John Wheeler

List of Publications by Year in Descending Order

109 papers	4,101 citations	35 h-index	61 g-index
115 ext. papers	4,467 ext. citations	3.8 avg, IF	5.5 L-index

#	Paper	IF	Citations
109	The influence of large second phase grains on microstructural evolution during diffusion creep. *Journal of Structural Geology*, **2021**, 148, 104371	3	0
108	Characterizing the influence of parent grain structures on the physical properties of additively manufactured Ti-64 alloys using EBSD. *Microscopy and Microanalysis*, **2021**, 27, 2674-2676	0.5	
107	Interactions between deformation and dissolution-precipitation reactions in plagioclase feldspar at greenschist facies. *Lithos*, **2021**, 396-397, 106241	2.9	1
106	A unifying basis for the interplay of stress and chemical processes in the Earth: support from diverse experiments. *Contributions To Mineralogy and Petrology*, **2020**, 175, 1	3.5	5
105	Temperature and strain controls on ice deformation mechanisms: insights from the microstructures of samples deformed to progressively higher strains at □10, □20 and □30 □C. *Cryosphere*, **2020**, 14, 3875-3905	5.5	11
104	Microstructural constraints on magmatic mushes under K□uea Volcano, Hawai'i. *Nature Communications*, **2020**, 11, 14	17.4	19
103	High-Resolution Mapping of Yield Curve Shape and Evolution for High-Porosity Sandstone. *Journal of Geophysical Research: Solid Earth*, **2019**, 124, 5450-5468	3.6	7
102	New shock microstructures in titanite (CaTiSiO5) from the peak ring of the Chicxulub impact structure, Mexico. *Contributions To Mineralogy and Petrology*, **2019**, 174, 1	3.5	12
101	A review of numerical modelling of the dynamics of microstructural development in rocks and ice: Past, present and future. *Journal of Structural Geology*, **2019**, 125, 111-123	3	5
100	The Influence of Water on the Strength of Olivine Dislocation Slip Systems. *Journal of Geophysical Research: Solid Earth*, **2019**, 124, 6542-6559	3.6	5
99	Anisotropic diffusion creep in postperovskite provides a new model for deformation at the core-mantle boundary. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**,	11.5	4
98	High-Resolution Mapping of Yield Curve Shape and Evolution for Porous Rock: The Effect of Inelastic Compaction on Porous Bassanite. *Journal of Geophysical Research: Solid Earth*, **2018**, 123, 1217-1234	3.6	19
97	Reaction fronts, permeability and fluid pressure development during dehydration reactions. *Earth and Planetary Science Letters*, **2018**, 496, 227-237	5.3	11
96	Mechanisms of strain accommodation in plastically-deformed zircon under simple shear deformation conditions during amphibolite-facies metamorphism. *Journal of Structural Geology*, **2018**, 107, 12-24	3	2
95	The effects of stress on reactions in the Earth: Sometimes rather mean, usually normal, always important. *Journal of Metamorphic Geology*, **2018**, 36, 439-461	4.4	31
94	Preserved organic matter in a fossil Ocean Continent Transition in the Alps: the example of Totalp, SE Switzerland. *Swiss Journal of Geosciences*, **2017**, 110, 457-478	2.1	1
93	A 4D view on the evolution of metamorphic dehydration reactions. *Scientific Reports*, **2017**, 7, 6881	4.9	13

92	Crystal plasticity as an indicator of the viscous-brittle transition in magmas. *Nature Communications*, **2017**, 8, 1926	17.4	14
91	Quantifying the anisotropy and tortuosity of permeable pathways in clay-rich mudstones using models based on X-ray tomography. *Scientific Reports*, **2017**, 7, 14838	4.9	78
90	Non-basal dislocations should be accounted for in simulating ice mass flow. *Earth and Planetary Science Letters*, **2017**, 473, 247-255	5.3	15
89	Permeability control on transient slip weakening during gypsum dehydration: Implications for earthquakes in subduction zones. *Earth and Planetary Science Letters*, **2016**, 442, 1-12	5.3	21
88	Effect of local stress heterogeneities on dislocation fields: Examples from transient creep in polycrystalline ice. *Acta Materialia*, **2015**, 90, 303-309	8.4	21
87	Planar microstructures in zircon from paleo-seismic zones. *American Mineralogist*, **2015**, 100, 1834-1847	2.9	21
86	Dramatic effects of stress on metamorphic reactions: REPLY. *Geology*, **2015**, 43, e373-e373	5	4
85	Dramatic effects of stress on metamorphic reactions: REPLY. *Geology*, **2015**, 43, e355-e355	5	6
84	Temperature–time evolution of the Assynt Terrane of the Lewisian Gneiss Complex of Northwest Scotland from zircon U-Pb dating and Ti thermometry. *Precambrian Research*, **2015**, 260, 55-75	3.9	17
83	Characterizing deformed ultrafine-grained and nanocrystalline materials using transmission Kikuchi diffraction in a scanning electron microscope. *Acta Materialia*, **2014**, 62, 69-80	8.4	125
82	Microstructural and Metamorphic Constraints on the Thermal Evolution of the Southern Region of the Lewisian Gneiss Complex, NW Scotland. *Journal of Petrology*, **2014**, 55, 2043-2066	3.9	3
81	Dramatic effects of stress on metamorphic reactions. *Geology*, **2014**, 42, 647-650	5	67
80	Lattice distortion in a zircon population and its effects on trace element mobility and U–Th–Pb isotope systematics: examples from the Lewisian Gneiss Complex, northwest Scotland. *Contributions To Mineralogy and Petrology*, **2013**, 166, 21-41	3.5	31
79	Electron backscatter diffraction analysis to determine the mechanisms that operated during dynamic recrystallisation of quartz-rich rocks. *Journal of Structural Geology*, **2012**, 36, 2-15	3	30
78	Fabrics produced mimetically during static metamorphism in retrogressed eclogites from the Zermatt-Saas zone, Western Italian Alps. *Journal of Structural Geology*, **2012**, 44, 167-178	3	24
77	Metamorphic reaction rate controlled by fluid pressure not confining pressure: implications of dehydration experiments with gypsum. *Contributions To Mineralogy and Petrology*, **2012**, 164, 69-79	3.5	33
76	Modelling Interface Diffusion Creep: Single Phase Insights and Two Phase Challenges. *Materials Science Forum*, **2012**, 715-716, 983-987	0.4	
75	Quantitative Analysis of EBSD Data in Rocks and other Crystalline Materials: Investigation of Strain Induced Recrystallisation and Growth of New Phases. *Materials Science Forum*, **2012**, 715-716, 62-71	0.4	2

74	The Weighted Burgers Vector: A Quantity for Constraining Dislocation Densities and Types Using Electron Backscatter Diffraction on 2D Sections through Crystalline Materials. *Materials Science Forum*, **2012**, 715-716, 732-736	0.4	3
73	Thoughts on Superplasticity in General and on its Role in Earth Deformation. *Materials Science Forum*, **2012**, 735, 3-8	0.4	
72	Earliest rock fabric formed in the Solar System preserved in a chondrule rim. *Nature Geoscience*, **2011**, 4, 244-247	18.3	58
71	Relative strength of mafic and felsic rocks during amphibolite facies metamorphism and deformation. *Journal of Structural Geology*, **2011**, 33, 662-675	3	29
70	Time-lapse misorientation maps for the analysis of electron backscatter diffraction data from evolving microstructures. *Scripta Materialia*, **2011**, 65, 600-603	5.6	8
69	Grain growth and the lifetime of diffusion creep deformation. *Geological Society Special Publication*, **2011**, 360, 257-272	1.7	6
68	Electron Backscatter Diffraction (EBSD) Analysis of Bassanite Transformation Textures and Crystal Structure Produced from Experimentally Deformed and Dehydrated Gypsum. *Journal of Petrology*, **2011**, 52, 839-856	3.9	23
67	Diffusion-creep modelling of fibrous pressure shadows II: influence of inclusion size and interface roughness. *Geological Society Special Publication*, **2011**, 360, 319-328	1.7	3
66	The Laxford Shear Zone: an end-Archaean terrane boundary?. *Geological Society Special Publication*, **2010**, 335, 103-120	1.7	22
65	The Lewisian Complex: insights into deep crustal evolution. *Geological Society Special Publication*, **2010**, 335, 51-79	1.7	23
64	Anisotropic rheology during grain boundary diffusion creep and its relation to grain rotation, grain boundary sliding and superplasticity. *Philosophical Magazine*, **2010**, 90, 2841-2864	1.6	32
63	Modelling grain-recycling zoning during metamorphism. *Journal of Metamorphic Geology*, **2010**, 28, 423-437	4.4	16
62	EBSD in the Earth Sciences: Applications, Common Practice, and Challenges **2009**, 345-360		68
61	The preservation of seismic anisotropy in the Earth's mantle during diffusion creep. *Geophysical Journal International*, **2009**, 178, 1723-1732	2.6	44
60	The Weighted Burgers Vector: a new quantity for constraining dislocation densities and types using electron backscatter diffraction on 2D sections through crystalline materials. *Journal of Microscopy*, **2009**, 233, 482-94	1.9	60
59	Microstructure evolution and recrystallization during creep of MgO single crystals. *Acta Materialia*, **2009**, 57, 1886-1898	8.4	23
58	Microstructure Evolution During Creep and Annealing of Minerals and Rocks. *Microscopy and Microanalysis*, **2009**, 15, 412-413	0.5	
57	A major high-strain zone in the Lewisian Complex in the Loch Torridon area, NW Scotland: insights into deep crustal deformation. *Geological Society Special Publication*, **2007**, 272, 27-45	1.7	4

56	Analysis of dynamic recrystallization and nucleation in a quartzite mylonite. *Tectonophysics*, **2006**, 427, 3-14	3.1	79
55	Diffusion-creep modelling of fibrous pressure-shadows. *Tectonophysics*, **2006**, 425, 191-205	3.1	15
54	First combined electron backscatter diffraction and transmission electron microscopy study of grain boundary structure of deformed quartzite. *Journal of Microscopy*, **2006**, 224, 306-21	1.9	32
53	Eclogite-facies polyphase deformation of the Dr□dal eclogite, Western Gneiss Complex, Norway, and implications for exhumation. *Tectonophysics*, **2005**, 398, 1-32	3.1	21
52	Dynamic Recrystallisation of Quartz. *Materials Science Forum*, **2004**, 467-470, 1243-1250	0.4	4
51	Recrystallization Microstructures during Creep of MgO Single Crystals. *Materials Science Forum*, **2004**, 467-470, 585-590	0.4	
50	Recrystallization and Grain Growth in Rocks and Minerals. *Materials Science Forum*, **2004**, 467-470, 545-550	0.4	6
49	Disequilibrium in the Ross of Mull Contact Metamorphic Aureole, Scotland: a Consequence of Polymetamorphism. *Journal of Petrology*, **2004**, 45, 835-853	3.9	11
48	Using Electron Backscatter Diffraction (EBSD) to Measure Misorientation between □Parent□and □Daughter□Grains. Implications for Recrystallisation and Nucleation. *Materials Science Forum*, **2004**, 467-470, 573-578	0.4	4
47	In situ SEM-EBSD observations of the hcp to bcc phase transformation in commercially pure titanium. *Acta Materialia*, **2004**, 52, 821-832	8.4	153
46	Modelling interface diffusion creep in two-phase materials. *Acta Materialia*, **2004**, 52, 2365-2376	8.4	18
45	Simulation of grain-boundary diffusion creep: analysis of some new numerical techniques. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2004**, 460, 2395-2413	2.4	6
44	An Analysis of the Roles of Stress, Temperature, and pH in Chemical Compaction of Sandstones: Reply. *Journal of Sedimentary Research*, **2004**, 74, 449-450	2.1	3
43	An Analysis of the Roles of Stress, Temperature, and pH in Chemical Compaction of Sandstones. *Journal of Sedimentary Research*, **2003**, 73, 64-71	2.1	36
42	Influence of pore fluid chemistry on the state of stress in sedimentary basins. *Geology*, **2003**, 31, 59	5	2
41	From geometry to dynamics of microstructure: using boundary lengths to quantify boundary misorientations and anisotropy. *Tectonophysics*, **2003**, 376, 19-35	3.1	24
40	Kinematic reworking and exhumation within the convergent Alpine Orogen. *Tectonophysics*, **2003**, 365, 77-102	3.1	86
39	High-temperature electron backscatter diffraction and scanning electron microscopy imaging techniques: in-situ investigations of dynamic processes. *Scanning*, **2002**, 24, 232-40	1.6	48

38	The deformation of plagioclase investigated using electron backscatter diffraction crystallographic preferred orientation data. *Journal of Structural Geology*, **2002**, 24, 387-399	3	29
37	Some garnet microstructures: an illustration of the potential of orientation maps and misorientation analysis in microstructural studies. *Journal of Structural Geology*, **2002**, 24, 999-1011	3	165
36	Computer simulation of grain-boundary diffusion creep. *Acta Materialia*, **2002**, 50, 3941-3955	8.4	51
35	The petrological significance of misorientations between grains. *Contributions To Mineralogy and Petrology*, **2001**, 141, 109-124	3.5	194
34	Development of garnet porphyroblasts by multiple nucleation, coalescence and boundary misorientation-driven rotations. *Journal of Metamorphic Geology*, **2001**, 19, 269-290	4.4	53
33	Development of garnet porphyroblasts by multiple nucleation, coalescence and boundary misorientation-driven rotations. *Journal of Metamorphic Geology*, **2001**, 19, 269	4.4	49
32	Kinematic linkage between internal zone extension and shortening in more external units in the NW Alps. *Journal of the Geological Society*, **2001**, 158, 439-443	2.7	43
31	Albite crystallographic preferred orientation and grain misorientation distribution in a low-grade mylonite: implications for granular flow. *Journal of Structural Geology*, **2000**, 22, 1663-1674	3	97
30	Crystal plasticity of natural garnet: New microstructural evidence. *Geology*, **2000**, 28, 1003	5	50
29	Geochronological constraints on the evolution of the Nanga Parbat syntaxis, Pakistan Himalaya. *Geological Society Special Publication*, **2000**, 170, 137-162	1.7	13
28	Geological structure of the southern part of the Nanga Parbat massif, Pakistan Himalaya, and its tectonic implications. *Geological Society Special Publication*, **2000**, 170, 123-136	1.7	8
27	The application of electron backscatter diffraction and orientation contrast imaging in the SEM to textural problems in rocks. *American Mineralogist*, **1999**, 84, 1741-1759	2.9	471
26	The geometry and timing of orogenic extension: an example from the Western Italian Alps. *Journal of Metamorphic Geology*, **1999**, 17, 573-589	4.4	113
25	Feldspar fabrics in a greenschist facies albite-rich mylonite from electron backscatter diffraction. *Tectonophysics*, **1999**, 303, 29-49	3.1	53
24	Grain boundary hierarchy development in a quartz mylonite. *Journal of Structural Geology*, **1998**, 20, 917-935	3	104
23	Determination of high spatial resolution argon isotope variations in metamorphic biotites. *Geochimica Et Cosmochimica Acta*, **1997**, 61, 3809-3833	5.5	43
22	Diffarg: A program for simulating argon diffusion profiles in minerals. *Computers and Geosciences*, **1996**, 22, 919-929	4.5	49
21	A 40Ar/39Ar laser probe study of micas from the Sesia Zone, Italian Alps: implications for metamorphic and deformation histories. *Journal of Metamorphic Geology*, **1996**, 14, 493-508	4.4	94

20	Structural and metamorphic evolution of the Nanga Parbat syntaxis, Pakistan Himalayas, on the Indus gorge transect: The importance of early events. *Geological Journal*, **1995**, 30, 349-371	1.7	26
19	Criteria for identifying structures related to true crustal extension in orogens. *Journal of Structural Geology*, **1994**, 16, 1023-1027	3	103
18	Evidence for extension in the western Alpine orogen: the contact between the oceanic Piemonte and overlying continental Sesia units. *Earth and Planetary Science Letters*, **1993**, 117, 457-474	5.3	60
17	Geology of the northern part of the Nanga Parbat massif, northern Pakistan, and its implications for Himalayan tectonics. *Journal of the Geological Society*, **1992**, 149, 557-567	2.7	29
16	Importance of pressure solution and coble creep in the deformation of polymineralic rocks. *Journal of Geophysical Research*, **1992**, 97, 4579		98
15	Microstructural and crystal fabric evolution during shear zone formation. *Journal of Structural Geology*, **1992**, 14, 1079-1100	3	42
14	A view of texture dynamics. *Terra Nova*, **1991**, 3, 123-136	3	16
13	Structural evolution and asymmetric uplift of the Nanga Parbat syntaxis, Pakistan Himalya. *Geologische Rundschau: Zeitschrift Fur Allgemeine Geologie*, **1991**, 80, 411-428		40
12	Structural evolution of a subducted continental sliver: the northern Dora Maira massif, Italian Alps. *Journal of the Geological Society*, **1991**, 148, 1101-1113	2.7	57
11	Simple shear deformation and quartz crystallographic fabrics: a possible natural example from the Torridon area of NW Scotland. *Journal of Structural Geology*, **1990**, 12, 29-45	3	112
10	A concise algebraic method for assessing strain in distributions of linear objects. *Journal of Structural Geology*, **1989**, 11, 1007-1010	3	6
9	Strain analysis in rocks with pretectonic fabrics: Reply. *Journal of Structural Geology*, **1988**, 10, 531-532	3	3
8	Orientation of specimens: Essential data for all fields of geology. *Geology*, **1987**, 15, 829	5	11
7	Internal evolution of the major Precambrian shear belt at Torridon, NW Scotland. *Geological Society Special Publication*, **1987**, 27, 153-163	1.7	9
6	The determination of true shear senses from the deflection of passive markers in shear zones. *Journal of the Geological Society*, **1987**, 144, 73-77	2.7	21
5	Variable-heave models of deformation above listric normal faults: the importance of area conservation. *Journal of Structural Geology*, **1987**, 9, 1047-1049	3	20
4	The significance of grain-scale stresses in the kinetics of metamorphism. *Contributions To Mineralogy and Petrology*, **1987**, 97, 397-404	3.5	74
3	Strain analysis in rocks with pretectonic fabrics. *Journal of Structural Geology*, **1986**, 8, 887-896	3	18

2	Average properties of ellipsoidal fabrics: Implications for two- and three-dimensional methods of strain analysis. *Tectonophysics*, **1986**, 126, 259-270	3.1	21
1	A new plot to display the strain of elliptical markers. *Journal of Structural Geology*, **1984**, 6, 417-423	3	28