

John Wheeler

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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 application of electron backscatter diffraction and orientation contrast imaging in the SEM to textural problems in rocks. <i>American Mineralogist</i> , 1999 , 84, 1741-1759	2.9	471
108	The petrological significance of misorientations between grains. <i>Contributions To Mineralogy and Petrology</i> , 2001 , 141, 109-124	3.5	194
107	Some garnet microstructures: an illustration of the potential of orientation maps and misorientation analysis in microstructural studies. <i>Journal of Structural Geology</i> , 2002 , 24, 999-1011	3	165
106	In situ SEM-EBSD observations of the hcp to bcc phase transformation in commercially pure titanium. <i>Acta Materialia</i> , 2004 , 52, 821-832	8.4	153
105	Characterizing deformed ultrafine-grained and nanocrystalline materials using transmission Kikuchi diffraction in a scanning electron microscope. <i>Acta Materialia</i> , 2014 , 62, 69-80	8.4	125
104	The geometry and timing of orogenic extension: an example from the Western Italian Alps. <i>Journal of Metamorphic Geology</i> , 1999 , 17, 573-589	4.4	113
103	Simple shear deformation and quartz crystallographic fabrics: a possible natural example from the Torridon area of NW Scotland. <i>Journal of Structural Geology</i> , 1990 , 12, 29-45	3	112
102	Grain boundary hierarchy development in a quartz mylonite. <i>Journal of Structural Geology</i> , 1998 , 20, 917-935	3.5	104
101	Criteria for identifying structures related to true crustal extension in orogens. <i>Journal of Structural Geology</i> , 1994 , 16, 1023-1027	3	103
100	Importance of pressure solution and coble creep in the deformation of polymineralic rocks. <i>Journal of Geophysical Research</i> , 1992 , 97, 4579		98
99	Albite crystallographic preferred orientation and grain misorientation distribution in a low-grade mylonite: implications for granular flow. <i>Journal of Structural Geology</i> , 2000 , 22, 1663-1674	3	97
98	A ⁴⁰ Ar/ ³⁹ Ar laser probe study of micas from the Sesia Zone, Italian Alps: implications for metamorphic and deformation histories. <i>Journal of Metamorphic Geology</i> , 1996 , 14, 493-508	4.4	94
97	Kinematic reworking and exhumation within the convergent Alpine Orogen. <i>Tectonophysics</i> , 2003 , 365, 77-102	3.1	86
96	Analysis of dynamic recrystallization and nucleation in a quartzite mylonite. <i>Tectonophysics</i> , 2006 , 427, 3-14	3.1	79
95	Quantifying the anisotropy and tortuosity of permeable pathways in clay-rich mudstones using models based on X-ray tomography. <i>Scientific Reports</i> , 2017 , 7, 14838	4.9	78
94	The significance of grain-scale stresses in the kinetics of metamorphism. <i>Contributions To Mineralogy and Petrology</i> , 1987 , 97, 397-404	3.5	74
93	EBSD in the Earth Sciences: Applications, Common Practice, and Challenges 2009 , 345-360		68

92	Dramatic effects of stress on metamorphic reactions. <i>Geology</i> , 2014 , 42, 647-650	5	67
91	The Weighted Burgers Vector: a new quantity for constraining dislocation densities and types using electron backscatter diffraction on 2D sections through crystalline materials. <i>Journal of Microscopy</i> , 2009 , 233, 482-94	1.9	60
90	Evidence for extension in the western Alpine orogen: the contact between the oceanic Piemonte and overlying continental Sesia units. <i>Earth and Planetary Science Letters</i> , 1993 , 117, 457-474	5.3	60
89	Earliest rock fabric formed in the Solar System preserved in a chondrule rim. <i>Nature Geoscience</i> , 2011 , 4, 244-247	18.3	58
88	Structural evolution of a subducted continental sliver: the northern Dora Maira massif, Italian Alps. <i>Journal of the Geological Society</i> , 1991 , 148, 1101-1113	2.7	57
87	Development of garnet porphyroblasts by multiple nucleation, coalescence and boundary misorientation-driven rotations. <i>Journal of Metamorphic Geology</i> , 2001 , 19, 269-290	4.4	53
86	Feldspar fabrics in a greenschist facies albite-rich mylonite from electron backscatter diffraction. <i>Tectonophysics</i> , 1999 , 303, 29-49	3.1	53
85	Computer simulation of grain-boundary diffusion creep. <i>Acta Materialia</i> , 2002 , 50, 3941-3955	8.4	51
84	Crystal plasticity of natural garnet: New microstructural evidence. <i>Geology</i> , 2000 , 28, 1003	5	50
83	Development of garnet porphyroblasts by multiple nucleation, coalescence and boundary misorientation-driven rotations. <i>Journal of Metamorphic Geology</i> , 2001 , 19, 269	4.4	49
82	Diffarg: A program for simulating argon diffusion profiles in minerals. <i>Computers and Geosciences</i> , 1996 , 22, 919-929	4.5	49
81	High-temperature electron backscatter diffraction and scanning electron microscopy imaging techniques: in-situ investigations of dynamic processes. <i>Scanning</i> , 2002 , 24, 232-40	1.6	48
80	The preservation of seismic anisotropy in the Earth's mantle during diffusion creep. <i>Geophysical Journal International</i> , 2009 , 178, 1723-1732	2.6	44
79	Determination of high spatial resolution argon isotope variations in metamorphic biotites. <i>Geochimica Et Cosmochimica Acta</i> , 1997 , 61, 3809-3833	5.5	43
78	Kinematic linkage between internal zone extension and shortening in more external units in the NW Alps. <i>Journal of the Geological Society</i> , 2001 , 158, 439-443	2.7	43
77	Microstructural and crystal fabric evolution during shear zone formation. <i>Journal of Structural Geology</i> , 1992 , 14, 1079-1100	3	42
76	Structural evolution and asymmetric uplift of the Nanga Parbat syntaxis, Pakistan Himalya. <i>Geologische Rundschau: Zeitschrift Fur Allgemeine Geologie</i> , 1991 , 80, 411-428		40
75	An Analysis of the Roles of Stress, Temperature, and pH in Chemical Compaction of Sandstones. <i>Journal of Sedimentary Research</i> , 2003 , 73, 64-71	2.1	36

74	Metamorphic reaction rate controlled by fluid pressure not confining pressure: implications of dehydration experiments with gypsum. <i>Contributions To Mineralogy and Petrology</i> , 2012 , 164, 69-79	3.5	33
73	Anisotropic rheology during grain boundary diffusion creep and its relation to grain rotation, grain boundary sliding and superplasticity. <i>Philosophical Magazine</i> , 2010 , 90, 2841-2864	1.6	32
72	First combined electron backscatter diffraction and transmission electron microscopy study of grain boundary structure of deformed quartzite. <i>Journal of Microscopy</i> , 2006 , 224, 306-21	1.9	32
71	Lattice distortion in a zircon population and its effects on trace element mobility and U-Th-Bb isotope systematics: examples from the Lewisian Gneiss Complex, northwest Scotland. <i>Contributions To Mineralogy and Petrology</i> , 2013 , 166, 21-41	3.5	31
70	The effects of stress on reactions in the Earth: Sometimes rather mean, usually normal, always important. <i>Journal of Metamorphic Geology</i> , 2018 , 36, 439-461	4.4	31
69	Electron backscatter diffraction analysis to determine the mechanisms that operated during dynamic recrystallisation of quartz-rich rocks. <i>Journal of Structural Geology</i> , 2012 , 36, 2-15	3	30
68	Relative strength of mafic and felsic rocks during amphibolite facies metamorphism and deformation. <i>Journal of Structural Geology</i> , 2011 , 33, 662-675	3	29
67	The deformation of plagioclase investigated using electron backscatter diffraction crystallographic preferred orientation data. <i>Journal of Structural Geology</i> , 2002 , 24, 387-399	3	29
66	Geology of the northern part of the Nanga Parbat massif, northern Pakistan, and its implications for Himalayan tectonics. <i>Journal of the Geological Society</i> , 1992 , 149, 557-567	2.7	29
65	A new plot to display the strain of elliptical markers. <i>Journal of Structural Geology</i> , 1984 , 6, 417-423	3	28
64	Structural and metamorphic evolution of the Nanga Parbat syntaxis, Pakistan Himalayas, on the Indus gorge transect: The importance of early events. <i>Geological Journal</i> , 1995 , 30, 349-371	1.7	26
63	Fabrics produced mimetically during static metamorphism in retrogressed eclogites from the Zermatt-Saas zone, Western Italian Alps. <i>Journal of Structural Geology</i> , 2012 , 44, 167-178	3	24
62	From geometry to dynamics of microstructure: using boundary lengths to quantify boundary misorientations and anisotropy. <i>Tectonophysics</i> , 2003 , 376, 19-35	3.1	24
61	The Lewisian Complex: insights into deep crustal evolution. <i>Geological Society Special Publication</i> , 2010 , 335, 51-79	1.7	23
60	Microstructure evolution and recrystallization during creep of MgO single crystals. <i>Acta Materialia</i> , 2009 , 57, 1886-1898	8.4	23
59	Electron Backscatter Diffraction (EBSD) Analysis of Bassanite Transformation Textures and Crystal Structure Produced from Experimentally Deformed and Dehydrated Gypsum. <i>Journal of Petrology</i> , 2011 , 52, 839-856	3.9	23
58	The Laxford Shear Zone: an end-Archaean terrane boundary?. <i>Geological Society Special Publication</i> , 2010 , 335, 103-120	1.7	22
57	Effect of local stress heterogeneities on dislocation fields: Examples from transient creep in polycrystalline ice. <i>Acta Materialia</i> , 2015 , 90, 303-309	8.4	21

56	Planar microstructures in zircon from paleo-seismic zones. <i>American Mineralogist</i> , 2015 , 100, 1834-1847	2.9	21
55	Permeability control on transient slip weakening during gypsum dehydration: Implications for earthquakes in subduction zones. <i>Earth and Planetary Science Letters</i> , 2016 , 442, 1-12	5.3	21
54	Eclogite-facies polyphase deformation of the Drødal eclogite, Western Gneiss Complex, Norway, and implications for exhumation. <i>Tectonophysics</i> , 2005 , 398, 1-32	3.1	21
53	The determination of true shear senses from the deflection of passive markers in shear zones. <i>Journal of the Geological Society</i> , 1987 , 144, 73-77	2.7	21
52	Average properties of ellipsoidal fabrics: Implications for two- and three-dimensional methods of strain analysis. <i>Tectonophysics</i> , 1986 , 126, 259-270	3.1	21
51	Variable-heave models of deformation above listric normal faults: the importance of area conservation. <i>Journal of Structural Geology</i> , 1987 , 9, 1047-1049	3	20
50	High-Resolution Mapping of Yield Curve Shape and Evolution for Porous Rock: The Effect of Inelastic Compaction on Porous Bassanite. <i>Journal of Geophysical Research: Solid Earth</i> , 2018 , 123, 1217-1234	3.6	19
49	Microstructural constraints on magmatic mushes under Kīlauea Volcano, Hawai'i. <i>Nature Communications</i> , 2020 , 11, 14	17.4	19
48	Modelling interface diffusion creep in two-phase materials. <i>Acta Materialia</i> , 2004 , 52, 2365-2376	8.4	18
47	Strain analysis in rocks with pre-tectonic fabrics. <i>Journal of Structural Geology</i> , 1986 , 8, 887-896	3	18
46	Temperature-time evolution of the Assynt Terrane of the Lewisian Gneiss Complex of Northwest Scotland from zircon U-Pb dating and Ti thermometry. <i>Precambrian Research</i> , 2015 , 260, 55-75	3.9	17
45	Modelling grain-recycling zoning during metamorphism. <i>Journal of Metamorphic Geology</i> , 2010 , 28, 423-437	4.7	16
44	A view of texture dynamics. <i>Terra Nova</i> , 1991 , 3, 123-136	3	16
43	Non-basal dislocations should be accounted for in simulating ice mass flow. <i>Earth and Planetary Science Letters</i> , 2017 , 473, 247-255	5.3	15
42	Diffusion-creep modelling of fibrous pressure-shadows. <i>Tectonophysics</i> , 2006 , 425, 191-205	3.1	15
41	Crystal plasticity as an indicator of the viscous-brittle transition in magmas. <i>Nature Communications</i> , 2017 , 8, 1926	17.4	14
40	A 4D view on the evolution of metamorphic dehydration reactions. <i>Scientific Reports</i> , 2017 , 7, 6881	4.9	13
39	Geochronological constraints on the evolution of the Nanga Parbat syntaxis, Pakistan Himalaya. <i>Geological Society Special Publication</i> , 2000 , 170, 137-162	1.7	13

38	New shock microstructures in titanite (CaTiSiO ₅) from the peak ring of the Chicxulub impact structure, Mexico. <i>Contributions To Mineralogy and Petrology</i> , 2019 , 174, 1	3.5	12
37	Reaction fronts, permeability and fluid pressure development during dehydration reactions. <i>Earth and Planetary Science Letters</i> , 2018 , 496, 227-237	5.3	11
36	Disequilibrium in the Ross of Mull Contact Metamorphic Aureole, Scotland: a Consequence of Polymetamorphism. <i>Journal of Petrology</i> , 2004 , 45, 835-853	3.9	11
35	Orientation of specimens: Essential data for all fields of geology. <i>Geology</i> , 1987 , 15, 829	5	11
34	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. <i>Cryosphere</i> , 2020 , 14, 3875-3905	5.5	11
33	Internal evolution of the major Precambrian shear belt at Torridon, NW Scotland. <i>Geological Society Special Publication</i> , 1987 , 27, 153-163	1.7	9
32	Time-lapse misorientation maps for the analysis of electron backscatter diffraction data from evolving microstructures. <i>Scripta Materialia</i> , 2011 , 65, 600-603	5.6	8
31	Geological structure of the southern part of the Nanga Parbat massif, Pakistan Himalaya, and its tectonic implications. <i>Geological Society Special Publication</i> , 2000 , 170, 123-136	1.7	8
30	High-Resolution Mapping of Yield Curve Shape and Evolution for High-Porosity Sandstone. <i>Journal of Geophysical Research: Solid Earth</i> , 2019 , 124, 5450-5468	3.6	7
29	Dramatic effects of stress on metamorphic reactions: REPLY. <i>Geology</i> , 2015 , 43, e355-e355	5	6
28	Grain growth and the lifetime of diffusion creep deformation. <i>Geological Society Special Publication</i> , 2011 , 360, 257-272	1.7	6
27	Recrystallization and Grain Growth in Rocks and Minerals. <i>Materials Science Forum</i> , 2004 , 467-470, 545-550	4	6
26	Simulation of grain-boundary diffusion creep: analysis of some new numerical techniques. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2004 , 460, 2395-2413	2.4	6
25	A concise algebraic method for assessing strain in distributions of linear objects. <i>Journal of Structural Geology</i> , 1989 , 11, 1007-1010	3	6
24	A unifying basis for the interplay of stress and chemical processes in the Earth: support from diverse experiments. <i>Contributions To Mineralogy and Petrology</i> , 2020 , 175, 1	3.5	5
23	A review of numerical modelling of the dynamics of microstructural development in rocks and ice: Past, present and future. <i>Journal of Structural Geology</i> , 2019 , 125, 111-123	3	5
22	The Influence of Water on the Strength of Olivine Dislocation Slip Systems. <i>Journal of Geophysical Research: Solid Earth</i> , 2019 , 124, 6542-6559	3.6	5
21	Dramatic effects of stress on metamorphic reactions: REPLY. <i>Geology</i> , 2015 , 43, e373-e373	5	4

20	A major high-strain zone in the Lewisian Complex in the Loch Torridon area, NW Scotland: insights into deep crustal deformation. <i>Geological Society Special Publication</i> , 2007 , 272, 27-45	1.7	4
19	Dynamic Recrystallisation of Quartz. <i>Materials Science Forum</i> , 2004 , 467-470, 1243-1250	0.4	4
18	Using Electron Backscatter Diffraction (EBSD) to Measure Misorientation between Parent and Daughter Grains. Implications for Recrystallisation and Nucleation. <i>Materials Science Forum</i> , 2004 , 467-470, 573-578	0.4	4
17	Anisotropic diffusion creep in postperovskite provides a new model for deformation at the core-mantle boundary. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 ,	11.5	4
16	Microstructural and Metamorphic Constraints on the Thermal Evolution of the Southern Region of the Lewisian Gneiss Complex, NW Scotland. <i>Journal of Petrology</i> , 2014 , 55, 2043-2066	3.9	3
15	Diffusion-creep modelling of fibrous pressure shadows II: influence of inclusion size and interface roughness. <i>Geological Society Special Publication</i> , 2011 , 360, 319-328	1.7	3
14	The Weighted Burgers Vector: A Quantity for Constraining Dislocation Densities and Types Using Electron Backscatter Diffraction on 2D Sections through Crystalline Materials. <i>Materials Science Forum</i> , 2012 , 715-716, 732-736	0.4	3
13	Strain analysis in rocks with pre-tectonic fabrics: Reply. <i>Journal of Structural Geology</i> , 1988 , 10, 531-532	3	3
12	An Analysis of the Roles of Stress, Temperature, and pH in Chemical Compaction of Sandstones: Reply. <i>Journal of Sedimentary Research</i> , 2004 , 74, 449-450	2.1	3
11	Quantitative Analysis of EBSD Data in Rocks and other Crystalline Materials: Investigation of Strain Induced Recrystallisation and Growth of New Phases. <i>Materials Science Forum</i> , 2012 , 715-716, 62-71	0.4	2
10	Influence of pore fluid chemistry on the state of stress in sedimentary basins. <i>Geology</i> , 2003 , 31, 59	5	2
9	Mechanisms of strain accommodation in plastically-deformed zircon under simple shear deformation conditions during amphibolite-facies metamorphism. <i>Journal of Structural Geology</i> , 2018 , 107, 12-24	3	2
8	Preserved organic matter in a fossil Ocean Continent Transition in the Alps: the example of Totalp, SE Switzerland. <i>Swiss Journal of Geosciences</i> , 2017 , 110, 457-478	2.1	1
7	Interactions between deformation and dissolution-precipitation reactions in plagioclase feldspar at greenschist facies. <i>Lithos</i> , 2021 , 396-397, 106241	2.9	1
6	The influence of large second phase grains on microstructural evolution during diffusion creep. <i>Journal of Structural Geology</i> , 2021 , 148, 104371	3	0
5	Modelling Interface Diffusion Creep: Single Phase Insights and Two Phase Challenges. <i>Materials Science Forum</i> , 2012 , 715-716, 983-987	0.4	
4	Thoughts on Superplasticity in General and on its Role in Earth Deformation. <i>Materials Science Forum</i> , 2012 , 735, 3-8	0.4	
3	Microstructure Evolution During Creep and Annealing of Minerals and Rocks. <i>Microscopy and Microanalysis</i> , 2009 , 15, 412-413	0.5	

- 2 Recrystallization Microstructures during Creep of MgO Single Crystals. *Materials Science Forum*, **2004**, 467-470, 585-590 0.4
- 1 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