

# Tilo Seydel

## List of Publications by Citations

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111  
papers

2,195  
citations

28  
h-index

42  
g-index

117  
ext. papers

2,484  
ext. citations

4.1  
avg. IF

4.56  
L-index

#	Paper	IF	Citations
111	Protein self-diffusion in crowded solutions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 11815-20	11.5	169
110	Quasi-Elastic Neutron Scattering Studies on Clay Interlayer-Space Highlighting the Effect of the Cation in Confined Water Dynamics. <i>Journal of Physical Chemistry C</i> , <b>2008</b> , 112, 13982-13991	3.8	80
109	Mechanical properties of silk: interplay of deformation on macroscopic and molecular length scales. <i>Physical Review Letters</i> , <b>2008</b> , 100, 048104	7.4	79
108	Viscosity and diffusion: crowding and salt effects in protein solutions. <i>Soft Matter</i> , <b>2012</b> , 8, 1404-1419	3.6	78
107	Nanofibrillar Structure and Molecular Mobility in Spider Dragline Silk. <i>Macromolecules</i> , <b>2005</b> , 38, 8447-8453	5.3	69
106	Neutron Time-of-Flight Quantification of Water Desorption Isotherms of Montmorillonite. <i>Journal of Physical Chemistry C</i> , <b>2012</b> , 116, 5558-5570	3.8	62
105	Capillary waves at the transition from propagating to overdamped behavior. <i>Physical Review Letters</i> , <b>2004</b> , 92, 096104	7.4	60
104	Observation of Capillary Waves on Liquid Thin Films from Mesoscopic to Atomic Length Scales. <i>Physical Review Letters</i> , <b>1999</b> , 83, 3470-3473	7.4	55
103	Capillary waves in slow motion. <i>Physical Review B</i> , <b>2001</b> , 63,	3.3	54
102	Molecular motions in lipid bilayers studied by the neutron backscattering technique. <i>Physical Review E</i> , <b>2005</b> , 71, 061908	2.4	52
101	Recent Backscattering Instrument Developments at the ILL and SNS. <i>Zeitschrift Fur Physikalische Chemie</i> , <b>2010</b> , 224, 33-60	3.1	50
100	Short range ballistic motion in fluid lipid bilayers studied by quasi-elastic neutron scattering. <i>Soft Matter</i> , <b>2011</b> , 7, 8358	3.6	46
99	Protein cluster formation in aqueous solution in the presence of multivalent metal ions--a light scattering study. <i>Soft Matter</i> , <b>2014</b> , 10, 894-902	3.6	45
98	Observation of heterodyne mixing in surface x-ray photon correlation spectroscopy experiments. <i>Physical Review Letters</i> , <b>2003</b> , 91, 076104	7.4	43
97	Motional coherence in fluid phospholipid membranes. <i>Physical Review Letters</i> , <b>2008</b> , 101, 248106	7.4	42
96	Silkworm Silk under Tensile Strain Investigated by Synchrotron X-ray Diffraction and Neutron Spectroscopy. <i>Macromolecules</i> , <b>2007</b> , 40, 1035-1042	5.5	42
95	Dynamics of proteins in solution. <i>Quarterly Reviews of Biophysics</i> , <b>2019</b> , 52,	7	41

94	Combined photoemission and inverse photoemission study of HfS <sub>2</sub> . <i>Physical Review B</i> , <b>2001</b> , 63,	3.3	41
93	Diffusion and dynamics of Iglobulin in crowded aqueous solutions. <i>Journal of Physical Chemistry B</i> , <b>2014</b> , 118, 7203-9	3.4	39
92	Nanosecond lipid dynamics in membranes containing cholesterol. <i>Soft Matter</i> , <b>2014</b> , 10, 2600-11	3.6	38
91	The interface structure of thin liquid hexane films. <i>Physica B: Condensed Matter</i> , <b>1998</b> , 248, 263-268	2.8	36
90	Hierarchical molecular dynamics of bovine serum albumin in concentrated aqueous solution below and above thermal denaturation. <i>Physical Chemistry Chemical Physics</i> , <b>2015</b> , 17, 4645-55	3.6	35
89	Protein diffusion in crowded electrolyte solutions. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , <b>2010</b> , 1804, 68-75	4	35
88	Quasielastic Neutron Scattering Study on the Dynamics of Poly(alkylene oxide)s. <i>Macromolecules</i> , <b>2012</b> , 45, 4394-4405	5.5	34
87	Polymer Chain Dynamics of CoreShell Thermosensitive Microgels. <i>Macromolecules</i> , <b>2008</b> , 41, 4739-4745	5.5	33
86	Crowding-Controlled Cluster Size in Concentrated Aqueous Protein Solutions: Structure, Self- and Collective Diffusion. <i>Journal of Physical Chemistry Letters</i> , <b>2017</b> , 8, 2590-2596	6.4	31
85	Salt-Induced Universal Slowing Down of the Short-Time Self-Diffusion of a Globular Protein in Aqueous Solution. <i>Journal of Physical Chemistry Letters</i> , <b>2015</b> , 6, 2577-82	6.4	29
84	Anomalous and anisotropic nanoscale diffusion of hydration water molecules in fluid lipid membranes. <i>Soft Matter</i> , <b>2015</b> , 11, 8354-71	3.6	28
83	Dynamics of highly concentrated protein solutions around the denaturing transition. <i>Soft Matter</i> , <b>2012</b> , 8, 1628-1633	3.6	26
82	Observation of subtle dynamic transitions by a combination of neutron scattering, X-ray diffraction and DSC: a case study of the monoclinic L-cysteine. <i>Biophysical Chemistry</i> , <b>2010</b> , 148, 34-41	3.5	25
81	Setup for in situ surface investigations of the liquid/glass transition with (coherent) x rays. <i>Review of Scientific Instruments</i> , <b>2003</b> , 74, 4033-4040	1.7	25
80	Nanosecond molecular relaxations in lipid bilayers studied by high energy-resolution neutron scattering and in situ diffraction. <i>Physical Review E</i> , <b>2007</b> , 75, 011907	2.4	23
79	Effect of Phosphorylation on a Human-like Osteopontin Peptide. <i>Biophysical Journal</i> , <b>2017</b> , 112, 1586-1596		22
78	Freezing of capillary waves at the glass transition. <i>Physical Review B</i> , <b>2002</b> , 65,	3.3	22
77	Picosecond to nanosecond dynamics provide a source of conformational entropy for protein folding. <i>Physical Chemistry Chemical Physics</i> , <b>2016</b> , 18, 21527-38	3.6	22

76	Optimum velocity of a phase-space transformer for cold-neutron backscattering spectroscopy. <i>Journal of Applied Crystallography</i> , <b>2011</b> , 44, 467-472	3.8	21
75	X-ray diffraction and inelastic neutron scattering study of 1:1 tetramethylpyrazine chloranilic acid complex: temperature, isotope, and pressure effects. <i>Journal of Chemical Physics</i> , <b>2006</b> , 125, 194525	3.9	21
74	Protein Short-Time Diffusion in a Naturally Crowded Environment. <i>Journal of Physical Chemistry Letters</i> , <b>2019</b> , 10, 1709-1715	6.4	20
73	Temperature-Dependent Dynamics of Polyalkylthiophene Conjugated Polymers: A Combined Neutron Scattering and Simulation Study. <i>Chemistry of Materials</i> , <b>2015</b> , 27, 7652-7661	9.6	20
72	Proton Diffusivity in the Protic Ionic Liquid Triethylammonium Triflate Probed by Quasielastic Neutron Scattering. <i>Journal of Physical Chemistry B</i> , <b>2015</b> , 119, 10643-51	3.4	19
71	How mobile are protons in the structure of dental glass ionomer cements?. <i>Scientific Reports</i> , <b>2015</b> , 5, 8972	4.9	19
70	Effective Interactions and Colloidal Stability of Bovine $\beta$ Globulin in Solution. <i>Journal of Physical Chemistry B</i> , <b>2017</b> , 121, 5759-5769	3.4	18
69	Grazing-incidence scattering of coherent X-rays from a liquid surface. <i>Journal of Synchrotron Radiation</i> , <b>2005</b> , 12, 786-94	2.4	18
68	High-resolution neutron spectroscopy on protein solution samples. <i>EPJ Web of Conferences</i> , <b>2015</b> , 83, 02005	0.3	17
67	Increased molecular mobility in humid silk fibers under tensile stress. <i>Physical Review E</i> , <b>2011</b> , 83, 016104	4.4	17
66	Investigation of the relationship between hydrogen bonds and macroscopic properties in hybrid core-shell $\gamma$ -Fe <sub>2</sub> O <sub>3</sub> -P(NIPAM-AAS) microgels. <i>Langmuir</i> , <b>2010</b> , 26, 7101-6	4	16
65	Water Dynamics in <i>Shewanella oneidensis</i> at Ambient and High Pressure using Quasi-Elastic Neutron Scattering. <i>Scientific Reports</i> , <b>2016</b> , 6, 18862	4.9	15
64	Alzheimer's peptide amyloid- $\beta$ fragment 22-40, perturbs lipid dynamics. <i>Soft Matter</i> , <b>2016</b> , 12, 1444-51	3.6	15
63	Application of incoherent inelastic neutron scattering in pharmaceutical analysis: relaxation dynamics in phenacetin. <i>Molecular Pharmaceutics</i> , <b>2012</b> , 9, 2434-41	5.6	15
62	Exploring the collective dynamics of lipid membranes with inelastic neutron scattering). <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2006</b> , 24, 1191-1196	2.9	15
61	Enhancement of Lateral Diffusion in Catanionic Vesicles during Multilamellar-to-Unilamellar Transition. <i>Journal of Physical Chemistry B</i> , <b>2016</b> , 120, 3777-84	3.4	14
60	Dynamic processes in biological membrane mimics revealed by quasielastic neutron scattering. <i>Chemistry and Physics of Lipids</i> , <b>2017</b> , 206, 28-42	3.7	13
59	Dynamic footprint of sequestration in the molecular fluctuations of osteopontin. <i>Journal of the Royal Society Interface</i> , <b>2015</b> , 12, 0506	4.1	12

58	Nanoscale Mobility of Aqueous Polyacrylic Acid in Dental Restorative Cements. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2018</b> , 10, 9904-9915	9.5	12
57	Unaffected microscopic dynamics of macroscopically arrested water in dilute clay gels. <i>Physical Review E</i> , <b>2008</b> , 78, 061403	2.4	11
56	Hydrogen in N-methylacetamide: positions and dynamics of the hydrogen atoms using neutron scattering. <i>Journal of Physical Chemistry B</i> , <b>2007</b> , 111, 7725-34	3.4	11
55	Surface roughness of supercooled polymer melts. <i>Physical Review E</i> , <b>2004</b> , 70, 051809	2.4	11
54	Nanosecond Tracer Diffusion as a Probe of the Solution Structure and Molecular Mobility of Protein Assemblies: The Case of Ovalbumin. <i>Journal of Physical Chemistry B</i> , <b>2018</b> , 122, 8343-8350	3.4	10
53	Dynamics of supercooled water in highly compacted clays studied by neutron scattering. <i>Journal of Physics Condensed Matter</i> , <b>2008</b> , 20, 415102	1.8	9
52	Dynamics of propylene glycol and its oligomers confined to a single molecular layer. <i>Journal of Chemical Physics</i> , <b>2005</b> , 122, 244702	3.9	9
51	Water dynamics in glass ionomer cements. <i>European Physical Journal: Special Topics</i> , <b>2016</b> , 225, 773-777	2.3	8
50	A case study for using neutron backscattering instruments at reactors in inverted time-of-flight mode. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , <b>2012</b> , 672, 64-68	1.2	8
49	Phase III of solid methane: the orientational potential and rotational tunneling. <i>Journal of Chemical Physics</i> , <b>2008</b> , 128, 034503	3.9	8
48	How IN16 can maintain a world-leading position in neutron backscattering spectrometry. <i>Physica B: Condensed Matter</i> , <b>2006</b> , 385-386, 1101-1103	2.8	8
47	Investigation of surface dynamics on micro- and nanometer scales. <i>Applied Surface Science</i> , <b>2001</b> , 182, 236-243	6.7	8
46	Physicochemical characterisation of fluorohectorite: Water dynamics and nanocarrier properties. <i>Microporous and Mesoporous Materials</i> , <b>2020</b> , 306, 110512	5.3	8
45	Dynamics across the structural transitions at elevated temperatures in Na <sub>0.7</sub> CoO <sub>2</sub> . <i>EPJ Web of Conferences</i> , <b>2015</b> , 83, 02008	0.3	7
44	Questions arising for future surface diffusion studies using scattering techniques--the case of benzene diffusion on graphite basal plane surfaces. <i>Journal of Physics Condensed Matter</i> , <b>2010</b> , 22, 304014	1.8	7
43	Primary spectrometer neutron optics simulations for a new cold neutron backscattering spectrometer. <i>Journal of Neutron Research</i> , <b>2008</b> , 16, 39-54	0.5	7
42	Magnetic properties of nano-scale hematite, $\alpha$ -Fe <sub>2</sub> O <sub>3</sub> , studied by time-of-flight inelastic neutron spectroscopy. <i>Journal of Chemical Physics</i> , <b>2014</b> , 140, 044709	3.9	6
41	Strikingly Different Roles of SARS-CoV-2 Fusion Peptides Uncovered by Neutron Scattering.. <i>Journal of the American Chemical Society</i> , <b>2022</b> ,	16.4	6

40	Osmolytes modify protein dynamics and function of tetrameric lactate dehydrogenase upon pressurization. <i>Physical Chemistry Chemical Physics</i> , <b>2019</b> , 21, 12806-12817	3.6	5
39	Strain-dependent fractional molecular diffusion in humid spider silk fibres. <i>Journal of the Royal Society Interface</i> , <b>2016</b> , 13,	4.1	5
38	Two time scales for self and collective diffusion near the critical point in a simple patchy model for proteins with floating bonds. <i>Soft Matter</i> , <b>2018</b> , 14, 8006-8016	3.6	5
37	Wood and Silk: Hierarchically Structured Biomaterials Investigated In Situ With X-Ray and Neutron Scattering. <i>Advanced Engineering Materials</i> , <b>2011</b> , 13, 767-772	3.5	5
36	Sodium diffusion in cryolite at elevated temperatures studied by quasielastic neutron scattering. <i>Solid State Ionics</i> , <b>2009</b> , 180, 1257-1260	3.3	5
35	Molecular motions in low cross-linked poly(N-isopropylacrylamide) microgels. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , <b>2008</b> , 319, 149-153	5.1	5
34	Probing dynamics at interfaces: options for neutron and X-ray spectroscopy. <i>Journal of Neutron Research</i> , <b>2006</b> , 14, 257-268	0.5	5
33	Evolution of the structure and dynamics of bovine serum albumin induced by thermal denaturation. <i>Physical Chemistry Chemical Physics</i> , <b>2020</b> , 22, 18507-18517	3.6	5
32	Zinc determines dynamical properties and aggregation kinetics of human insulin. <i>Biophysical Journal</i> , <b>2021</b> , 120, 886-898	2.9	5
31	Layer charge effects on anisotropy of interlayer water and structural OH dynamics in clay minerals probed by high-resolution neutron spectroscopy. <i>Applied Clay Science</i> , <b>2021</b> , 201, 105928	5.2	5
30	Picosecond self-diffusion in ethanol-water mixtures. <i>Physical Chemistry Chemical Physics</i> , <b>2019</b> , 21, 9547-9552	3.5	4
29	Fractional dynamics in silk: From molecular picosecond subdiffusion to macroscopic long-time relaxation. <i>Physical Review E</i> , <b>2015</b> , 91, 042716	2.4	4
28	Following Protein Dynamics in Real Time during Crystallization. <i>Crystal Growth and Design</i> , <b>2019</b> , 19, 7036-7045	3.5	4
27	Molecular dynamics of solutions of poly-3-octyl-thiophene and functionalized single wall carbon nanotubes studied by neutron scattering. <i>Chemical Physics</i> , <b>2013</b> , 427, 129-141	2.3	4
26	Stress-induced long-range ordering in spider silk. <i>Scientific Reports</i> , <b>2017</b> , 7, 15273	4.9	4
25	Lipid Dynamics in Membranes Slowed Down by Transmembrane Proteins. <i>Frontiers in Cell and Developmental Biology</i> , <b>2020</b> , 8, 579388	5.7	4
24	Neutron scattering quantification of unfrozen pore water in frozen mud. <i>Microporous and Mesoporous Materials</i> , <b>2021</b> , 324, 111267	5.3	4
23	A Quasielastic Neutron Scattering Investigation on the Molecular Self-Dynamics of Human Myelin Protein P2. <i>Journal of Physical Chemistry B</i> , <b>2019</b> , 123, 8178-8185	3.4	3

22	A generalized mean-squared displacement from inelastic fixed window scans of incoherent neutron scattering as a model-free indicator of anomalous diffusion confinement. <i>EPJ Web of Conferences</i> , <b>2015</b> , 83, 02015	0.3	3
21	Melting of thin films of alkanes on magnesium oxide. <i>European Physical Journal: Special Topics</i> , <b>2009</b> , 167, 143-150	2.3	3
20	Tracking Internal and Global Diffusive Dynamics During Protein Aggregation by High-Resolution Neutron Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , <b>2020</b> , 11, 6299-6304	6.4	3
19	A neutron scattering perspective on the structure, softness and dynamics of the ligand shell of PbS nanocrystals in solution. <i>Chemical Science</i> , <b>2020</b> , 11, 8875-8884	9.4	3
18	Increased rate of solvent diffusion in a prototypical supramolecular gel measured on the picosecond timescale. <i>Chemical Communications</i> , <b>2018</b> , 54, 6340-6343	5.8	3
17	Dynamics of Biological Systems. <i>Experimental Methods in the Physical Sciences</i> , <b>2017</b> , 49, 77-134	0.4	2
16	Mobility of a Mononucleotide within a Lipid Matrix: A Neutron Scattering Study. <i>Life</i> , <b>2017</b> , 7,	3	2
15	The Neutron window of collective excitations in lipid membranes. <i>Physica B: Condensed Matter</i> , <b>2006</b> , 385-386, 722-724	2.8	2
14	A neutron scattering study of hydrogel surfaces. <i>Physica B: Condensed Matter</i> , <b>2004</b> , 350, E917-E919	2.8	2
13	On the adsorption and diffusion of water in BaX zeolite. <i>Comptes Rendus Chimie</i> , <b>2005</b> , 8, 411-417	2.7	2
12	Molecular Flexibility of Antibodies Preserved Even in the Dense Phase after Macroscopic Phase Separation. <i>Molecular Pharmaceutics</i> , <b>2021</b> , 18, 4162-4169	5.6	2
11	Temperature and salt controlled tuning of protein clusters. <i>Soft Matter</i> , <b>2021</b> , 17, 8506-8516	3.6	2
10	Ligand Dynamics in Nanocrystal Solids Studied with Quasi-Elastic Neutron Scattering. <i>ACS Nano</i> , <b>2021</b> ,	16.7	2
9	Neutron spectroscopy on protein solutions employing backscattering with an increased energy range. <i>Physica B: Condensed Matter</i> , <b>2019</b> , 562, 31-35	2.8	1
8	Dynamics of a family of cyan fluorescent proteins probed by incoherent neutron scattering. <i>Journal of the Royal Society Interface</i> , <b>2019</b> , 16, 20180848	4.1	1
7	Lithium dynamics in the zeolite-like lithosilicate RUB-29 and its high-temperature structure after dehydration (Cs <sub>14</sub> Li <sub>42</sub> Si <sub>72</sub> O <sub>172</sub> ). <i>Microporous and Mesoporous Materials</i> , <b>2008</b> , 108, 1-12	5.3	1
6	Protein Crystallization from a Preordered Metastable Intermediate Phase Followed by Real-Time Small-Angle Neutron Scattering. <i>Crystal Growth and Design</i> ,	3.5	1
5	Impact of Sucrose as Osmolyte on Molecular Dynamics of Mouse Acetylcholinesterase. <i>Biomolecules</i> , <b>2020</b> , 10,	5.9	1

- 4 The modifying effect of supramolecular gel fibres on the diffusion of paracetamol and ibuprofen sodium on the picosecond timescale. *Physical Chemistry Chemical Physics*, **2020**, 22, 10838-10844 3.6 1
- 3 Multiscale relaxation dynamics and diffusion of myelin basic protein in solution studied by quasielastic neutron scattering.. *Journal of Chemical Physics*, **2022**, 156, 025102 3.9 0
- 2 Proton Diffusion in Hydrated Acceptor-Doped Barium Zirconate. *Materials Research Society Symposia Proceedings*, **2006**, 972, 1
- 1 Excess-iron driven spin glass phase in  $\text{Fe}_{1+y}\text{Te}_{1-x}\text{Se}_x$ . *Chinese Physics B*, **2021**, 30, 087402 1.2