Geoffrey Bodenhausen

List of Publications by Year
in descending order

101 papers	8,422 citations	70961 41 h-index	43802 91 g-index
108 all docs	108 docs citations	108 times ranked	4762 citing authors

#	Article	IF	Citations
1	Natural abundance nitrogen-15 NMR by enhanced heteronuclear spectroscopy. Chemical Physics Letters, 1980, 69, 185-189.	1.2	2,457
2	Product operator formalism for the description of NMR pulse experiments. Progress in Nuclear Magnetic Resonance Spectroscopy, 1984, 16, 163-192.	3.9	1,012
3	Surface Enhanced NMR Spectroscopy by Dynamic Nuclear Polarization. Journal of the American Chemical Society, 2010, 132, 15459-15461.	6.6	488
4	Gaussian pulse cascades: New analytical functions for rectangular selective inversion and in-phase excitation in NMR. Chemical Physics Letters, 1990, 165, 469-476.	1.2	323
5	Fast Characterization of Functionalized Silica Materials by Silicon-29 Surface-Enhanced NMR Spectroscopy Using Dynamic Nuclear Polarization. Journal of the American Chemical Society, 2011, 133, 2104-2107.	6.6	254
6	Long-lived states to sustain hyperpolarized magnetization. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 18469-18473.	3.3	173
7	Singlet-State Exchange NMR Spectroscopy for the Study of Very Slow Dynamic Processes. Journal of the American Chemical Society, 2007, 129, 328-334.	6.6	167
8	Dynamic nuclear polarization of quadrupolar nuclei using cross polarization from protons: surface-enhanced aluminium-27 NMR. Chemical Communications, 2012, 48, 1988.	2.2	123
9	Nitrogen-14 NMR Spectroscopy Using Residual Dipolar Splittings in Solids. Journal of the American Chemical Society, 2006, 128, 7706-7707.	6.6	117
10	Boosting Dissolution Dynamic Nuclear Polarization by Cross Polarization. Journal of Physical Chemistry Letters, 2013, 4, 111-114.	2.1	116
11	Indirect detection of nitrogen-14 in solids via protons by nuclear magnetic resonance spectroscopy. Journal of Magnetic Resonance, 2006, 182, 168-172.	1.2	108
12	Proton NMR of ¹⁵N-Choline Metabolites Enhanced by Dynamic Nuclear Polarization. Journal of the American Chemical Society, 2009, 131, 16014-16015.	6.6	107
13	High field dynamic nuclear polarization at 6.7T: Carbon-13 polarization above 70% within 20min. Chemical Physics Letters, 2012, 549, 99-102.	1.2	107
14	Hybrid polarizing solids for pure hyperpolarized liquids through dissolution dynamic nuclear polarization. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 14693-14697.	3.3	93
15	Scavenging Free Radicals To Preserve Enhancement and Extend Relaxation Times in NMR using Dynamic Nuclear Polarization. Angewandte Chemie - International Edition, 2010, 49, 6182-6185.	7.2	89
16	Hyperpolarized NMR of plant and cancer cell extracts at natural abundance. Analyst, The, 2015, 140, 5860-5863.	1.7	87
17	Transportable hyperpolarized metabolites. Nature Communications, 2017, 8, 13975.	5.8	86
18	Microwave frequency modulation to enhance Dissolution Dynamic Nuclear Polarization. Chemical Physics Letters, 2014, 602, 63-67.	1.2	81

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19	Diffusion Coefficients of Biomolecules Using Long-Lived Spin States. Journal of the American Chemical Society, 2009, 131, 7498-7499.	6.6	78
20	A magnetic tunnel to shelter hyperpolarized fluids. Review of Scientific Instruments, 2015, 86, 024101.	0.6	77
21	Boosting the Sensitivity of Ligandâ€“Protein Screening by NMR of Long-Lived States. Journal of the American Chemical Society, 2012, 134, 11076-11079.	6.6	75
22	Proton-detected nitrogen-14 NMR by recoupling of heteronuclear dipolar interactions using symmetry-based sequences. Chemical Physics Letters, 2007, 445, 1-5.	1.2	72
23	High-Resolution NMR in Magnetic Fields with Unknown Spatiotemporal Variations. Science, 2009, 324, 1693-1697.	6.0	72
24	Probing²⁷Alâ€“¹³C proximities in metalâ€“organic frameworks using dynamic nuclear polarization enhanced NMR spectroscopy. Chemical Communications, 2014, 50, 933-935.	2.2	67
25	Drug Screening Boosted by Hyperpolarized Longâ€Lived States in NMR. ChemMedChem, 2014, 9, 2509-2515.	1.6	63
26	Low-temperature cross polarization in view of enhancing dissolution Dynamic Nuclear Polarization in NMR. Chemical Physics Letters, 2011, 517, 234-236.	1.2	62
27	Hyperpolarized Water to Study Proteinâ€“Ligand Interactions. Journal of Physical Chemistry Letters, 2015, 6, 1674-1678.	2.1	62
28	Solid-state NMR enhanced by dynamic nuclear polarization as a novel tool for ribosome structural biology. Journal of Biomolecular NMR, 2013, 56, 85-93.	1.6	59
29	Molecular properties determined from the relaxation of long-lived spin states. Journal of Chemical Physics, 2007, 127, 134112.	1.2	58
30	Highly Repeatable Dissolution Dynamic Nuclear Polarization for Heteronuclear NMR Metabolomics. Analytical Chemistry, 2016, 88, 6179-6183.	3.2	57
31	Indirect Detection of Nitrogen-14 in Solid-State NMR Spectroscopy. ChemPhysChem, 2007, 8, 1363-1374.	1.0	56
32	Proton hyperpolarisation preserved in long-lived states. Chemical Communications, 2010, 46, 8192.	2.2	55
33	Investigation of Intrinsically Disordered Proteins through Exchange with Hyperpolarized Water. Angewandte Chemie - International Edition, 2017, 56, 389-392.	7.2	53
34	Longâ€Lived States of Magnetically Equivalent Spins Populated by Dissolutionâ€DNP and Revealed by Enzymatic Reactions. Chemistry - A European Journal, 2014, 20, 17113-17118.	1.7	50
35	Kinetics of Yttriumâ€'Ligand Complexation Monitored Using Hyperpolarized ⁸⁹Y as a Model for Gadolinium in Contrast Agents. Journal of the American Chemical Society, 2010, 132, 5006-5007.	6.6	48
36	Cross Polarization for Dissolution Dynamic Nuclear Polarization Experiments at Readily Accessible Temperatures 1.2Â<ÂTÂ<Â4.2ÃK. Applied Magnetic Resonance, 2012, 43, 107-117.	0.6	48

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37	Hyperpolarization of Deuterated Metabolites via Remote Cross-Polarization and Dissolution Dynamic Nuclear Polarization. Journal of Physical Chemistry B, 2014, 118, 1411-1415.	1.2	48
38	Measurement of Slow Diffusion Coefficients of Molecules with Arbitrary Scalar Couplings via Longâ€Lived Spin States. ChemPhysChem, 2008, 9, 2414-2419.	1.0	47
39	Relaxometry of insensitive nuclei: Optimizing dissolution dynamic nuclear polarization. Journal of Magnetic Resonance, 2011, 210, 137-140.	1.2	47
40	Broadband excitation and indirect detection of nitrogen-14 in rotating solids using Delays Alternating with Nutation (DANTE). Journal of Magnetic Resonance, 2011, 212, 234-239.	1.2	45
41	Microwave-gated dynamic nuclear polarization. Physical Chemistry Chemical Physics, 2016, 18, 30530-30535.	1.3	42
42	Coherence transfer between spy nuclei and nitrogen-14 in solids. Journal of Magnetic Resonance, 2008, 190, 160-164.	1.2	41
43	Longâ€Lived States to Monitor Protein Unfolding by Proton NMR. ChemPhysChem, 2011, 12, 2729-2734.	1.0	41
44	Line-narrowing in proton-detected nitrogen-14 NMR. Journal of Magnetic Resonance, 2010, 202, 57-63.	1.2	39
45	High-Resolution NMR Spectroscopy in Solids by Truly Magic-Angle Spinning. Angewandte Chemie - International Edition, 2005, 44, 2935-2938.	7.2	38
46	Solid-state nitrogen-14 nuclear magnetic resonance enhanced by dynamic nuclear polarization using a gyrotron. Journal of Magnetic Resonance, 2010, 205, 177-179.	1.2	38
47	Measuring fast hydrogen exchange rates by NMR spectroscopy. Journal of Magnetic Resonance, 2007, 184, 108-113.	1.2	37
48	Toward Quantitative Measurements of Enzyme Kinetics by Dissolution Dynamic Nuclear Polarization. Journal of Physical Chemistry Letters, 2014, 5, 3290-3295.	2.1	36
49	Dynamic Nuclear Polarization of Long-Lived Nuclear Spin States in Methyl Groups. Journal of Physical Chemistry Letters, 2017, 8, 3549-3555.	2.1	34
50	A cryogen-consumption-free system for dynamic nuclear polarization at 9.4â€T. Journal of Magnetic Resonance, 2018, 294, 115-121.	1.2	34
51	Three-field NMR to preserve hyperpolarized proton magnetization as long-lived states in moderate magnetic fields. Chemical Physics Letters, 2011, 512, 151-154.	1.2	33
52	Multiple-Quantum Filtered Xenon-131 NMR as a Surface Probe. Physical Review Letters, 1998, 80, 1398-1401.	2.9	32
53	Evidence for Dynamics on a 100 ns Time Scale from Single- and Double-Quantum Nitrogen-14 NMR in Solid Peptides. Journal of the American Chemical Society, 2008, 130, 10850-10851.	6.6	31
54	Filterable Agents for Hyperpolarization of Water, Metabolites, and Proteins. Chemistry - A European Journal, 2016, 22, 14696-14700.	1.7	31

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55	Uniform broadband excitation of crystallites in rotating solids using interleaved sequences of delays alternating with nutation. Journal of Magnetic Resonance, 2012, 223, 228-236.	1.2	29
56	Challenges in preparing, preserving and detecting para-water in bulk: overcoming proton exchange and other hurdles. Physical Chemistry Chemical Physics, 2015, 17, 26819-26827.	1.3	29
57	Characterizing Thermal Mixing Dynamic Nuclear Polarization via Cross-Talk between Spin Reservoirs. Journal of Physical Chemistry Letters, 2017, 8, 5531-5536.	2.1	29
58	Hyperpolarized para-Ethanol. Journal of Physical Chemistry B, 2015, 119, 4048-4052.	1.2	26
59	Double cross polarization for the indirect detection of nitrogen-14 nuclei in magic angle spinning NMR spectroscopy. Journal of Chemical Physics, 2017, 147, 184201.	1.2	25
60	Bibliometrics as Weapons of Mass Citation La bibliomÃ©trie comme arme de citation massive. Chimia, 2010, 64, 78.	0.3	24
61	Tailored Polarizing Hybrid Solids with Nitroxide Radicals Localized in Mesostructured Silica Walls. Helvetica Chimica Acta, 2017, 100, e1700101.	1.0	24
62	Tailored Microstructured Hyperpolarizing Matrices for Optimal Magnetic Resonance Imaging. Angewandte Chemie - International Edition, 2018, 57, 7453-7457.	7.2	24
63	Measurement of Cross-Relaxation between Amide Protons in 15N-Enriched Proteins with Suppression of Spin Diffusion. Journal of the American Chemical Society, 1996, 118, 3531-3532.	6.6	23
64	Modern NMR Pulse Experiments: A Graphical Description of the Evolution of Spin Systems. Angewandte Chemie International Edition in English, 1990, 29, 374-383.	4.4	21
65	Highâ€Resolution NMR of Folded Proteins in Hyperpolarized Physiological Solvents. Chemistry - A European Journal, 2018, 24, 13418-13423.	1.7	20
66	Cubic three-dimensional hybrid silica solids for nuclear hyperpolarization. Chemical Science, 2016, 7, 6846-6850.	3.7	19
67	Hyperpolarization of nitrogen-15 nuclei by cross polarization and dissolution dynamic nuclear polarization. Review of Scientific Instruments, 2017, 88, 015109.	0.6	19
68	Measuring absolute spin polarization in dissolution-DNP by Spin PolarimetrY Magnetic Resonance (SPY-MR). Journal of Magnetic Resonance, 2015, 260, 127-135.	1.2	18
69	Hyperpolarization of Frozen Hydrocarbon Gases by Dynamic Nuclear Polarization at 1.2 K. Journal of Physical Chemistry Letters, 2016, 7, 3235-3239.	2.1	18
70	Self-refocusing 270Â° gaussian pulses for slice selection without gradient reversal in magnetic resonance imaging. Magnetic Resonance in Medicine, 1989, 10, 273-281.	1.9	17
71	Solid-state NMR measurements and DFT calculations of the magnetic shielding tensors of protons of water trapped in barium chlorate monohydrate. RSC Advances, 2014, 4, 56248-56258.	1.7	17
72	Sensitivity-enhanced three-dimensional and carbon-detected two-dimensional NMR of proteins using hyperpolarized water. Journal of Biomolecular NMR, 2020, 74, 161-171.	1.6	17

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73	Communication: Dissolution DNP reveals a long-lived deuterium spin state imbalance in methyl groups. Journal of Chemical Physics, 2017, 146, 041101.	1.2	16
74	Transport of hyperpolarized samples in dissolution-DNP experiments. Physical Chemistry Chemical Physics, 2019, 21, 13696-13705.	1.3	16
75	Long-Lived States in Hyperpolarized Deuterated Methyl Groups Reveal Weak Binding of Small Molecules to Proteins. Journal of Physical Chemistry Letters, 2019, 10, 1523-1529.	2.1	15
76	Cross-encoded magnetic resonance imaging in inhomogeneous fields. Journal of Magnetic Resonance, 2009, 201, 199-204.	1.2	14
77	Relaxation of long-lived modes in NMR of deuterated methyl groups. Journal of Chemical Physics, 2018, 149, 054202.	1.2	14
78	Proton Relaxometry of Longâ€Lived Spin Order. ChemPhysChem, 2019, 20, 766-772.	1.0	14
79	Tailored Microstructured Hyperpolarizing Matrices for Optimal Magnetic Resonance Imaging. Angewandte Chemie, 2018, 130, 7575-7579.	1.6	13
80	Natural abundance oxygen-17 solid-state NMR of metal organic frameworks enhanced by dynamic nuclear polarization. Physical Chemistry Chemical Physics, 2021, 23, 2245-2251.	1.3	13
81	Dissolution dynamic nuclear polarization of deuterated molecules enhanced by cross-polarization. Journal of Chemical Physics, 2016, 145, 194203.	1.2	12
82	Collisional cross-section of water molecules in vapour studied by means of 1H relaxation in NMR. Scientific Reports, 2016, 6, 38492.	1.6	10
83	Anisotropic longitudinal electronic relaxation affects DNP at cryogenic temperatures. Physical Chemistry Chemical Physics, 2017, 19, 16087-16094.	1.3	10
84	Dipolar couplings in solid polypeptides probed by 14N NMR spectroscopy. Communications Chemistry, 2018, 1, .	2.0	10
85	Spin Thermometry: A Straightforward Measure of Millikelvin Deuterium Spin Temperatures Achieved by Dynamic Nuclear Polarization. Journal of Physical Chemistry Letters, 2020, 11, 3219-3225.	2.1	10
86	Rates of Chemical Reactions Embedded in a Metabolic Network by Dissolution Dynamic Nuclear Polarisation NMR. Chemistry - A European Journal, 2018, 24, 5456-5461.	1.7	9
87	Cross-term Splittings Due to the Orientational Inequivalence of Proton Magnetic Shielding Tensors: Do Water Molecules Trapped in Crystals Hop or Tunnel?. Journal of Physical Chemistry Letters, 2019, 10, 3224-3231.	2.1	8
88	Coherence transfer in threeâ€level systems: Controlled violation of adiabaticity and antiparallel double resonant irradiation. Journal of Chemical Physics, 1995, 103, 136-143.	1.2	7
89	Selfâ€Assembly of DNA and RNA Building Blocks Explored by Nitrogenâ€14 NMR Crystallography: Structure and Dynamics. ChemPhysChem, 2020, 21, 1044-1051.	1.0	7
90	Cross polarization from spins I=1âˆ•2 to spins S=1 in nuclear magnetic resonance with magic angle sample spinning. Journal of Chemical Physics, 2006, 124, 194311.	1.2	5

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91	Lifetimes of long-lived states in inhomogeneous magnetic fields. Chemical Physics Letters, 2015, 623, 113-116.	1.2	4
92	A Lowâ€Temperature Broadband NMR Probe for Multinuclear Crossâ€Polarization. ChemPhysChem, 2019, 20, 2830-2835.	1.0	4
93	Inversion of Hyperpolarized ¹³C NMR Signals through Cross-Correlated Cross-Relaxation in Dissolution DNP Experiments. Journal of Physical Chemistry B, 2022, 126, 4599-4610.	1.2	4
94	On the use of a slice-selective 270Â° self-refocusing Gaussian pulse for magnetic resonance imaging: Comments on the note by D. M. Doddrellet al.. Magnetic Resonance in Medicine, 1991, 19, 461-463.	1.9	3
95	The effects of molecular diffusion in spatially encoded magnetic resonance imaging. Journal of Magnetic Resonance, 2016, 273, 98-104.	1.2	3
96	Susceptibility contrast by echo shifting in spatially encoded single-scan MRI. Physical Chemistry Chemical Physics, 2017, 19, 14210-14213.	1.3	3
97	Sequential assignment of NMR spectra of peptides at natural isotopic abundance with zero- and ultra-low-field total correlation spectroscopy (ZULF-TOCSY). Physical Chemistry Chemical Physics, 2021, 23, 9715-9720.	1.3	3
98	Advances in single-scan time-encoding magnetic resonance imaging. Scientific Reports, 2018, 8, 10891.	1.6	1
99	In memoriam Konstantin L'vovich Ivanov. Magnetic Resonance, 2021, 2, 341-342.	0.8	1
100	Sisyphus desperately seeking publisher. Journal of Biosciences, 2018, 43, 9-14.	0.5	0
101	Spatio-temporal encoding by quadratic gradients in magnetic resonance imaging. Journal of Magnetic Resonance Open, 2020, 4-5, 100008.	0.5	0