

Martin C Wilding

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

82
papers

2,648
citations

29
h-index

50
g-index

89
ext. papers

2,877
ext. citations

5.9
avg, IF

4.72
L-index

#	Paper	IF	Citations
82	Pressure-induced amorphization and an amorphous-amorphous transition in densified porous silicon. <i>Nature</i> , 2001 , 414, 528-30	50.4	324
81	Detection of first-order liquid/liquid phase transitions in yttrium oxide-aluminum oxide melts. <i>Science</i> , 2008 , 322, 566-70	33.3	155
80	Structural studies and polymorphism in amorphous solids and liquids at high pressure. <i>Chemical Society Reviews</i> , 2006 , 35, 964-86	58.5	110
79	Polyamorphism and liquid-liquid phase transitions: challenges for experiment and theory. <i>Journal of Physics Condensed Matter</i> , 2007 , 19, 415101	1.8	105
78	Pressure-induced amorphization and polyamorphism: Inorganic and biochemical systems. <i>Progress in Materials Science</i> , 2014 , 61, 216-282	42.2	95
77	Cation clustering and formation of free oxide ions in sodium and potassium lanthanum silicate glasses: nuclear magnetic resonance and Raman spectroscopic findings. <i>Journal of Non-Crystalline Solids</i> , 1999 , 243, 146-157	3.9	90
76	High-pressure transformation of SiO ₂ glass from a tetrahedral to an octahedral network: a joint approach using neutron diffraction and molecular dynamics. <i>Physical Review Letters</i> , 2014 , 113, 135501	7.4	85
75	Relationship between topological order and glass forming ability in densely packed enstatite and forsterite composition glasses. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 14780-5	11.5	81
74	High-pressure x-ray scattering and computer simulation studies of density-induced polyamorphism in silicon. <i>Physical Review B</i> , 2007 , 75,	3.3	79
73	Evidence of different structures in magnesium silicate liquids: coordination changes in forsterite- to enstatite-composition glasses. <i>Chemical Geology</i> , 2004 , 213, 281-291	4.2	71
72	Joint diffraction and modeling approach to the structure of liquid alumina. <i>Physical Review B</i> , 2013 , 87,	3.3	70
71	Evaluation of a relaxation geospeedometer for volcanic glasses. <i>Chemical Geology</i> , 1995 , 125, 137-148	4.2	68
70	Coordination changes in magnesium silicate glasses. <i>Europhysics Letters</i> , 2004 , 67, 212-218	1.6	60
69	A neutron diffraction study of yttrium- and lanthanum-aluminate glasses. <i>Journal of Non-Crystalline Solids</i> , 2002 , 297, 143-155	3.9	53
68	Polyamorphic transitions in yttria-alumina liquids. <i>Journal of Non-Crystalline Solids</i> , 2001 , 293-295, 357-365	5.9	53
67	Enthalpies of formation of lanthanide oxyapatite phases. <i>Journal of Materials Research</i> , 2001 , 16, 2780-2783	3.3	47
66	Temperature-dependent structural heterogeneity in calcium silicate liquids. <i>Physical Review B</i> , 2010 , 82,	3.3	43

65	Density-driven structural transformations in B ₂ O ₃ glass. <i>Physical Review B</i> , 2014 , 90,	3.3	42
64	The C1XS X-ray Spectrometer on Chandrayaan-1. <i>Planetary and Space Science</i> , 2009 , 57, 717-724	2	41
63	Cooling rates of hyaloclastites: applications of relaxation geospeedometry to undersea volcanic deposits. <i>Bulletin of Volcanology</i> , 2000 , 61, 527-536	2.4	40
62	High temperature calorimetric studies of the heat of solution of La ₂ O ₃ in silicate liquids. <i>Journal of Non-Crystalline Solids</i> , 2000 , 265, 238-251	3.9	40
61	Rhyolite magma degassing: an experimental study of melt vesiculation. <i>Bulletin of Volcanology</i> , 1996 , 57, 587-601	2.4	40
60	Density-driven structural transformations in network forming glasses: a high-pressure neutron diffraction study of GeO ₂ glass up to 17.5 GPa. <i>Journal of Physics Condensed Matter</i> , 2012 , 24, 415102	1.8	39
59	Thermodynamic and structural aspects of the polyamorphic transition in yttrium and other rare-earth aluminate liquids. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2002 , 314, 379-390	3.3	39
58	In situ diffraction studies of magnesium silicate liquids. <i>Journal of Materials Science</i> , 2008 , 43, 4707-4713	4.3	35
57	High pressure effects on liquid viscosity and glass transition behaviour, polyamorphic phase transitions and structural properties of glasses and liquids. <i>Journal of Non-Crystalline Solids</i> , 2009 , 355, 722-732	3.9	34
56	Iron K-edge X-ray absorption near-edge structure spectroscopy of aerodynamically levitated silicate melts and glasses. <i>Chemical Geology</i> , 2017 , 453, 169-185	4.2	31
55	Cooling rate variation in natural volcanic glasses from Tenerife, Canary Islands. <i>Contributions To Mineralogy and Petrology</i> , 1996 , 125, 151-160	3.5	31
54	Tektite cooling rates: Calorimetric relaxation geospeedometry applied to a natural glass. <i>Geochimica Et Cosmochimica Acta</i> , 1996 , 60, 1099-1103	5.5	29
53	Polyamorphism in aluminate liquids. <i>Journal of Physics Condensed Matter</i> , 2003 , 15, 6105-6121	1.8	28
52	Ti ⁴⁺ in silicate melts: Energetics from high-temperature calorimetric studies and implications for melt structure. <i>Geochimica Et Cosmochimica Acta</i> , 1996 , 60, 4123-4131	5.5	27
51	Volatile characteristics of peralkaline rhyolites from Kenya: an ion microprobe, infrared spectroscopic and hydrogen isotope study. <i>Contributions To Mineralogy and Petrology</i> , 1993 , 114, 264-275	3.5	27
50	Changes in the local environment surrounding magnesium ions in fragile MgO-SiO ₂ liquids. <i>Europhysics Letters</i> , 2010 , 89, 26005	1.6	25
49	High-energy X-ray diffraction from aluminosilicate liquids. <i>Journal of Physical Chemistry B</i> , 2010 , 114, 5742-6	3.4	24
48	The scientific rationale for the C1XS X-ray spectrometer on India's Chandrayaan-1 mission to the moon. <i>Planetary and Space Science</i> , 2009 , 57, 725-734	2	24

47	The local environment of trivalent lanthanide ions in sodium silicate glasses: A neutron diffraction study using isotopic substitution. <i>Journal of Non-Crystalline Solids</i> , 2007 , 353, 4792-4800	3.9	24
46	X-ray and neutron diffraction studies and MD simulation of atomic configurations in polyamorphic Y ₂ O ₃ -Al ₂ O ₃ systems. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2005 , 363, 589-607	3	23
45	Direct Measurement of Relative Partial Molar Enthalpy of SiO ₂ in SiO ₂ -M ₂ O (M=Li, Na, K, Cs) Binary and SiO ₂ -CaO-Al ₂ O ₃ Ternary Melts. <i>Journal of the American Ceramic Society</i> , 2004 , 87, 1550-1555	3.8	23
44	A time resolved high energy X-ray diffraction study of cooling liquid SiO ₂ . <i>Physical Chemistry Chemical Physics</i> , 2013 , 15, 8566-72	3.6	22
43	Local structural variation with oxygen fugacity in Fe ₂ SiO ₄ + fayalitic iron silicate melts. <i>Geochimica Et Cosmochimica Acta</i> , 2017 , 203, 15-36	5.5	21
42	High pressure x-ray diffraction measurements on Mg ₂ SiO ₄ glass. <i>Journal of Non-Crystalline Solids</i> , 2011 , 357, 2632-2636	3.9	20
41	Composition and polyamorphism in supercooled yttria-alumina melts. <i>Journal of Non-Crystalline Solids</i> , 2011 , 357, 435-441	3.9	19
40	Diffraction study of calcium aluminate glasses and melts: II. High energy x-ray diffraction on melts. <i>Journal of Physics Condensed Matter</i> , 2008 , 20, 245107	1.8	19
39	Formation of an ion-free crystalline carbon nitride and its reversible intercalation with ionic species and molecular water. <i>Chemical Science</i> , 2019 , 10, 2519-2528	9.4	18
38	Structural changes in supercooled Al ₂ O ₃ -Y ₂ O ₃ liquids. <i>Physical Chemistry Chemical Physics</i> , 2013 , 15, 8589-605	3.6	18
37	Feasibility of in situ neutron diffraction studies of non-crystalline silicates up to pressures of 25 GPa. <i>Journal of Physics Condensed Matter</i> , 2008 , 20, 244122	1.8	18
36	Structure of Glasses and Melts. <i>Reviews in Mineralogy and Geochemistry</i> , 2006 , 63, 275-311	7.1	17
35	Structural studies of Bi ₂ O ₃ -Nb ₂ O ₅ -TeO ₂ glasses. <i>Journal of Non-Crystalline Solids</i> , 2016 , 451, 68-76	3.9	15
34	Liquid-liquid transitions, crystallization and long range fluctuations in supercooled yttrium oxide-aluminium oxide melts. <i>Journal of Non-Crystalline Solids</i> , 2009 , 355, 715-721	3.9	15
33	Direct density determination of low- and high-density glassy polyamorphs following a liquid-liquid phase transition in Y ₂ O ₃ -Al ₂ O ₃ supercooled liquids. <i>Journal of Non-Crystalline Solids</i> , 2008 , 354, 1015-1025	3.9	15
32	Diffraction study of calcium aluminate glasses and melts: I. High energy x-ray and neutron diffraction on glasses around the eutectic composition. <i>Journal of Physics Condensed Matter</i> , 2008 , 20, 245106	1.8	15
31	Applications of neutron computed tomography in the geosciences. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2005 , 542, 290-295	1.2	15
30	Low-Dimensional Network Formation in Molten Sodium Carbonate. <i>Scientific Reports</i> , 2016 , 6, 24415	4.9	13

29	The Dissolution of Silica and Alumina in Silicate Melts: in situ High Temperature Calorimetric Studies. <i>Neues Jahrbuch Fur Mineralogie, Abhandlungen</i> , 1998 , 172, 177-201	1	10
28	Polyamorphism and Liquid-Liquid Phase Transitions in Amorphous Silicon and Supercooled Al ₂ O ₃ -SiO ₂ Liquids. <i>Advances in Chemical Physics</i> , 2013 , 309-353		9
27	Low frequency vibrational dynamics and polyamorphism in Y ₂ O ₃ -Al ₂ O ₃ glasses. <i>Physical Chemistry Chemical Physics</i> , 2014 , 16, 22083-96	3.6	8
26	The structure of liquid alkali nitrates and nitrites. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 21625-21638	3.6	8
25	Comment on "liquid-liquid phase transition in supercooled yttria-alumina". <i>Physical Review Letters</i> , 2011 , 106, 119601; author reply 119602	7.4	8
24	The structure of MgO-SiO ₂ glasses at elevated pressure. <i>Journal of Physics Condensed Matter</i> , 2012 , 24, 225403	1.8	8
23	In Vivo Water Dynamics in Shewanella oneidensis Bacteria at High Pressure. <i>Scientific Reports</i> , 2019 , 9, 8716	4.9	7
22	Structural properties of Y ₂ O ₃ -Al ₂ O ₃ liquids and glasses: An overview. <i>Journal of Non-Crystalline Solids</i> , 2015 , 407, 228-234	3.9	7
21	High temperature calorimetric studies of heat of solution of NiO, CuO, La ₂ O ₃ , TiO ₂ , HfO ₂ in sodium silicate liquids. <i>Geochimica Et Cosmochimica Acta</i> , 2008 , 72, 590-601	5.5	7
20	Cooling process recorded in subglacially erupted rhyolite glasses: Rapid quenching, thermal buffering, and the formation of meltwater. <i>Journal of Geophysical Research</i> , 2004 , 109,		7
19	Aquaporin-like water transport in nanoporous crystalline layered carbon nitride. <i>Science Advances</i> , 2020 , 6,	14.3	7
18	Molecular Dynamics Modeling of the Structure and Na-Ion Transport in NaS + SiS Glassy Electrolytes. <i>Journal of Physical Chemistry B</i> , 2018 , 122, 7597-7608	3.4	7
17	Structure and Liquid Fragility in Sodium Carbonate. <i>Journal of Physical Chemistry A</i> , 2018 , 122, 1071-1076	6.8	6
16	CO network formation in ultra-high pressure carbonate liquids. <i>Scientific Reports</i> , 2019 , 9, 15416	4.9	5
15	Aluminates 2008 , 49-70		5
14	Structure of molten yttrium aluminates: a neutron diffraction study. <i>Journal of Physics Condensed Matter</i> , 2007 , 19, 415105	1.8	3
13	Probing the Structure of Melts, Glasses, and Amorphous Materials. <i>Elements</i> , 2021 , 17, 175-180	3.8	3
12	A novel fuel cell design forenergy-dispersive x-ray absorption measurements. <i>Journal of Physics Condensed Matter</i> , 2021 , 33,	1.8	3

11	IN SITU STRUCTURAL STUDIES OF ALUMINA DURING MELTING AND FREEZING. <i>Advances in Synchrotron Radiation</i> , 2008 , 01, 135-149		2
10	Liquid Polymorphism in Yttrium-Aluminate Liquids 2002 , 56-73		2
9	The structure and thermochemistry of K ₂ CO ₃ MgCO ₃ glass. <i>Journal of Materials Research</i> , 2019 , 34, 3377-3388	2.5	1
8	Exploring the structure of glass-forming liquids using high energy X-ray diffraction, containerless methodology and molecular dynamics simulation. <i>Journal of Non-Crystalline Solids: X</i> , 2019 , 3, 100027	2.5	1
7	Exploring the Structure of High Temperature, Iron-bearing Liquids. <i>Materials Today: Proceedings</i> , 2015 , 2, S358-S363	1.4	1
6	Instrumentation for structure measurements on highly non-equilibrium materials. <i>Diamond Light Source Proceedings</i> , 2011 , 1,		1
5	12. Structure of Glasses and Melts 2006 , 275-312		1
4	Liquids and Amorphous Materials. <i>Scottish Graduate Series</i> , 2012 , 265-300		
3	Melt Energetics at High Temperature and Pressure. <i>Materials Research Society Symposia Proceedings</i> , 1997 , 499, 185		
2	In situ formation of coesite under hydrothermal conditions. <i>High Pressure Research</i> , 2020 , 40, 478-487	1.6	
1	Pressure-Induced Amorphization 2021 , 371-377		