Ernest H Rutter

List of Publications by Year
in descending order

96	7,345	46918 47	54797 84
papers	citations	h-index	g-index

99	99	99	3890
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Pressure solution in nature, theory and experiment. Journal of the Geological Society, 1983, 140, 725-740.	0.9	645
2	On the internal structure and mechanics of large strike-slip fault zones: field observations of the Carboneras fault in southeastern Spain. Tectonophysics, 2003, 367, 235-251.	0.9	424
3	Comparative microstructures of natural and experimentally produced clay-bearing fault gouges. Pure and Applied Geophysics, 1986, 124, 3-30.	0.8	364
4	On the nomenclature of mode of failure transitions in rocks. Tectonophysics, 1986, 122, 381-387.	0.9	342
5	Experimental deformation of partially molten Westerly granite under fluid-absent conditions, with implications for the extraction of granitic magmas. Journal of Geophysical Research, 1995, 100, 15697-15715.	3.3	293
6	The influence of temperature, strain rate and interstitial water in the experimental deformation of calcite rocks. Tectonophysics, 1974, 22, 311-334.	0.9	268
7	Palaeostress estimation using calcite twinning: experimental calibration and application to nature. Journal of Structural Geology, 1990, 12, 1-17.	1.0	219
8	Strength, porosity, and permeability development during hydrostatic and shear loading of synthetic quartzâ€•clay fault gouge. Journal of Geophysical Research, 2008, 113, .	3.3	191
9	The role of tectonic grain size reduction in the rheological stratification of the lithosphere. International Journal of Earth Sciences, 1988, 77, 295-307.	0.9	190
10	Can the maintenance of overpressured fluids in large strike-slip fault zones explain their apparent weakness?. Geology, 2001, 29, 503.	2.0	189
11	Experimental study of the influence of stress, temperature, and strain on the dynamic recrystallization of Carrara marble. Journal of Geophysical Research, 1995, 100, 24651-24663.	3.3	186
12	Comparisons of water and argon permeability in natural clay-bearing fault gouge under high pressure at 20Â°C. Journal of Geophysical Research, 2000, 105, 16415-16426.	3.3	171
13	The influence of interstitial water on the rheological behaviour of calcite rocks. Tectonophysics, 1972, 14, 13-33.	0.9	154
14	Deep crustal extensional faulting in the Ivrea Zone of Northern Italy. Tectonophysics, 1987, 140, 193-212.	0.9	149
15	Preferred crystallographic orientation development during the plastic and superplastic flow of calcite rocks. Journal of Structural Geology, 1994, 16, 1431-1446.	1.0	134
16	Experimental â€œsytectonicâ€•dehydration of serpentinite under conditions of controlled pore water pressure. Journal of Geophysical Research, 1988, 93, 4907-4932.	3.3	127
17	On the Relationship between Deformation and Metamorphism, with Special Reference to the Behavior of Basic Rocks. , 1985, , 138-179.		126
18	Experimental intracrystalline plastic flow in hot-pressed synthetic quartzite prepared from Brazilian quartz crystals. Journal of Structural Geology, 2004, 26, 259-270.	1.0	120

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19	Experimental grain size-sensitive flow of hot-pressed Brazilian quartz aggregates. Journal of Structural Geology, 2004, 26, 2011-2023.	1.0	119
20	The effect of water on stress relaxation of faulted and unfaulted sandstone. Pure and Applied Geophysics, 1978, 116, 634-654.	0.8	106
21	On the relationship between the formation of shear zones and the form of the flow law for rocks undergoing dynamic recrystallization. Tectonophysics, 1999, 303, 147-158.	0.9	102
22	The role of transiently fine-grained reaction products in syntectonic metamorphism: natural and experimental examples. Canadian Journal of Earth Sciences, 1987, 24, 556-564.	0.6	93
23	Hierarchical integration of porosity in shales. Scientific Reports, 2018, 8, 11683.	1.6	88
24	The deformation of porous sandstones; are Byerlee friction and the critical state line equivalent?. Journal of Structural Geology, 2012, 44, 129-140.	1.0	84
25	Structural geometry, lower crustal magmatic underplating and lithospheric stretching in the Ivrea-Verbano zone, northern Italy. Journal of Structural Geology, 1993, 15, 647-662.	1.0	76
26	Experimental deformation of muscovite shear zones at high temperatures under hydrothermal conditions and the strength of phyllosilicate-bearing faults in nature. Journal of Structural Geology, 2006, 28, 1569-1587.	1.0	75
27	Submarine salt flows in the central Red Sea. Bulletin of the Geological Society of America, 2010, 122, 701-713.	1.6	75
28	Lithosphere rheologyâ€"a note of caution. Journal of Structural Geology, 1991, 13, 363-367.	1.0	74
29	The development of magnetic susceptibility anisotropy through crystallographic preferred orientation in a calcite rock. Physics of the Earth and Planetary Interiors, 1978, 16, 215-222.	0.7	73
30	Experimental study of grain-size sensitive flow of synthetic, hot-pressed calcite rocks. Geological Society Special Publication, 1990, 54, 259-284.	0.8	73
31	The gas permeability of clay-bearing fault gouge at 20Â°C. Geological Society Special Publication, 1998, 147, 147-156.	0.8	71
32	A novel upscaling procedure for characterising heterogeneous shale porosity from nanometer-to millimetre-scale in 3D. Energy, 2019, 181, 1285-1297.	4.5	66
33	The effect of temperature, the nature of the pore fluid, and subyield differential stress on the permeability of phyllosilicate-rich fault gouge. Journal of Geophysical Research, 2003, 108, .	3.3	65
34	Reduction of friction on geological faults by weak-phase smearing. Journal of Structural Geology, 2013, 51, 52-60.	1.0	65
35	Thermally-induced grain growth of calcite marbles on Naxos Island, Greece. Contributions To Mineralogy and Petrology, 1989, 101, 69-86.	1.2	64
36	On the influence of porosity on the low-temperature brittleâ€"ductile transition in siliciclastic rocks. Journal of Structural Geology, 1991, 13, 609-614.	1.0	64

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37	Influence of Normal and Shear Stress on the Hydraulic Transmissivity of Thin Cracks in a Tight Quartz Sandstone, a Granite, and a Shale. Journal of Geophysical Research: Solid Earth, 2018, 123, 1262-1285.	1.4	64
38	The low temperature brittle-ductile transition in a quartzite and the occurrence of cataclastic flow in nature. Geologische Rundschau: Zeitschrift Fur Allgemeine Geologie, 1983, 72, 493-509.	1.3	62
39	Large-scale folding in the upper part of the Ivrea-Verbano zone, NW Italy. Journal of Structural Geology, 2007, 29, 1-17.	1.0	60
40	On the structure and mechanical properties of large strike-slip faults. Geological Society Special Publication, 2008, 299, 139-150.	0.8	60
41	Cataclastic deformation of quartzite in the moine thrust zone. Journal of Structural Geology, 1986, 8, 669-681.	1.0	59
42	High-pressure-high-temperature seismic velocity structure of the midcrustal and lower crustal rocks of the Ivrea-Verbano zone and Serie dei Laghi, NW Italy. Journal of Geophysical Research, 2000, 105, 13843-13858.	3.3	54
43	Flow of synthetic, wet, partially molten â€œgraniteâ€•under undrained conditions: An experimental study. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	54
44	Mechanistic interactions between deformation and metamorphism. Geological Journal, 1995, 30, 227-240.	0.6	53
45	The nature and tectonic significance of fault-zone weakening: an introduction. Geological Society Special Publication, 2001, 186, 1-11.	0.8	52
46	On the use of the stress relaxation testing method in studies of the mechanical behaviour of geological materials. Geophysical Journal International, 1978, 55, 155-170.	1.0	50
47	Deformation mechanisms and rheology: why marble is weaker than quartzite. Journal of the Geological Society, 2000, 157, 1093-1096.	0.9	50
48	Dehydration and deformation of intact cylinders of serpentinite. Journal of Structural Geology, 2009, 31, 29-43.	1.0	49
49	Structure and geological history of the Carboneras Fault Zone, SE Spain: Part of a stretching transform fault system. Journal of Structural Geology, 2012, 45, 68-86.	1.0	49
50	The Mohrâ€“Coulomb criterion for intact rock strength and friction â€“ a re-evaluation and consideration of failure under polyaxial stresses. Solid Earth, 2016, 7, 493-508.	1.2	49
51	On the effective stress law for rock-on-rock frictional sliding, and fault slip triggered by means of fluid injection. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20160001.	1.6	49
52	On the age of deep crustal extensional faulting in the Ivrea zone, northern Italy. Geological Society Special Publication, 1989, 45, 203-210.	0.8	48
53	Rock deformation processes in the Karakoram fault zone, Eastern Karakoram, Ladakh, NW India. Journal of Structural Geology, 2007, 29, 1315-1326.	1.0	48
54	Experimental dehydration kinetics of serpentinite using pore volumometry. Journal of Metamorphic Geology, 2007, 25, 423-438.	1.6	46

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55	On the rheology of partially molten synthetic granite. Journal of Structural Geology, 2003, 25, 1575-1585.	1.0	44
56	Experimental â€˜syntectonicâ€™ hydration of basalt. Journal of Structural Geology, 1985, 7, 251-266.	1.0	39
57	Experimental rock-on-rock frictional wear: Application to subglacial abrasion. Journal of Geophysical Research, 2004, 109, n/a-n/a.	3.3	39
58	The effect of non-coaxial strain paths on crystallographic preferred orientation development in the experimental deformation of a marble. Tectonophysics, 1977, 39, 73-86.	0.9	38
59	Some geophysical implications of the deformation and metamorphism of the Ivrea zone, northern Italy. Tectonophysics, 1990, 182, 147-160.	0.9	33
60	⁴⁰ Ar/ ³⁹ Ar age of the Cabo de Gata volcanic series and displacements on the Carboneras fault zone, SE Spain. Journal of the Geological Society, 2000, 157, 1003-1008.	0.9	33
61	Synthetic seismic reflection profile through the Ivrea zoneâ€“Serie dei Laghi continental crustal section, northwestern Italy. Geology, 1999, 27, 79.	2.0	32
62	Quantifying creep behaviour of clay-bearing rocks below the critical stress state for rapid failure: Mam Tor landslide, Derbyshire, England. Journal of the Geological Society, 2011, 168, 359-372.	0.9	31
63	An enhanced understanding of the Basinal Bowland shale in Lancashire (UK), through microtextural and mineralogical observations. Marine and Petroleum Geology, 2017, 86, 1374-1390.	1.5	25
64	Role of porosity and dehydration reaction on the deformation of hot-pressed serpentinite aggregates. Journal of the Geological Society, 2008, 165, 639-649.	0.9	24
65	Hydraulic conductivity of bedding-parallel cracks in shale as a function of shear and normal stress. Geological Society Special Publication, 2017, 454, 67-84.	0.8	24
66	Experimental approaches to the study of deformation/metamorphism relationships. Mineralogical Magazine, 1988, 52, 35-42.	0.6	24
67	Geomechanical and petrophysical properties of mudrocks: introduction. Geological Society Special Publication, 2017, 454, 1-13.	0.8	23
68	The Permeation of Water into Hydrating Shear Zones. , 1985, , 242-250.		22
69	Influence of Effective Pressure on Mudstone Matrix Permeability: Implications for Shale Gas Production. , 2014, , .		21
70	A joint study of experimental deformation and experimentally induced microstructures of pretextured peridotites. Journal of Geophysical Research, 1998, 103, 18205-18221.	3.3	19
71	Variability in spatial distribution of mineral phases in the Lower Bowland Shale, UK, from the mm- to Î¼m-scale: Quantitative characterization and modelling. Marine and Petroleum Geology, 2018, 92, 109-127.	1.5	17
72	Strains and displacements in the Mam Tor landslip, Derbyshire, England. Journal of the Geological Society, 2003, 160, 735-744.	0.9	16

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73	Fluid Injection Experiments in Shale at Elevated Confining Pressures: Determination of Flaw Sizes From Mechanical Experiments. Journal of Geophysical Research: Solid Earth, 2019, 124, 5500-5520.	1.4	15
74	Palaeomagnetic analysis of fault gouge and dating fault movement, Anglesey, North Wales. Journal of the Geological Society, 1992, 149, 273-284.	0.9	14
75	Orientation of specimens: Essential data for all fields of geology. Geology, 1987, 15, 829.	2.0	13
76	Strain localization in direct shear experiments on Solnhofen limestone at high temperature â€“ Effects of transpression. Journal of Structural Geology, 2008, 30, 1372-1382.	1.0	12
77	Distribution of non-plane strain in experimental compression of short cylinders of Solnhofen limestone. Journal of Structural Geology, 2005, 27, 1205-1216.	1.0	11
78	Rock mechanics constraints on mid-crustal low-viscosity flow beneath Tibet. Geological Society Special Publication, 2011, 360, 329-336.	0.8	11
79	Experimental Study of Unconfined Flow of Solnhofen Limestone at 500Â° to 600Â°C. Bulletin of the Geological Society of America, 1975, 86, 145.	1.6	10
80	KGÂ²B, a collaborative benchmarking exercise for estimating the permeability of the Grimsel granodioriteâ€”Part 2: modelling, microstructures and complementary data. Geophysical Journal International, 2018, 215, 825-843.	1.0	10
81	On the structural age of the Rhoscolyn antiform, Anglesey, North Wales. Geological Journal, 2004, 39, 141-156.	0.6	8
82	High-strain deformation tests on natural gypsum aggregates in torsion. Geological Society Special Publication, 2005, 245, 277-290.	0.8	8
83	Constraints on the movement history of the Carboneras Fault Zone (SE Spain) from stratigraphy and ⁴⁰ Arâ€“ ³⁹ Ar dating of Neogene volcanic rocks. Geological Society Special Publication, 2014, 394, 79-99.	0.8	8
84	Water Availability and Deformation Processes in Smectiteâ€Rich Gouges During Seismic Slip. Journal of Geophysical Research: Solid Earth, 2019, 124, 10855-10876.	1.4	7
85	Revisiting the Evaluation of Hydraulic Transmissivity of Elliptical Rock Fractures in Triaxial Shear-Flow Experiments. Rock Mechanics and Rock Engineering, 2022, 55, 3781-3789.	2.6	7
86	Effect of strain geometry on the petrophysical properties of plastically deformed aggregates: experiments on Solnhofen limestone. Geological Society Special Publication, 2014, 394, 167-187.	0.8	6
87	Application of Electron Backscatter Diffraction to Calcite-Twinning Paleopiezometry. Geosciences (Switzerland), 2022, 12, 222.	1.0	4
88	Deformation mechanisms, rheology and tectonics: microstructures, mechanics and anisotropy: introduction. Geological Society Special Publication, 2011, 360, 1-5.	0.8	3
89	On the structure and evolution of the Sorbas basin, S.E. Spain. Tectonophysics, 2019, 773, 228230.	0.9	3
90	The Effect of Water on Stress Relaxation of Faulted and Unfaulted Sandstone. , 1978, , 634-654.		3

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91	Matrix gas flow through â€œimpermeableâ€•rocks â€“ shales and tight sandstone. Solid Earth, 2022, 13, 725-743.	1.2	3
92	Luigi Burlini (1962â€“2009): A lesson in courage. Tectonophysics, 2011, 503, 3-7.	0.9	2
93	Stretching Transformsâ€”Mediterranean Examples From the Betic-AlborÃ¡n, Tyrrhenian-Calabrian and Aegean-Anatolia Regions. , 2019, , 301-320.		1
94	Electron optical studies of experimentally deformed Tennessee Sandstone and quartz + kaolinite gouge. Mineralogical Magazine, 1987, 51, 125-125.	0.6	1
95	Preface: From orogenesis to geoscience in the service of society: the scientific legacy of Prof.ÂAndrÃ©s PÃ©rez-EstaÃºn. Solid Earth, 2016, 7, 1199-1205.	1.2	0
96	Acoustic velocity variations during inelastic compaction of porous sandstone. , 2006, , .		0