Peter J Basser

List of Publications by Year
in descending order

74 papers	11,889 citations	186265 28 h-index	95266 68 g-index
80 all docs	80 docs citations	80 times ranked	11272 citing authors

#	Article	IF	Citations
1	Dynamic model of monovalent-divalent cation exchange in polyelectrolyte gels. Physical Review Materials, 2022, 6, .	2.4	1
2	Disentangling the Effects of Restriction and Exchange With Diffusion Exchange Spectroscopy. Frontiers in Physics, 2022, 10, .	2.1	3
3	Detection of stroke by portable, low-field MRI: A milestone in medical imaging. Science Advances, 2022, 8, eabp9307.	10.3	2
4	Ion-Induced Volume Transition in Gels and Its Role in Biology. Gels, 2021, 7, 20.	4.5	11
5	A single-shot measurement of time-dependent diffusion over sub-millisecond timescales using static field gradient NMR. Journal of Chemical Physics, 2021, 154, 111105.	3.0	4
6	A Novel InÂVitro Device to Deliver Induced Electromagnetic Fields to Cell and Tissue Cultures. Biophysical Journal, 2020, 119, 2378-2390.	0.5	5
7	Direct and specific assessment of axonal injury and spinal cord microenvironments using diffusion correlation imaging. NeuroImage, 2020, 221, 117195.	4.2	16
8	Real-time measurement of diffusion exchange rate in biological tissue. Journal of Magnetic Resonance, 2020, 317, 106782.	2.1	11
9	Feasibility of filter-exchange imaging (FEXI) in measuring different exchange processes in human brain. NeuroImage, 2020, 219, 117039.	4.2	26
10	Retaining information from multidimensional correlation MRI using a spectral regions of interest generator. Scientific Reports, 2020, 10, 3246.	3.3	22
11	Effects of mono- and divalent cations on the structure and thermodynamic properties of polyelectrolyte gels. Soft Matter, 2019, 15, 4153-4161.	2.7	18
12	Brain active transmembrane water cycling measured by MR isÂassociated with neuronal activity. Magnetic Resonance in Medicine, 2019, 81, 1280-1295.	3.0	21
13	Water mobility spectral imaging of the spinal cord: Parametrization of model-free Laplace MRI. Magnetic Resonance Imaging, 2019, 56, 187-193.	1.8	19
14	Magnetic resonance measurements of cellular and sub-cellular membrane structures in live and fixed neural tissue. ELife, 2019, 8, .	6.0	40
15	Towards clinically feasible relaxation-diffusion correlation MRI using MADCO. Microporous and Mesoporous Materials, 2018, 269, 93-96.	4.4	26
16	Fast, Na⁺/K⁺ pump driven, steadyâ€state transcytolemmal water exchange in neuronal tissue: A study of rat brain cortical cultures. Magnetic Resonance in Medicine, 2018, 79, 3207-3217.	3.0	47
17	Rapid detection of the presence of diffusion exchange. Journal of Magnetic Resonance, 2018, 297, 17-22.	2.1	20
18	Magnetic resonance microdynamic imaging reveals distinct tissue microenvironments. NeuroImage, 2017, 163, 183-196.	4.2	52

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19	Imaging Local Diffusive Dynamics Using Diffusion Exchange Spectroscopy MRI. Physical Review Letters, 2017, 118, 158003.	7.8	38
20	Fast, accurate 2D-MR relaxation exchange spectroscopy (REXSY): Beyond compressed sensing. Journal of Chemical Physics, 2016, 145, 154202.	3.0	19
21	Assessing the sensitivity of diffusion MRI to detect neuronal activity directly. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E1728-37.	7.1	35
22	White matter microstructure from nonparametric axon diameter distribution mapping. NeuroImage, 2016, 135, 333-344.	4.2	64
23	Use of marginal distributions constrained optimization (MADCO) for accelerated 2D MRI relaxometry and diffusometry. Journal of Magnetic Resonance, 2016, 271, 40-45.	2.1	89
24	Improving Tumor Treating Fields Treatment Efficacy in Patients With Glioblastoma Using Personalized Array Layouts. International Journal of Radiation Oncology Biology Physics, 2016, 94, 1137-1143.	0.8	49
25	Tract Orientation and Angular Dispersion Deviation Indicator (TOADDI): A framework for single-subject analysis in diffusion tensor imaging. NeuroImage, 2016, 126, 151-163.	4.2	3
26	Clinical feasibility of using mean apparent propagator (MAP) MRI to characterize brain tissue microstructure. NeuroImage, 2016, 127, 422-434.	4.2	101
27	Simultaneous calcium fluorescence imaging and MR ofex vivoorganotypic cortical cultures: a new test bed for functional MRI. NMR in Biomedicine, 2015, 28, 1726-1738.	2.8	17
28	Detecting compartmental nonâ€Gaussian diffusion with symmetrized doubleâ€PFG MRI. NMR in Biomedicine, 2015, 28, 1550-1556.	2.8	23
29	Effect of calcium/sodium ion exchange on the osmotic properties and structure of polyelectrolyte gels. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2015, 229, 895-904.	1.8	18
30	Modeling Tumor Treating Fields (TTFields) application in single cells during metaphase and telophase. , 2015, 2015, 6892-5.		28
31	Glial Regulation of the Neuronal Connectome through Local and Long-Distant Communication. Neuron, 2015, 86, 374-386.	8.1	126
32	Efficient 2D MRI relaxometry using compressed sensing. Journal of Magnetic Resonance, 2015, 255, 88-99.	2.1	35
33	The electric field distribution in the brain during TTFields therapy and its dependence on tissue dielectric properties and anatomy: a computational study. Physics in Medicine and Biology, 2015, 60, 7339-7357.	3.0	84
34	Novel Single and Multiple Shell Uniform Sampling Schemes for Diffusion MRI Using Spherical Codes. Lecture Notes in Computer Science, 2015, 9349, 28-36.	1.3	3
35	Tensorial Spherical Polar Fourier Diffusion MRI with Optimal Dictionary Learning. Lecture Notes in Computer Science, 2015, 9349, 174-182.	1.3	4
36	Assessment of Functional Properties of Cartilage using Double Quantum Filtered MRI. Materials Research Society Symposia Proceedings, 2014, 1622, 41-48.	0.1	0

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37	Joint radius-length distribution as a measure of anisotropic pore eccentricity: An experimental and analytical framework. Journal of Chemical Physics, 2014, 141, 214202.	3.0	16
38	TM-16 * INVESTIGATING THE MECHANISMS OF ACTION OF TUMOR TREATING FIELDS: A COMPUTATIONAL MODELING STUDY. Neuro-Oncology, 2014, 16, v216-v216.	1.2	5
39	Cartilage: Biomimetic Study of the Extracellular Matrix. Materials Research Society Symposia Proceedings, 2014, 1622, 61-68.	0.1	0
40	Solving 2D Fredholm Integral from Incomplete Measurements Using Compressive Sensing. SIAM Journal on Imaging Sciences, 2014, 7, 1775-1798.	2.2	18
41	Nonparametric pore size distribution using d-PFG: Comparison to s-PFG and migration to MRI. Journal of Magnetic Resonance, 2014, 246, 36-45.	2.1	34
42	A framework for accurate determination of the T2 distribution from multiple echo magnitude MRI images. Journal of Magnetic Resonance, 2014, 244, 53-63.	2.1	25
43	NMR water selfâ€diffusion and relaxation studies on sodium polyacrylate solutions and gels in physiologic ionic solutions. Journal of Applied Polymer Science, 2014, 131, .	2.6	10
44	In vivo detection of microscopic anisotropy using quadruple pulsed-field gradient (qPFG) diffusion MRI on a clinical scanner. NeuroImage, 2013, 64, 229-239.	4.2	60
45	Depth dependent osmotic and swelling properties of cartilage. Materials Research Society Symposia Proceedings, 2012, 1418, 33.	0.1	0
46	Recollections about our 1996 JMR paper on diffusion anisotropy. Journal of Magnetic Resonance, 2011, 213, 571-572.	2.1	11
47	Dealing with Uncertainty in Diffusion Tensor MR Data. Israel Journal of Chemistry, 2010, 43, 129-144.	2.3	11
48	Ionic and pH effects on the osmotic properties and structure of polyelectrolyte gels. Journal of Polymer Science, Part B: Polymer Physics, 2008, 46, 2803-2810.	2.1	24
49	Axcaliber: A method for measuring axon diameter distribution from diffusion MRI. Magnetic Resonance in Medicine, 2008, 59, 1347-1354.	3.0	763
50	Comparative Study of Scattering and Osmotic Properties of Synthetic and Biopolymer Gels. Macromolecular Symposia, 2007, 256, 80-87.	0.7	10
51	Anomalous small angle x-ray scattering determination of ion distribution around a polyelectrolyte biopolymer in salt solution. Journal of Chemical Physics, 2006, 125, 234904.	3.0	37
52	Characterization of Anomalous Diffusion from MR Signal may be a New Probe to Tissue Microstructure. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
53	Light, Small Angle Neutron and X-Ray Scattering from Gels. Macromolecular Symposia, 2005, 227, 27-38.	0.7	7
54	Toward a Constitutive Law of Cartilage: A Polymer Physics Perspective. Macromolecular Symposia, 2005, 227, 53-64.	0.7	5

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55	Adsorption of Divalent Cations on DNA. Biophysical Journal, 2004, 87, 2897-2904.	0.5	35
56	Osmotic Observations on Chemically Cross-Linked DNA Gels in Physiological Salt Solutions. Biomacromolecules, 2004, 5, 232-237.	5.4	72
57	Calcium induced volume transition in polyelectrolyte gels. Macromolecular Symposia, 2003, 200, 21-30.	0.7	2
58	Ion condensation in a polyelectrolyte gel. Macromolecular Symposia, 2003, 200, 227-234.	0.7	3
59	Calcium-induced volume transition in polyacrylate hydrogels swollen in physiological salt solutions. Macromolecular Bioscience, 2002, 2, 207.	4.1	18
60	Relationships between diffusion tensor andq-space MRI. Magnetic Resonance in Medicine, 2002, 47, 392-397.	3.0	134
61	Diffusion-tensor MRI: theory, experimental design and data analysis - a technical review. NMR in Biomedicine, 2002, 15, 456-467.	2.8	1,291
62	Effect of Monovalentâ^'Divalent Cation Exchange on the Swelling of Polyacrylate Hydrogels in Physiological Salt Solutions. Biomacromolecules, 2001, 2, 195-199.	5.4	167
63	Comparison between Neutral Gels and Neutralized Polyelectrolyte Gels in the Presence of Divalent Cations. Macromolecules, 2001, 34, 4285-4287.	4.8	12
64	Ion-exchange induced change in the structure and osmotic properties of sodium polyacrylate hydrogels. Macromolecular Symposia, 2001, 171, 201-208.	0.7	2
65	Statistical artifacts in diffusion tensor MRI (DT-MRI) caused by background noise. Magnetic Resonance in Medicine, 2000, 44, 41-50.	3.0	297
66	In vivo fiber tractography using DT-MRI data. Magnetic Resonance in Medicine, 2000, 44, 625-632.	3.0	2,778
67	Osmotic and SANS Observations on Sodium Polyacrylate Hydrogels in Physiological Salt Solutions. Macromolecules, 2000, 33, 8329-8333.	4.8	47
68	Osmotic Swelling of Polyacrylate Hydrogels in Physiological Salt Solutions. Biomacromolecules, 2000, 1, 84-90.	5.4	375
69	New Currents in Electrical Stimulation of Excitable Tissues. Annual Review of Biomedical Engineering, 2000, 2, 377-397.	12.3	129
70	Statistical artifacts in diffusion tensor MRI (DT-MRI) caused by background noise. , 2000, 44, 41.		1
71	In vivo fiber tractography using DT-MRI data. , 2000, 44, 625.		21
72	A simplified method to measure the diffusion tensor from seven MR images. Magnetic Resonance in Medicine, 1998, 39, 928-934.	3.0	558

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73	Anisotropically weighted MRI. Magnetic Resonance in Medicine, 1998, 40, 160-165.	3.0	28
74	Microstructural and Physiological Features of Tissues Elucidated by Quantitative-Diffusion-Tensor MRI. Journal of Magnetic Resonance Series B, 1996, 111, 209-219.	1.6	3,801