electron Scattering in Irradiated Pyrochlore-Fluorite Systems. <i>Microscopy and Microanalysis</i> , 2009, 15, 1358-1359.	0.4	1

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73	Quasielastic neutron scattering study of silver selenium halides. Applied Physics A: Materials Science and Processing, 2002, 74, s1200-s1202.	2.3	0
74	Radiation Tolerance of A2Ti2O7 Materials - A Question of Bonding?. Materials Research Society Symposia Proceedings, 2006, 985, 1.	0.1	0
75	Synthesis of the Ferroelectric Solid Solution, Pb(Zr $^{1-x}$ Ti x)O ₃ on a Single Substrate Using a Modified Molecular Beam Epitaxy Technique. Materials Research Society Symposia Proceedings, 2007, 1034, 134.	0.1	0
76	Synthesis of the Ferroelectric Solid Solution, Pb(Zr $^{1-x}$ Ti x)O ₃ on a Single Substrate Using a Modified Molecular Beam Epitaxy (MBE) Technique. Applications of Ferroelectrics, IEEE International Symposium on, 2007, , .	0.0	0
77	In Situ Radiation Damage Studies of Ca ₃ Zr ₂ FeAlSiO ₁₂ and Ca ₃ Hf ₂ FeAlSiO ₁₂ . Materials Research Society Symposia Proceedings, 2008, 1124, 1.	0.1	0
78	Electron Energy Loss Spectroscopy Measurements of Amorphization of Polymorphs of TiO ₂ Induced by Ion Irradiation. Microscopy and Microanalysis, 2008, 14, 420-421.	0.4	0
79	Pyrochlore to Fluorite Transitions – Ordering in Fluorites?. Materials Research Society Symposia Proceedings, 2008, 1122, 1.	0.1	0
80	On the Characterisation of Order-Disorder in Ion-Irradiated Pyrochlore Compounds by Electron Scattering Methods. Materials Research Society Symposia Proceedings, 2008, 1122, 3.	0.1	0
81	Ion Beam Irradiation of Lanthanum Compounds in the Series La ₂ O ₃ -TiO ₂ . Materials Research Society Symposia Proceedings, 2010, 1265, 1.	0.1	0
82	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
83	Radiation Damage of II, III, IV, V Pyrochlores - CaLnZrNbO ₇ . Materials Research Society Symposia Proceedings, 2012, 1475, 571.	0.1	0
84	TEM Characterization of ion radiation damage in Ca(1-x)La _{2x/3} TiO ₃ Perovskites. Microscopy and Microanalysis, 2015, 21, 1335-1336.	0.4	0
85	Exploring cation disorder in mixed-metal pyrochlore ceramics using ¹⁷ O NMR spectroscopy and first-principles calculations. Magnetic Resonance in Chemistry, 2021, 59, 961-974.	1.9	0
86	Paramagnetism and ferromagnetism of TiO ₂ and ZnO as seen by XMCD: a way to study defects in oxides. Acta Crystallographica Section A: Foundations and Advances, 2008, 64, C106-C106.	0.3	0