Martyn R. Drury

List of Publications by Year
in descending order

118	5,915	57758	79698
papers	citations	44 h-index	73 g-index

119	119	119	4148
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Deformation-related recrystallization processes. Tectonophysics, 1990, 172, 235-253.	2.2	360
2	Morphology-dependent zeolite intergrowth structures leading to distinct internal and outer-surface molecular diffusion barriers. Nature Materials, 2009, 8, 959-965.	27.5	251
3	Relationships between dynamically recrystallized grain size and deformation conditions in experimentally deformed olivine rocks. Geophysical Research Letters, 1993, 20, 1479-1482.	4.0	235
4	Ultra-high pressure (P > 6 GPa) garnet peridotites in Western Norway: exhumation of mantle rocks from > 185 km depth. Terra Nova, 1998, 10, 295-301.	2.1	192
5	The development of microstructure in Al-5% Mg during high temperature deformation. Acta Metallurgica, 1986, 34, 2259-2271.	2.1	187
6	Microdiamonds in a megacrystic garnet websterite pod from Bardane on the island of FjÃ¸rtoft, western Norway: Evidence for diamond formation in mantle rocks during deep continental subduction. Geology, 2002, 30, 959.	4.4	172
7	Large strain deformation studies using polycrystalline magnesium as a rock analogue. Part II: dynamic recrystallisation mechanisms at high temperatures. Physics of the Earth and Planetary Interiors, 1985, 40, 208-222.	1.9	132
8	Deformation processes in a peridotite shear zone: reaction-softening by an H2O-deficient, continuous net transfer reaction. Tectonophysics, 1999, 303, 193-222.	2.2	131
9	Evidence for dominant grain-boundary sliding deformation in greenschist- and amphibolite-grade polymineralic ultramylonites from the Redbank Deformed Zone, Central Australia. Journal of Structural Geology, 1997, 19, 1495-1520.	2.3	124
10	Deep origin and hot melting of an Archaean orogenic peridotite massif in Norway. Nature, 2006, 440, 913-917.	27.8	120
11	Subsolidus Emplacement of Mantle Peridotites during Incipient Oceanic Rifting and Opening of the Mesozoic Tethys (Voltri Massif, NW Italy). Journal of Petrology, 1993, 34, 901-927.	2.8	116
12	Tomography of insulating biological and geological materials using focused ion beam (FIB) sectioning and lowâ€kV BSE imaging. Journal of Microscopy, 2009, 233, 372-383.	1.8	115
13	Melt distribution in olivine rocks based on electrical conductivity measurements. Journal of Geophysical Research, 2005, 110, .	3.3	111
14	Shear localisation in upper mantle peridotites. Pure and Applied Geophysics, 1991, 137, 439-460.	1.9	108
15	Mantle shear zones and their effect on lithosphere strength during continental breakup. Tectonophysics, 1995, 249, 155-171.	2.2	105
16	Geochemistry of the Othris Ophiolite, Greece: Evidence for Refertilization?. Journal of Petrology, 2003, 44, 1759-1785.	2.8	99
17	Shear zones in the upper mantle: A case study in an Alpine lherzolite massif. Geology, 1991, 19, 990.	4.4	98
18	Diffuse porous melt flow and melt-rock reaction in the mantle lithosphere at a slow-spreading ridge: A structural petrology and LA-ICP-MS study of the Othris Peridotite Massif (Greece). Geochemistry, Geophysics, Geosystems, 2003, 4, .	2.5	95

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19	The Porosity, Acidity, and Reactivity of Dealuminated Zeolite ZSMâ€5 at the Single Particle Level: The Influence of the Zeolite Architecture. Chemistry - A European Journal, 2011, 17, 13773-13781.	3.3	94
20	Fluid Assisted Recrystallization in Upper Mantle Peridotite Xenoliths from Kimberlites. Journal of Petrology, 1989, 30, 133-152.	2.8	92
21	Structural Petrology of Plagioclase Peridotites in the West Othris Mountains (Greece): Melt Impregnation in Mantle Lithosphere. Journal of Petrology, 2001, 42, 5-24.	2.8	89
22	On the role of melt-rock reaction in mantle shear zone formation in the Othris Peridotite Massif (Greece). Journal of Structural Geology, 2002, 24, 1431-1450.	2.3	89
23	Relict Majoritic Garnet Microstructures from Ultra-Deep Orogenic Peridotites in Western Norway. Journal of Petrology, 2001, 42, 117-130.	2.8	85
24	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, 482-494.	1.8	85
25	Intergrowth Structure of Zeolite Crystals and Pore Orientation of Individual Subunits Revealed by Electron Backscatter Diffraction/Focused Ion Beam Experiments. Angewandte Chemie - International Edition, 2008, 47, 5637-5640.	13.8	80
26	Crystallographic preferred orientations and misorientations in some olivine rocks deformed by diffusion or dislocation creep. Tectonophysics, 1999, 303, 1-27.	2.2	79
27	Electrical properties of fine-grained olivine: Evidence for grain boundary transport. Journal of Geophysical Research, 2004, 109, .	3.3	78
28	Deformation and recrystallization mechanisms in naturally deformed omphacites from the Sesia-Lanzo zone; geophysical consequences. Tectonophysics, 1991, 195, 11-27.	2.2	76
29	Long-lived, cold burial of Baltica to 200Âkm depth. Earth and Planetary Science Letters, 2009, 281, 27-35.	4.4	72
30	The Othris Ophiolite, Greece: A snapshot of subduction initiation at a mid-ocean ridge. Lithos, 2008, 100, 234-254.	1.4	71
31	Microstructural shear criteria associated with grain-boundary sliding during ductile deformation. Journal of Structural Geology, 1988, 10, 83-89.	2.3	69
32	Glacial isostatic adjustment model with composite 3-D Earth rheology for Fennoscandia. Geophysical Journal International, 2013, 194, 61-77.	2.4	69
33	Mylonitic deformation in upper mantle peridotites of the North Pyrenean Zone (France): implications for strength and strain localization in the lithosphere. Tectonophysics, 1997, 279, 303-325.	2.2	66
34	Origin of pseudotachylites in slow creep experiments. Earth and Planetary Science Letters, 2012, 355-356, 299-310.	4.4	66
35	Grain boundary melt films in an experimentally deformed olivine-orthopyroxene rock: Implications for melt distribution in upper mantle rocks. Geophysical Research Letters, 1996, 23, 701-704.	4.0	64
36	Architectureâ€Dependent Distribution of Mesopores in Steamed Zeolite Crystals as Visualized by FIBâ€SEM Tomography. Angewandte Chemie - International Edition, 2011, 50, 1294-1298.	13.8	63

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37	The Younger Dryas impact hypothesis: a critical review. Quaternary Science Reviews, 2014, 83, 95-114.	3.0	60
38	Dynamic recrystallization and chemical evolution of clinoamphibole from Senja, Norway. Contributions To Mineralogy and Petrology, 1989, 101, 339-349.	3.1	59
39	Semiâ€brittle flow of granitoid fault rocks in experiments. Journal of Geophysical Research: Solid Earth, 2016, 121, 1677-1705.	3.4	55
40	Scanning electron microscopeâ€cathodoluminescence (SEMâ€CL) imaging of planar deformation features and tectonic deformation lamellae in quartz. Meteoritics and Planetary Science, 2011, 46, 1814-1831.	1.6	50
41	Cryo-FIBâ€“SEM and MIP study of porosity and pore size distribution of bentonite and kaolin at different moisture contents. Applied Clay Science, 2013, 80-81, 358-365.	5.2	48
42	Dynamic recrystallization and strain softening of olivine aggregates in the laboratory and the lithosphere. Geological Society Special Publication, 2005, 243, 143-158.	1.3	47
43	Stress estimates and fault history from quartz microstructures. Journal of Structural Geology, 1988, 10, 673-684.	2.3	46
44	Cryogenic vitrification and 3D serial sectioning using high resolution cryoâ€FIB SEM technology for brineâ€filled grain boundaries in halite: first results. Geofluids, 2008, 8, 60-72.	0.7	46
45	Non-silicate inclusions in garnet from an ultra-deep orogenic peridotite. Geological Journal, 2000, 35, 209-229.	1.3	45
46	Microstructures and lattice fabrics in the Hilti mantle section (Oman Ophiolite): Evidence for shear localization and melt weakening in the crust-mantle transition zone?. Journal of Geophysical Research, 2002, 107, ETG 2-1-ETG 2-18.	3.3	43
47	Nanodiamonds and wildfire evidence in the Usselo horizon postdate the AllerÃ¸d-Younger Dryas boundary. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 7648-7653.	7.1	41
48	Recognising the crystallographic signature of recrystallisation processes in deformed rocks: a study of experimentally deformed rocksalt. Journal of Structural Geology, 2000, 22, 1609-1620.	2.3	40
49	Low-temperature intracrystalline deformation microstructures in quartz. Journal of Structural Geology, 2015, 71, 3-23.	2.3	40
50	Microstructures of Early Jurassic (Toarcian) shales of Northern Europe. International Journal of Coal Geology, 2016, 165, 76-89.	5.0	39
51	Hydration-induced climb dissociation of dislocations in naturally deformed mantle olivine. Physics and Chemistry of Minerals, 1991, 18, 106-116.	0.8	36
52	The development of subgrain misorientations with strain in dry synthetic NaCl measured using EBSD. Journal of Structural Geology, 2005, 27, 2159-2170.	2.3	36
53	Characterization of magnetite particles in shocked quartz by means of electron- and magnetic force microscopy: Vredefort, South Africa. Contributions To Mineralogy and Petrology, 1999, 137, 232-245.	3.1	35
54	Cryogenic EBSD on ice: preserving a stable surface in a low pressure SEM. Journal of Microscopy, 2011, 242, 295-310.	1.8	34

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55	Peridotite dissolution and carbonation rates at fracture surfaces under conditions relevant for in situ mineralization of CO2. Geochimica Et Cosmochimica Acta, 2013, 106, 1-24.	3.9	34
56	Nano-Tomography of Porous Geological Materials Using Focused Ion Beam-Scanning Electron Microscopy. Minerals (Basel, Switzerland), 2016, 6, 104.	2.0	34
57	Evidence for stable grain boundary melt films in experimentally deformed olivine-orthopyroxene rocks. Physics and Chemistry of Minerals, 2000, 27, 480-494.	0.8	33
58	Experimental investigation of the brittle-viscous transition in mafic rocks â€“ Interplay between fracturing, reaction, and viscous deformation. Journal of Structural Geology, 2017, 105, 62-79.	2.3	32
59	Crystal preferred orientation in peridotite ultramylonites deformed by grain size sensitive creep, Ã‰tang de Lers, Pyrenees, France. Journal of Structural Geology, 2011, 33, 1776-1789.	2.3	31
60	Magnetic petrology of equatorial Atlantic sediments: Electron microscopy results and their implications for environmental magnetic interpretation. Paleoceanography, 2007, 22, .	3.0	28
61	The Force of Crystallization and Fracture Propagation during In-Situ Carbonation of Peridotite. Minerals (Basel, Switzerland), 2017, 7, 190.	2.0	28
62	Oblique fabrics in porphyroclastic Alpine-type peridotites: a shear-sense indicator for upper mantle flow. Journal of Structural Geology, 1992, 14, 839-846.	2.3	26
63	Emplacement of Deep Upper-Mantle Rocks into Cratonic Lithosphere by Convection and Diapiric Upwelling. Journal of Petrology, 2001, 42, 131-140.	2.8	26
64	Large strain deformation studies using polycrystalline magnesium as a rock analogue. Part I: grain size paleopiezometry in mylonite zones. Physics of the Earth and Planetary Interiors, 1985, 40, 201-207.	1.9	25
65	Metasomatic origin for Fe-Ti-rich multiphase inclusions in olivine from kimberlite xenoliths. Geology, 1988, 16, 1035.	4.4	25
66	From geometry to dynamics of microstructure: using boundary lengths to quantify boundary misorientations and anisotropy. Tectonophysics, 2003, 376, 19-35.	2.2	25
67	Microstructural characteristics of the Whitby Mudstone Formation (UK). Marine and Petroleum Geology, 2016, 70, 185-200.	3.3	25
68	Misorientations across etched boundaries in deformed rocksalt: a study using electron backscatter diffraction. Journal of Structural Geology, 2000, 22, 81-89.	2.3	24
69	Electron backscattered diffraction as a tool to quantify subgrains in deformed calcite. Journal of Microscopy, 2006, 224, 264-276.	1.8	24
70	Microstructural and seismic properties of the upper mantle underneath a rifted continental terrane (Baja California): An example of sub-crustal mechanical asthenosphere?. Earth and Planetary Science Letters, 2012, 345-348, 60-71.	4.4	24
71	The influence of water on deformation microstructures and textures in synthetic NaCl measured using EBSD. Journal of Structural Geology, 2006, 28, 588-601.	2.3	23
72	Unified Internal Architecture and Surface Barriers for Molecular Diffusion of Microporous Crystalline Aluminophosphates. Angewandte Chemie - International Edition, 2010, 49, 6790-6794.	13.8	23

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73	Microscale cavitation as a mechanism for nucleating earthquakes at the base of the seismogenic zone. Nature Communications, 2017, 8, 1645.	12.8	23
74	Shear zones in the upper mantle: evidence from alpine- and ophiolite-type peridotite massifs. Geological Society Special Publication, 2004, 224, 11-24.	1.3	22
75	Lateral, radial, and temporal variations in upper mantle viscosity and rheology under Scandinavia. Geochemistry, Geophysics, Geosystems, 2011, 12, n/a-n/a.	2.5	21
76	Three-dimensional cathodoluminescence imaging and electron backscatter diffraction: tools for studying the genetic nature of diamond inclusions. Contributions To Mineralogy and Petrology, 2011, 161, 565-579.	3.1	21
77	Current issues and new developments in deformation mechanisms, rheology and tectonics. Geological Society Special Publication, 2002, 200, 1-27.	1.3	19
78	Identification of magnetic Fe-Ti oxides in marine sediments by electron backscatter diffraction in scanning electron microscopy. Geophysical Journal International, 2007, 170, 545-555.	2.4	19
79	Upper mantle viscosity and lithospheric thickness under Iceland. Journal of Geodynamics, 2011, 52, 260-270.	1.6	19
80	Recent developments and goals in texture research of geological materials. Journal of Structural Geology, 2000, 22, 1531-1540.	2.3	18
81	Mantle strength of the San Andreas fault system and the role of mantle-crust feedbacks. Geology, 2015, 43, 891-894.	4.4	18
82	Constraints on shallow low-viscosity zones in Northern Europe from future GOCE gravity data. Geophysical Journal International, 2009, 178, 65-84.	2.4	17
83	EBSD analysis of subgrain boundaries and dislocation slip systems in Antarctic and Greenland ice. Solid Earth, 2017, 8, 883-898.	2.8	17
84	Low-angle subgrain misorientations in deformed NaCl. Journal of Microscopy, 2005, 217, 130-137.	1.8	16
85	Mechanisms of fault mirror formation and fault healing in carbonate rocks. Earth and Planetary Science Letters, 2020, 530, 115886.	4.4	16
86	Scanning electron microscope cathodoluminescence imaging of subgrain boundaries, twins and planar deformation features in quartz. Physics and Chemistry of Minerals, 2017, 44, 263-275.	0.8	15
87	Effect of dynamic recrystallization on the importance of grain-boundary sliding during creep. Journal of Materials Science, 1989, 24, 154-162.	3.7	14
88	Fluid flow from matrix to fractures in Early Jurassic shales. International Journal of Coal Geology, 2017, 175, 26-39.	5.0	14
89	Constraints on the rheology of the lower crust in a strike-slip plate boundary: evidence from the San QuintÃn xenoliths, BajaÂCalifornia,ÂMexico. Solid Earth, 2017, 8, 1211-1239.	2.8	14
90	The Relevance of Grain Dissection for Grain Size Reduction in Polar Ice: Insights from Numerical Models and Ice Core Microstructure Analysis. Frontiers in Earth Science, 2017, 5, .	1.8	14

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91	Grain boundary plane populations in minerals: the example of wet NaCl after low strain deformation. Contributions To Mineralogy and Petrology, 2009, 158, 53-67.	3.1	13
92	Control of shear zone location and thickness by initial grain size variations in upper mantle peridotites. Journal of Structural Geology, 2010, 32, 832-842.	2.3	11
93	FIB-SEM cathodoluminescence tomography: practical and theoretical considerations. Journal of Microscopy, 2011, 243, 315-326.	1.8	11
94	EBSD of zeolites. Journal of Materials Science Letters, 2001, 20, 1099-1101.	0.5	10
95	Interaction between small-scale mantle diapirs and a continental root. Geochemistry, Geophysics, Geosystems, 2003, 4, .	2.5	10
96	A combined cathodoluminescence and electron backscatter diffraction examination of the growth relationships between Jwaneng diamonds and their eclogitic inclusions. Mineralogy and Petrology, 2018, 112, 231-242.	1.1	10
97	Grain boundary populations in wet and dry NaCl. Materials Science and Technology, 2006, 22, 1307-1315.	1.6	9
98	A search for shocked quartz grains in the AllerÃ¸â€¥ounger Dryas boundary layer. Meteoritics and Planetary Science, 2015, 50, 483-498.	1.6	9
99	Distinction between amorphous and healed planar deformation features in shocked quartz using composite color scanning electron microscope cathodoluminescence (<scp>SEM</scp>â€<scp>CL</scp>) imaging. Meteoritics and Planetary Science, 2016, 51, 1914-1931.	1.6	9
100	Magmatism-related localized deformation in the mantle: a case study. Contributions To Mineralogy and Petrology, 2004, 146, 493-505.	3.1	8
101	Time-lapse misorientation maps for the analysis of electron backscatter diffraction data from evolving microstructures. Scripta Materialia, 2011, 65, 600-603.	5.2	8
102	Using mineral equilibria to estimate H2O activities in peridotites from the Western Gneiss Region of Norway. American Mineralogist, 2017, 102, 1021-1036.	1.9	8
103	Cosmic impact or natural fires at the AllerÃ¸â€“Younger Dryas boundary: A matter of dating and calibration. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E3896.	7.1	7
104	Influence of deformation conditions on the development of heterogeneous recrystallization microstructures in experimentally deformed Carrara marble. Geological Society Special Publication, 2015, 409, 175-200.	1.3	7
105	Evidence for low viscosity garnet-rich layers in the upper mantle. Earth and Planetary Science Letters, 2010, 289, 54-67.	4.4	6
106	Potential permeability enhancement in Early Jurassic shales due to their swelling and shrinkage behavior. International Journal of Coal Geology, 2018, 196, 115-125.	5.0	6
107	Deep komatiite signature in cratonic mantle pyroxenite. Journal of Metamorphic Geology, 2018, 36, 591-602.	3.4	5
108	Microstructural analysis of Greenland ice using a cryogenic scanning electron microscope equipped with an electron backscatter diffraction detector. Bulletin of Glaciological Research, 2019, 37, 31-45.	1.0	5

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109	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, 0, 715-716, 732-736.	0.3	4
110	Crystalâ€Plastic Deformation in Seismically Active Carbonate Fault Rocks. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB020626.	3.4	4
111	Misorientation distributions in hot deformed NaCl using electron backscattered diffraction. Journal of Microscopy, 2002, 208, 75-75.	1.8	3
112	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.	0.3	2
113	Three sets of crystallographic sub-planar structures in quartz formed by tectonic deformation. Earth and Planetary Science Letters, 2016, 442, 157-161.	4.4	2
114	Tomography of Biological Materials using Focused Ion Beam Sectioning and Backscattered Electron Imaging. Microscopy and Microanalysis, 2009, 15, 576-577.	0.4	1
115	Mechanisms of fine extinction band development in vein quartz: new insights from correlative light and electron microscopy. Contributions To Mineralogy and Petrology, 2017, 172, 1.	3.1	1
116	Defect structures in naturally deformed clino-amphibole. Ultramicroscopy, 1987, 21, 188.	1.9	0
117	Measurement of crystallographic preferred orientations (fabrics) in fine-grained quartz polycrystals by transmission electron microscopy (TEM). Ultramicroscopy, 1987, 21, 189-190.	1.9	0
118	Recrystallization mechanisms in omphacite. Ultramicroscopy, 1988, 24, 427.	1.9	0