Philip S Salmon

List of Publications by Year
in descending order

128	5,491	66315	88593
papers	citations	42 h-index	70 g-index

132	132	132	3188
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Neutron and x-ray diffraction studies of liquids and glasses. Reports on Progress in Physics, 2006, 69, 233-299.	8.1	399
2	First Solvation Shell of the Cu(II) Aqua Ion: Evidence for Fivefold Coordination. Science, 2001, 291, 856-859.	6.0	358
3	Topological versus chemical ordering in network glasses at intermediate and extended length scales. Nature, 2005, 435, 75-78.	13.7	239
4	Defects in a Disordered World: The Structure of GlassyGeSe2. Physical Review Letters, 2000, 84, 2413-2416.	2.9	232
5	Real space manifestation of the first sharp diffraction peak in the structure factor of liquid and glassy materials. Proceedings of the Royal Society A, 1994, 445, 351-365.	1.0	208
6	Structure of covalently bonded glass-forming melts: A full partial-structure-factor analysis of liquidGeSe2. Physical Review Letters, 1991, 67, 97-100.	2.9	145
7	High-Pressure Transformation of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>SiO</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math> from a Tetrahedral to an Octahedral Network: A Joint Approach Using Neutron Diffraction and Molecular Dynamics. Physical Review Letters, 2014, 113, 135501.	2.9	112
8	The structure of molten and glassy 2:1 binary systems: an approach using the Bhatiaâ€"Thornton formalism. Proceedings of the Royal Society A, 1992, 437, 591-606.	1.0	103
9	Structure of glassy and liquid GeSe2. Journal of Physics Condensed Matter, 2003, 15, S1509-S1528.	0.7	99
10	Structure of liquids and glasses in the Geâ€"Se binary system. Journal of Non-Crystalline Solids, 2007, 353, 2959-2974.	1.5	97
11	Joint diffraction and modeling approach to the structure of liquid alumina. Physical Review B, 2013, 87, .	1.1	95
12	A neutron diffraction study on the structure of liquid germanium. Journal of Physics F: Metal Physics, 1988, 18, 2345-2352.	1.6	83
13	The hydration structure around chloride ions in aqueous solution. Faraday Discussions of the Chemical Society, 1988, 85, 137.	2.2	82
14	Glass Fragility and Atomic Ordering on the Intermediate and Extended Range. Physical Review Letters, 2006, 96, 235502.	2.9	81
15	Structure of molten MCl3 systems from a polarizable ion simulation model. Journal of Chemical Physics, 1999, 111, 2028-2037.	1.2	77
16	Packing and the structural transformations in liquid and amorphous oxides from ambient to extreme conditions. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 10045-10048.	3.3	74
17	Structure of glassy GeO₂. Journal of Physics Condensed Matter, 2007, 19, 415110.	0.7	70
18	Structure of molten lanthanum and cerium tri-halides by the method of isomorphic substitution in neutron diffraction. Journal of Physics Condensed Matter, 1999, 11, 1381-1396.	0.7	66

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19	The structure of Cu2+aqueous solutions. Journal of Physics C: Solid State Physics, 1988, 21, 1335-1349.	1.5	65
20	Topological changes in glassyGeSe2at pressures up to9.3GPadetermined by high-energy x-ray and neutron diffraction measurements. Physical Review B, 2006, 74, .	1.1	64
21	Structure of liquid and glassy<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>ZnCl</mml:mtext></mml:mrow><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review B, 2010, 82, .	1.1	62
22	Atomic structure of the two intermediate phase glasses<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>SiSe</mml:mtext></mml:mrow><mml:mn>4</mml:mn></mml:msub></mml:mrow></mml:math> and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>GeSe</mml:mtext></mml:mrow><mml:mn>4</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review B, 2009, 79, .	1.1	61
23	Networks under pressure: the development ofin situhigh-pressure neutron diffraction for glassy and liquid materials. Journal of Physics Condensed Matter, 2015, 27, 133201.	0.7	61
24	Network Topology and the Fragility of Tetrahedral Glass-Forming Liquids. Physical Review Letters, 2009, 103, 157801.	2.9	60
25	Order within disorder. Nature Materials, 2002, 1, 87-88.	13.3	59
26	Establishing the structure of GeS₂at high pressures and temperatures: a combined approach using x-ray and neutron diffraction. Journal of Physics Condensed Matter, 2009, 21, 474217.	0.7	59
27	Structure of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>GeO</mml:mtext></mml:mrow><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>at pressures up to 8.6 GPa. Physical Review B, 2010, 81, .	1.1	59
28	The dynamics of water molecules in ionic solution. II. Quasi-elastic neutron scattering and tracer diffusion studies of the proton and ion dynamics in concentrated Ni2+, Cu2+and Nd3+aqueous solutions. Journal of Physics C: Solid State Physics, 1987, 20, 5727-5747.	1.5	58
29	Liquid-Liquid Phase Transition in Supercooled Yttria-Alumina. Physical Review Letters, 2009, 103, 225702.	2.9	58
30	Glass formation and short-range order in chalcogenide materials: The (Ag2S)x(As2S3)1â^'x(0â‰¤xâ‰¤1) pseudobinary tie line. Physical Review Letters, 1990, 64, 2164-2167.	2.9	57
31	Structure and properties of densified silica glass: characterizing the order within disorder. NPG Asia Materials, 2020, 12, .	3.8	57
32	Microvoids in chalcogenide glasses studied by positron annihilation. Journal of Non-Crystalline Solids, 1994, 170, 57-64.	1.5	56
33	Structure of Fast Ion Conducting and Semiconducting Glassy Chalcogenide Alloys. Physical Review Letters, 1994, 73, 264-267.	2.9	55
34	Decay of the pair correlations and small-angle scattering for binary liquids and glasses. Journal of Physics Condensed Matter, 2006, 18, 11443-11469.	0.7	55
35	Structure of the glassy fast-ion conductorAgPS3by neutron diffraction. Physical Review B, 1998, 58, 6115-6123.	1.1	53
36	Structural Transformations on Vitrification in the Fragile Glass-Forming System<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>CaAl</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="bold">O</mml:mi><mml:mn>4</mml:mn></mml:msub></mml:math>. Physical Review Letters, 2012, 109, 235501.	2.9	53

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37	Molecular Dynamics Simulations of Disordered Materials. Springer Series in Materials Science, 2015, , .	0.4	53
38	Oxygen as a Site Specific Probe of the Structure of Water and Oxide Materials. Physical Review Letters, 2011, 107, 145501.	2.9	51
39	Isotope effects in water as investigated by neutron diffraction and path integral molecular dynamics. Journal of Physics Condensed Matter, 2012, 24, 284126.	0.7	47
40	Density-driven structural transformations in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi mathvariant="normal">B</mml:mi></mml:mrow><mml:mn>2</mml:mn></mml:msub><mml:mrow><mml:mi mathvariant="normal">O</mml:mi></mml:mrow><mml:mn>3</mml:mn></mml:msub></mml:math>glass. Physical Review B, 2014, 90, .	1.1	47
41	Density-driven structural transformations in network forming glasses: a high-pressure neutron diffraction study of GeO₂glass up to 17.5 GPa. Journal of Physics Condensed Matter, 2012, 24, 415102.	0.7	45
42	Identifying and characterising the different structural length scales in liquids and glasses: an experimental approach. Physical Chemistry Chemical Physics, 2013, 15, 15286.	1.3	45
43	Pressure-driven transformation of the ordering in amorphous network-forming materials. Physical Review B, 2016, 93, .	1.1	45
44	Structure of eutectic liquids in the Au-Si, Au-Ge, and Ag-Ge binary systems by neutron diffraction. Physical Review B, 2011, 83, .	1.1	44
45	A neutron diffraction study of glassy GeS2. Journal of Non-Crystalline Solids, 2001, 293-295, 169-174.	1.5	43
46	Phase separation, crystallization and polyamorphism in the Y₂O₃â€“Al₂O₃system. Journal of Physics Condensed Matter, 2008, 20, 205103.	0.7	40
47	Impact of the exchange-correlation functional on the structure of glassy GeSe2. Solid State Sciences, 2010, 12, 199-203.	1.5	40
48	Structure and triclustering in Ba-Al-O glass. Physical Review B, 2012, 85, .	1.1	40
49	The structure of tetrahedral network glass forming systems at intermediate and extended length scales. Journal of Physics Condensed Matter, 2007, 19, 455208.	0.7	39
50	The relation between the melt topology and glass-forming ability for liquid Ge-Se alloys. Journal of Physics Condensed Matter, 1994, 6, 1449-1460.	0.7	37
51	A determination of the structure of liquid using neutron diffraction and isotopic substitution. Journal of Physics Condensed Matter, 1997, 9, 6159-6173.	0.7	37
52	Structure of molten trivalent metal chlorides studied by using neutron diffraction: the systems TbCl3, YCl3, HoCl3and ErCl3. Journal of Physics Condensed Matter, 1999, 11, 9293-9302.	0.7	37
53	The coordination of Cu(II) in a concentrated copper nitrate solution. Journal of Physics Condensed Matter, 1989, 1, 5291-5295.	0.7	36
54	Mechanisms of network collapse in GeO₂glass: high-pressure neutron diffraction with isotope substitution as arbitrator of competing models. Journal of Physics Condensed Matter, 2012, 24, 502101.	0.7	35

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55	The dynamics of water molecules in ionic solution. I. The application of quasi-elastic neutron scattering to the study of translational diffusive proton motion. Journal of Physics C: Solid State Physics, 1987, 20, 1573-1587.	1.5	32
56	The Jahn-Teller effect in solutions of flexible molecules: a neutron diffraction study on the structure of a Cu2+solution in ethylene glycol. Molecular Physics, 1995, 85, 981-998.	0.8	32
57	Structure of liquid lithium. Journal of Physics Condensed Matter, 2004, 16, 195-222.	0.7	31
58	Density-driven defect-mediated network collapse of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">GeSe</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math>glass. Physical Review B, 2014, 90, .	1.1	30
59	Structure of fast-ion conducting chalcogenide glasses: the Agî—¸Asî—¸Se system. Journal of Non-Crystalline Solids, 1993, 156-158, 720-724.	1.5	28
60	Structure of dysprosium and holmium phosphate glasses by the method of isomorphic substitution in neutron diffraction. Journal of Physics Condensed Matter, 2003, 15, 8235-8252.	0.7	28
61	Topological Ordering and Viscosity in the Glass-Forming Geâ€“Se System: The Search for a Structural or Dynamical Signature of the Intermediate Phase. Frontiers in Materials, 2017, 4, .	1.2	28
62	Moments of the Bhatiaâ€“Thornton partial pair-distribution functions. Journal of Physics Condensed Matter, 2005, 17, S3537-S3542.	0.7	27
63	Change in the topology of the glass forming liquid GeSe2with increasing temperature. Journal of Physics Condensed Matter, 1999, 11, 10219-10227.	0.7	26
64	Identification of the Relative Distribution of Rare-Earth Ions in Phosphate Glasses. Physical Review Letters, 2003, 90, 185501.	2.9	26
65	Structure of lanthanum and cerium phosphate glasses by the method of isomorphic substitution in neutron diffraction. Physical Review B, 2003, 68, .	1.1	25
66	Ordering on different length scales in liquid and amorphous materials. Journal of Statistical Mechanics: Theory and Experiment, 2019, 2019, 114006.	0.9	25
67	Dynamics of water protons in concentrated gallium(3+), aluminum(3+), iron(3+) and dysprosium(3+) aqueous solutions: a study using incoherent quasi-elastic neutron scattering. Journal of the American Chemical Society, 1991, 113, 2930-2939.	6.6	24
68	Structure of Cuâ€“Asâ€“Se glasses investigated by neutron diffraction with copper isotope substitution. Physical Review B, 2008, 78, .	1.1	24
69	Pressure-induced structural changes in the network-forming isostatic glass<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>GeSe</mml:mi><mml:mn>4</mml:mn></mml:msub></mml:math>: An investigation by neutron diffraction and first-principles molecular dynamics. Physical Review B, 2016, 93, .	1.1	24
70	Structure of nickel(2+) solutions in ethylene glycol by neutron diffraction: an observed hydrogen bond between the solvent ligands in the first and second cation coordination shells. Journal of the American Chemical Society, 1991, 113, 6420-6425.	6.6	23
71	The coordination environment of Ag and Cu in ternary chalcogenide glasses. Journal of Non-Crystalline Solids, 1996, 205-207, 172-175.	1.5	23
72	Structure of molten ScCl3and ScI3studied by using neutron diffraction. Journal of Physics Condensed Matter, 1999, 11, 2171-2177.	0.7	23

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73	Structure of molten trivalent metal chlorides. Physica B: Condensed Matter, 1997, 241-243, 967-969.	1.3	22
74	Structural properties of liquid Ge<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>Se<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>: A first-principles study. Physical Review B, 2011, 84, .	1.1	22
75	Pressure induced structural transformations in amorphous MgSiO3 and CaSiO3. Journal of Non-Crystalline Solids: X, 2019, 3, 100024.	0.5	22
76	Structure of the liquid semiconductor GeSe. Journal of Physics Condensed Matter, 1999, 11, 7051-7060.	0.7	21
77	Structure of molten trivalent metal bromides studied by using neutron diffraction: the systems DyBr3, YBr3, HoBr3and ErBr3. Journal of Physics Condensed Matter, 2000, 12, 9539-9550.	0.7	21
78	Structure of the network glass-former ZnCl 2 : From the boiling point to the glass. Journal of Non-Crystalline Solids, 2015, 407, 235-245.	1.5	21
79	The dynamics of aqueous Zn2+solutions: a study using incoherent quasi-elastic neutron scattering. Journal of Physics Condensed Matter, 1990, 2, 4297-4309.	0.7	17
80	The solvation of cations in hydrogen-bonded molecular solvents: a neutron diffraction study on the structure of Ni2+ solutions in ethylene glycol and in glycerol. Molecular Physics, 1995, 84, 325-343.	0.8	17
81	Structure and thermal properties of yttrium alumino-phosphate glasses. Journal of Physics Condensed Matter, 2008, 20, 115204.	0.7	17
82	Chalcohalide glasses:â€ƒThe effect of covalent versus ionic bonding in (CuI)0.6(Sb2Se3)0.4. Physical Review B, 2002, 65, .	1.1	16
83	Structure of rare-earth phosphate glasses by neutron diffraction. Journal of Non-Crystalline Solids, 2004, 345-346, 208-212.	1.5	16
84	Impact of pressure on the structure of glass and its material properties. MRS Bulletin, 2017, 42, 734-737.	1.7	16
85	An incoherent quasi-elastic neutron scattering study on the dynamics of aqueous Cr3+perchlorate solutions. Journal of Physics Condensed Matter, 1989, 1, 3459-3468.	0.7	15
86	Structural ordering in Ag-based ternary chalcogenide glasses. Europhysics Letters, 1997, 39, 521-526.	0.7	15
87	The dynamics of water molecules in ionic solution as studied by incoherent quasi-elastic neutron scattering. Physica B: Condensed Matter, 1989, 156-157, 129-131.	1.3	14
88	The ion to water-proton binding time in aqueous ionic solution. Physica B: Condensed Matter, 1992, 182, 421-430.	1.3	14
89	Recent advances in identifying the structure of liquid and glassy oxide and chalcogenide materials under extreme conditions: a joint approach using diffraction and atomistic simulation. Advances in Physics: X, 2016, 1, 640-660.	1.5	14
90	The co-ordination environment of Ag in glassy AgAsS2. A neuron diffraction study. Journal of Non-Crystalline Solids, 1989, 114, 82-84.	1.5	13

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91	Structure of molten holmium and erbium trichlorides and tribromides. Physica B: Condensed Matter, 2000, 276-278, 433-434.	1.3	13
92	Structure of glassy AsTe: the effect of adding a small quantity of Cu or Ag. Journal of Physics Condensed Matter, 2001, 13, 6165-6176.	0.7	13
93	Structure of the Intermediate Phase Glasses GeSe3 and GeSe4: The Deployment of Neutron Diffraction With Isotope Substitution. Frontiers in Materials, 2019, 6, .	1.2	12
94	Persistent homology in two-dimensional atomic networks. Journal of Chemical Physics, 2021, 154, 124109.	1.2	11
95	A neutron diffraction study on the structure of molten GeSe2: the Ge coordination environment. Journal of Physics Condensed Matter, 1990, 2, SA233-SA237.	0.7	10
96	A neutron diffraction study on the structure of Cl-solutions in hydrogen-bonded molecular solvents. Journal of Physics Condensed Matter, 1994, 6, 3839-3848.	0.7	10
97	BarnesetÂal.Reply:. Physical Review Letters, 2011, 106, .	2.9	10
98	Structure of semiconducting versus fast-ion conducting glasses in the Agâ€“Geâ€“Se system. Royal Society Open Science, 2018, 5, 171401.	1.1	10
99	Densification Mechanisms of Oxide Glasses and Melts. , 2018, , 343-369.		10
100	Penfold and Salmon reply. Physical Review Letters, 1992, 68, 253-253.	2.9	9
101	The bound coherent neutron scattering lengths of the oxygen isotopes. Journal of Physics Condensed Matter, 2012, 24, 505105.	0.7	9
102	Optimizing the counting times for sample-in-container scattering experiments. Journal of Applied Crystallography, 2016, 49, 2249-2251.	1.9	9
103	Structure and dynamics of aqueous NaCl solutions at high temperatures and pressures. Journal of Chemical Physics, 2021, 155, 194506.	1.2	9
104	Structure of ionic glasses by neutron diffraction. Journal of Physics Condensed Matter, 1998, 10, 8139-8146.	0.7	8
105	Structure of molten TbCl3measured by neutron diffraction. Journal of Physics Condensed Matter, 2002, 14, L703-L707.	0.7	8
106	The structure of Cl-solutions in ethylene glycol studied by neutron diffraction. Journal of Physics Condensed Matter, 1992, 4, 5249-5262.	0.7	7
107	La diffraction des neutrons et des rayons X pour l'Ã©tude structurale des liquides et des verres. European Physical Journal Special Topics, 2003, 103, 359-390.	0.2	7
108	Structure of praseodymium and neodymium gallate glasses. Journal of Non-Crystalline Solids, 2011, 357, 2511-2515.	1.5	7

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109	Pressure-dependent structure of the null-scattering alloy Ti_{0.676}Zr_{0.324}. High Pressure Research, 2015, 35, 239-246.	0.4	7
110	Structure of crystalline and amorphous materials in the NASICON system Na1+xAlxGe2â^'x(PO4)3. Journal of Chemical Physics, 2021, 155, 074501.	1.2	7
111	Structural model for amorphous aluminosilicates. Journal of Chemical Physics, 2022, 156, 064503.	1.2	7
112	The Classification of Isotropic Points in Stress Fieldsâ^—. Journal of Structural Mechanics, 1983, 11, 371-381.	0.7	6
113	Structure of molten GeSe by neutron diffraction: the Ge coordination environment. Journal of Non-Crystalline Solids, 1999, 250-252, 405-409.	1.5	6
114	The structure of molten CuCl, CuI and their mixtures as investigated by using neutron diffraction. Journal of Physics Condensed Matter, 2009, 21, 075104.	0.7	6
115	Structure of amorphous GeSe9 by neutron diffraction and first-principles molecular dynamics: Impact of trajectory sampling and size effects. Journal of Chemical Physics, 2016, 145, 084502.	1.2	6
116	Structure of Glassy Agâ€"Geâ€"Se by Neutron Diffraction with Isotope Substitution. Zeitschrift Fur Physikalische Chemie, 2016, 230, 417-432.	1.4	6
117	Structure of Asâ€"Se glasses by neutron diffraction with isotope substitution. Journal of Chemical Physics, 2020, 153, 154507.	1.2	6
118	ZeidleretÂal.Reply:. Physical Review Letters, 2012, 108, .	2.9	5
119	Structure of rare-earth chalcogenide glasses by neutron and x-ray diffraction. Journal of Physics Condensed Matter, 2017, 29, 225703.	0.7	5
120	Partial vibrational density of states for amorphous solids from inelastic neutron scattering. Physical Review B, 2018, 98, .	1.1	4
121	Structure in liquid KTl investigated by means of neutron diffraction using 205Tl isotope substitution. Physica B: Condensed Matter, 1997, 241-243, 961-963.	1.3	3
122	La structure des systÃ¨mes dÃ©sordonnÃ©s et sa mesure par diffraction. European Physical Journal Special Topics, 2003, 111, 59-95.	0.2	3
123	Neutron diffraction as a probe of liquid and glass structures under extreme conditions. Neutron News, 2016, 27, 22-26.	0.1	3
124	Many-body effects at the origin of structural transitions in B2O3. Journal of Chemical Physics, 2019, 151, 224508.	1.2	3
125	The dynamics of aqueous Zn2+ solutions: a study using incoherent quasi-elastic neutron scattering. Journal of Physics Condensed Matter, 1990, 2, 6705-6705.	0.7	1
126	High-pressure neutron diffraction apparatus for investigating the structure of liquids under hydrothermal conditions. High Pressure Research, 2017, 37, 529-544.	0.4	1

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127	The Atomic-Scale Structure of Network Glass-Forming Materials. Springer Series in Materials Science, 2015, , 1-31.	0.4	1
128	Atomic Scale Modelling of Materials: A Prerequisite for any Multi-Scale Approach to Structural and Dynamical Properties. Solid State Phenomena, 0, 139, 141-150.	0.3	0