Christopher J Spiers

List of Publications by Year
in descending order

184	9,243	25034 57	51608 86
papers	citations	h-index	g-index

193	193	193	4857
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Weakening of rock salt by water during long-term creep. Nature, 1986, 324, 554-557.	27.8	366
2	Frictional-viscous flow of phyllosilicate-bearing fault rock: Microphysical model and implications for crustal strength profiles. Journal of Geophysical Research, 2002, 107, ECV 1-1.	3.3	231
3	The effective viscosity of rocksalt: implementation of steady-state creep laws in numerical models of salt diapirism. Tectonophysics, 1993, 225, 457-476.	2.2	189
4	On dynamic recrystallization during solid state flow: Effects of stress and temperature. Geophysical Research Letters, 1998, 25, 3457-3460.	4.0	172
5	Experimental determination of constitutive parameters governing creep of rocksalt by pressure solution. Geological Society Special Publication, 1990, 54, 215-227.	1.3	160
6	A microphysical model for strong velocity weakening in phyllosilicateâ€bearing fault gouges. Journal of Geophysical Research, 2007, 112, .	3.3	152
7	Influence of crystal plastic deformation on dilatancy and permeability development in synthetic salt rock. Tectonophysics, 1996, 256, 101-128.	2.2	149
8	Fault rocks from the SAFOD core samples: Implications for weakening at shallow depths along the San Andreas Fault, California. Journal of Structural Geology, 2011, 33, 132-144.	2.3	148
9	Velocity dependence of strength and healing behaviour in simulated phyllosilicate-bearing fault gouge. Tectonophysics, 2006, 427, 231-253.	2.2	144
10	The nature and importance of phyllonite development in crustal-scale fault cores: an example from the Median Tectonic Line, Japan. Journal of Structural Geology, 2006, 28, 220-235.	2.3	144
11	Strength characteristics of the r, f, and c slip systems in calcite. Tectonophysics, 1997, 272, 1-23.	2.2	140
12	Experimental investigation into the microstructural and mechanical evolution of phyllosilicate-bearing fault rock under conditions favouring pressure solution. Journal of Structural Geology, 2001, 23, 1187-1202.	2.3	140
13	Frictional Properties and Microstructure of Calcite-Rich Fault Gouges Sheared at Sub-Seismic Sliding Velocities. Pure and Applied Geophysics, 2014, 171, 2617-2640.	1.9	139
14	Understanding induced seismicity. Science, 2016, 354, 1380-1381.	12.6	139
15	Compaction creep of quartz sand at 400â€“600Â°C: experimental evidence for dissolution-controlled pressure solution. Earth and Planetary Science Letters, 2002, 195, 261-275.	4.4	136
16	Coastal spreading of olivine to control atmospheric CO2 concentrations: A critical analysis of viability. International Journal of Greenhouse Gas Control, 2009, 3, 757-767.	4.6	126
17	New constraints on megathrust slip stability under subduction zone P â€“ T conditions. Earth and Planetary Science Letters, 2012, 353-354, 240-252.	4.4	121
18	Compaction of granular calcite by pressure solution at room temperature and effects of pore fluid chemistry. International Journal of Rock Mechanics and Minings Sciences, 2005, 42, 950-960.	5.8	120

#	Article	IF	Citations
19	Frictional-viscous flow of simulated fault gouge caused by the combined effects of phyllosilicates and pressure solution. Tectonophysics, 2000, 327, 173-194.	2.2	116
20	On sorption and swelling of CO2 in clays. Geomechanics and Geophysics for Geo-Energy and Geo-Resources, 2016, 2, 111-130.	2.9	116
21	PoreFlow: A complex pore-network model for simulation of reactive transport in variably saturated porous media. Computers and Geosciences, 2013, 61, 160-174.	4.2	113
22	Superplastic nanofibrous slip zones control seismogenic fault friction. Science, 2014, 346, 1342-1344.	12.6	109
23	Frictional Properties of Sedimentary Rocks and Natural Fault Gouge from the Longmen Shan Fault Zone, Sichuan, China. Bulletin of the Seismological Society of America, 2010, 100, 2767-2790.	2.3	107
24	Mantle shear zones and their effect on lithosphere strength during continental breakup. Tectonophysics, 1995, 249, 155-171.	2.2	105
25	Rate and state frictional and healing behavior of carbonate fault gouge explained using microphysical model. Journal of Geophysical Research: Solid Earth, 2016, 121, 8642-8665.	3.4	105
26	Applied stress reduces the CO2 sorption capacity of coal. International Journal of Coal Geology, 2011, 85, 128-142.	5.0	104
27	Reaction of plagioclase feldspars with CO2 under hydrothermal conditions. Chemical Geology, 2009, 265, 88-98.	3.3	100
28	Influence of subduction zone conditions and gouge composition on frictional slip stability of megathrust faults. Tectonophysics, 2013, 600, 75-90.	2.2	99
29	Effect of phyllosilicates on fluid-assisted healing of gouge-bearing faults. Earth and Planetary Science Letters, 2000, 184, 199-210.	4.4	96
30	Competition between adsorption-induced swelling and elastic compression of coal at CO2 pressures up to 100MPa. Journal of the Mechanics and Physics of Solids, 2012, 60, 1862-1882.	4.8	94
31	Pore-scale modeling of reactive transport in wellbore cement under CO2 storage conditions. International Journal of Greenhouse Gas Control, 2012, 11, S67-S77.	4.6	93
32	Influence of phyllosilicates on fault strength in the brittle-ductile transition: insights from rock analogue experiments. Geological Society Special Publication, 2005, 245, 303-327.	1.3	92
33	A microphysical model for fault gouge friction applied to subduction megathrusts. Journal of Geophysical Research: Solid Earth, 2014, 119, 1510-1529.	3.4	92
34	Fault friction and slip stability not affected by Co2 storage: Evidence from short-term laboratory experiments on North Sea reservoir sandstones and caprocks. International Journal of Greenhouse Gas Control, 2012, 11, S78-S90.	4.6	87
35	Compaction creep of wet granular calcite by pressure solution at 28Â°C to 150Â°C. Journal of Geophysical Research, 2010, 115, .	3.3	86
36	Densification of crystalline aggregates by fluid-phase diffusional creep. , 1990, , 334-353.		85

#	Article	IF	Citations
37	Frictional properties of megathrust fault gouges at low sliding velocities: New data on effects of normal stress and temperature. Journal of Structural Geology, 2012, 38, 156-171.	2.3	85
38	Rheological behaviour of synthetic rocksalt: the interplay between water, dynamic recrystallization and deformation mechanisms. Journal of Structural Geology, 2005, 27, 948-963.	2.3	84
39	Deformation bands in porous carbonate grainstones: Field and laboratory observations. Journal of Structural Geology, 2012, 45, 137-157.	2.3	84
40	Intergranular Pressure Solution in Nacl: Grain-To-Grain Contact Experiments under the Optical Microscope. Oil and Gas Science and Technology, 1999, 54, 729-750.	1.4	82
41	Fluid-assisted Healing Processes in Gouge-bearing Faults: Insights from Experiments on a Rock Analogue System. Pure and Applied Geophysics, 2002, 159, 2537-2566.	1.9	80
42	Dynamic recrystallization of wet synthetic polycrystalline halite: dependence of grain size distribution on flow stress, temperature and strain. Tectonophysics, 2005, 396, 35-57.	2.2	80
43	Compaction creep of sands due to timeâ€dependent grain failure: Effects of chemical environment, applied stress, and grain size. Journal of Geophysical Research: Solid Earth, 2014, 119, 7521-7541.	3.4	78
44	Mechanical behavior and microstructure of simulated calcite fault gouge sheared at 20â€“600Â°C: Implications for natural faults in limestones. Journal of Geophysical Research: Solid Earth, 2015, 120, 8169-8196.	3.4	78
45	Experimental evidence for water weakening of quartzite by microcracking plus solutionâ€precipitation creep. Journal of the Geological Society, 1991, 148, 541-548.	2.1	73
46	Fracture healing and transport properties of wellbore cement in the presence of supercritical CO2. Chemical Geology, 2011, 281, 195-210.	3.3	73
47	Slip behavior of simulated gouge-bearing faults under conditions favoring pressure solution. Journal of Geophysical Research, 2000, 105, 16699-16717.	3.3	71
48	Effect of confining pressure on dilatation, recrystallization, and flow of rock salt at 150Â°C. Journal of Geophysical Research, 2001, 106, 13315-13328.	3.3	70
49	Temperature dependent grain boundary migration in deformed-then-annealed material: Observations from experimentally deformed synthetic rocksalt. Tectonophysics, 2006, 427, 55-71.	2.2	70
50	Development of swelling strain in smectite clays through exposure to carbon dioxide. International Journal of Greenhouse Gas Control, 2014, 24, 149-161.	4.6	69
51	Nanocrystalline slip zones in calcite fault gouge show intense crystallographic preferred orientation: Crystal plasticity at sub-seismic slip rates at 18â€“150 Â°C. Geology, 2013, 41, 863-866.	4.4	67
52	Mechanical behavior of anhydrite caprock and implications for CO₂ sealing capacity. Journal of Geophysical Research, 2010, 115, .	3.3	65
53	Slip systems in calcite single crystals deformed at 300â€“800Â°C. Journal of Geophysical Research, 1993, 98, 6397-6409.	3.3	64
54	Friction on subduction megathrust faults: Beyond the illiteâ€muscovite transition. Earth and Planetary Science Letters, 2013, 373, 8-19.	4.4	64

#	Article	IF	Citations
55	Effects of healing on the seismogenic potential of carbonate fault rocks: Experiments on samples from the Longmenshan Fault, Sichuan, China. Journal of Geophysical Research: Solid Earth, 2015, 120, 5479-5506.	3.4	63
56	Uniaxial compaction creep of wet gypsum aggregates. Journal of Geophysical Research, 1997, 102, 875-891.	3.3	61
57	Failure behavior of single sand grains: Theory versus experiment. Journal of Geophysical Research, 2011, 116, .	3.3	61
58	Brittle and semibrittle creep of Tavel limestone deformed at room temperature. Journal of Geophysical Research: Solid Earth, 2017, 122, 4436-4459.	3.4	61
59	Microfracturing of coal due to interaction with CO2 under unconfined conditions. Fuel, 2012, 97, 569-584.	6.4	58
60	Interseismic re-strengthening and stabilization of carbonate faults by â€œnon-Dieterichâ€•healing under hydrothermal conditions. Earth and Planetary Science Letters, 2015, 423, 1-12.	4.4	58
61	Composite flow laws for crystalline materials with log-normally distributed grain size: theory and application to olivine. Journal of Structural Geology, 2004, 26, 1693-1705.	2.3	56
62	Microphysically Derived Expressions for Rateâ€andâ€State Friction Parameters, a, b, and D_c. Journal of Geophysical Research: Solid Earth, 2017, 122, 9627-9657.	3.4	55
63	Frictional behaviour of simulated quartz fault gouges under hydrothermal conditions: Results from ultra-high strain rotary shear experiments. Tectonophysics, 2008, 460, 288-303.	2.2	54
64	Influence of pore fluid salt content on compaction creep of calcite aggregates in the presence of supercritical CO2. Chemical Geology, 2009, 265, 134-147.	3.3	54
65	Origin and mechanical significance of foliated cataclastic rocks in the cores of crustal-scale faults: Examples from the Median Tectonic Line, Japan. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	53
66	Evidence of growth and sector zoning in hydrothermal quartz from Alpine veins. European Journal of Mineralogy, 2009, 21, 219-231.	1.3	53
67	Creep of simulated reservoir sands and coupled chemicalâ€mechanical effects of CO₂ injection. Journal of Geophysical Research, 2010, 115, .	3.3	53
68	Weakening of the slabâ€“mantle wedge interface induced by metasomatic growth of talc. Geology, 2013, 41, 75-78.	4.4	53
69	Effect of 3-D stress state on adsorption of CO2 by coal. International Journal of Coal Geology, 2012, 93, 1-15.	5.0	52
70	Experimental evidence linking slip instability with seafloor lithology and topography at the Costa Rica convergent margin. Geology, 2013, 41, 891-894.	4.4	49
71	Anisotropic swelling behaviour of coal matrix cubes exposed to water vapour: Effects of relative humidity and sample size. International Journal of Coal Geology, 2016, 167, 119-135.	5.0	46
72	Influence of grain boundary structure on dissolution controlled pressure solution and retarding effects of grain boundary healing. Journal of Geophysical Research, 2008, 113, .	3.3	45

#	Article	IF	Citations
73	High shear strain behaviour of synthetic muscovite fault gouges under hydrothermal conditions. Journal of Structural Geology, 2010, 32, 1685-1700.	2.3	45
74	The influence of water and supercritical CO2 on the failure behavior of chalk. Tectonophysics, 2013, 599, 157-169.	2.2	43
75	Frictional Properties of Simulated Chlorite Gouge at Hydrothermal Conditions: Implications for Subduction Megathrusts. Journal of Geophysical Research: Solid Earth, 2019, 124, 4545-4565.	3.4	43
76	Creep of wet gypsum aggregates under hydrostatic loading conditions. Tectonophysics, 1995, 245, 171-183.	2.2	42
77	Investigation on the permeability characteristics of bedded salt rocks and the tightness of natural gas caverns in such formations. Journal of Natural Gas Science and Engineering, 2016, 35, 468-482.	4.4	42
78	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
79	Diffusive properties of fluid-filled grain boundaries measured electrically during active pressure solution. Earth and Planetary Science Letters, 2002, 200, 147-157.	4.4	40
80	Mass removal and clay mineral dehydration/rehydration in carbonateâ€rich surface exposures of the 2008 Wenchuan Earthquake fault: Geochemical evidence and implications for fault zone evolution and coseismic slip. Journal of Geophysical Research: Solid Earth, 2013, 118, 474-496.	3.4	40
81	Deformation Behavior of Sandstones From the Seismogenic Groningen Gas Field: Role of Inelastic Versus Elastic Mechanisms. Journal of Geophysical Research: Solid Earth, 2018, 123, 5532-5558.	3.4	40
82	Effects of temperature and CO₂ on the frictional behavior of simulated anhydrite fault rock. Journal of Geophysical Research: Solid Earth, 2014, 119, 8728-8747.	3.4	39
83	Frictional Properties of Simulated Fault Gouges from the Seismogenic Groningen Gas Field Under In Situ Pâ€“T â€Chemical Conditions. Journal of Geophysical Research: Solid Earth, 2017, 122, 8969-8989.	3.4	39
84	Inelastic Deformation of the Slochteren Sandstone: Stressâ€Strain Relations and Implications for Induced Seismicity in the Groningen Gas Field. Journal of Geophysical Research: Solid Earth, 2019, 124, 5254-5282.	3.4	39
85	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
86	Importance of thermochemical pressurization in the dynamic weakening of the Longmenshan Fault during the 2008 Wenchuan earthquake: Inferences from experiments and modeling. Journal of Geophysical Research: Solid Earth, 2013, 118, 4145-4169.	3.4	36
87	Nucleation of frictional instability caused by fluid pressurization in subducted blueschist. Geophysical Research Letters, 2016, 43, 2543-2551.	4.0	36
88	Effects of phosphate ions on intergranular pressure solution in calcite: An experimental study. Geochimica Et Cosmochimica Acta, 2005, 69, 5681-5691.	3.9	35
89	The effect of CO₂ on creep of wet calcite aggregates. Journal of Geophysical Research, 2012, 117, .	3.3	35
90	Effect of varying enstatite content on the deformation behavior of fine-grained synthetic peridotite under wet conditions. Journal of Geophysical Research, 2000, 105, 13535-13553.	3.3	34

#	Article	IF	Citations
91	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
92	The effect of deformation on permeability development in anhydrite and implications for caprock integrity during geological storage of CO₂. Geofluids, 2010, 10, 369-387.	0.7	33
93	Time-independent compaction behavior of quartz sands. Journal of Geophysical Research: Solid Earth, 2014, 119, 936-956.	3.4	32
94	Dynamic simulation of CO2-injection-induced fault rupture with slip-rate dependent friction coefficient. Geomechanics for Energy and the Environment, 2016, 7, 47-65.	2.5	32
95	Kinetics of precipitation of gypsum and implications for pressureâ€solution creep. Journal of the Geological Society, 2000, 157, 269-281.	2.1	30
96	The roles of quartz and water in controlling unstable slip in phyllosilicate-rich megathrust fault gouges. Earth, Planets and Space, 2014, 66, .	2.5	30
97	Geomechanical simulation of energy storage in salt formations. Scientific Reports, 2021, 11, 19640.	3.3	30
98	Compaction of granular quartz under hydrothermal conditions: Controlling mechanisms and grain boundary processes. Journal of Geophysical Research, 2008, 113, .	3.3	29
99	Failure behaviour wellbore cement in the presence of water and supercritical CO2. Energy Procedia, 2009, 1, 3553-3560.	1.8	28
100	Reaction and transport in wellbore interfaces under CO2 storage conditions: Experiments simulating debonded cementâ€“casing interfaces. International Journal of Greenhouse Gas Control, 2013, 19, 519-529.	4.6	28
101	Frictional behaviour and transport properties of simulated fault gouges derived from a natural CO 2 reservoir. International Journal of Greenhouse Gas Control, 2016, 54, 70-83.	4.6	28
102	Reactive transport of CO 2 -rich fluids in simulated wellbore interfaces: Flow-through experiments on the 1â€“6 m length scale. International Journal of Greenhouse Gas Control, 2016, 54, 96-116.	4.6	28
103	The Force of Crystallization and Fracture Propagation during In-Situ Carbonation of Peridotite. Minerals (Basel, Switzerland), 2017, 7, 190.	2.0	28
104	Effects of orientation on the diffusive properties of fluid-filled grain boundaries during pressure solution. Physics and Chemistry of Minerals, 2007, 34, 95-112.	0.8	27
105	Compaction creep of simulated anhydrite fault gouge by pressure solution: theory v. experiments and implications for fault sealing. Geological Society Special Publication, 2015, 409, 107-124.	1.3	27
106	Effect of CO 2 -induced reactions on the mechanical behaviour of fractured wellbore cement. Geomechanics for Energy and the Environment, 2016, 7, 26-46.	2.5	27
107	Earthquake nucleation in weak subductedÂcarbonates. Nature Geoscience, 2016, 9, 717-722.	12.9	27
108	Fabrication of dense forsterite-enstatite polycrystals for experimental studies. Physics and Chemistry of Minerals, 2002, 29, 19-31.	0.8	26

#	Article	IF	Citations
109	Crack healing in rocksalt via diffusion in adsorbed aqueous films: Microphysical modelling versus experiments. Physics and Chemistry of the Earth, 2013, 64, 95-104.	2.9	25
110	Coupling of swelling, internal stress evolution, and diffusion in coal matrix material during exposure to methane. Journal of Geophysical Research: Solid Earth, 2017, 122, 844-865.	3.4	25
111	Pressure solution creep in gypsum: Evidence for precipitation reaction control. Physics and Chemistry of the Earth, 1997, 22, 33-37.	0.3	24
112	Influence of pore-fluid salinity on pressure solution creep in gypsum. Tectonophysics, 1999, 308, 311-330.	2.2	24
113	Misorientations across etched boundaries in deformed rocksalt: a study using electron backscatter diffraction. Journal of Structural Geology, 2000, 22, 81-89.	2.3	24
114	Effect of lithostatic stress on methane sorption by coal: Theory vs. experiment and implications for predicting in-situ coalbed methane content. International Journal of Coal Geology, 2016, 167, 48-64.	5.0	24
115	Flow behavior of fine-grained synthetic dunite in the presence of 0.5 wt% H2O. Journal of Geophysical Research, 1999, 104, 17823-17845.	3.3	23
116	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
117	The Green River Natural Analogue as A Field Laboratory To Study the Long-term Fate of CO2 in the subsurface. Energy Procedia, 2014, 63, 2821-2830.	1.8	23
118	Microscale cavitation as a mechanism for nucleating earthquakes at the base of the seismogenic zone. Nature Communications, 2017, 8, 1645.	12.8	23
119	Investigating Compaction by Intergranular Pressure Solution Using the Discrete Element Method. Journal of Geophysical Research: Solid Earth, 2018, 123, 107-124.	3.4	23
120	New approaches in experimental research on rock and fault behaviour in the Groningen gas field. Geologie En Mijnbouw/Netherlands Journal of Geosciences, 2017, 96, s55-s69.	0.9	22
121	Surface diffusivity of cleaved NaCl crystals as a function of humidity: Impedance spectroscopy measurements and implications for crack healing in rock salt. Journal of Geophysical Research, 2012, 117, .	3.3	21
122	Impact of rock salt creep law choice on subsidence calculations for hydrocarbon reservoirs overlain by evaporite caprocks. Journal of Geophysical Research: Solid Earth, 2016, 121, 4249-4267.	3.4	21
123	Swelling stress development in confined smectite clays through exposure to CO2. International Journal of Greenhouse Gas Control, 2018, 74, 49-61.	4.6	21
124	High-temperature deformation of calcite single crystals by r ⁺ and f ⁺ slip. Geological Society Special Publication, 1990, 54, 285-298.	1.3	20
125	The influence of dynamic recrystallization on the grain size distribution and rheological behaviour of Carrara marble deformed in axial compression. Geological Society Special Publication, 2002, 200, 331-353.	1.3	20
126	Friction properties and deformation mechanisms of halite(-mica) gouges from low to high sliding velocities. Earth and Planetary Science Letters, 2017, 458, 107-119.	4.4	20

#	Article	IF	Citations
127	The mechanical behavior of anhydrite and the effect of deformation on permeability developmentâ€“Implications for caprock integrity during geological storage of CO2. Energy Procedia, 2011, 4, 5358-5363.	1.8	19
128	Diagenetic compaction experiments on simulated anhydrite fault gouge under static conditions. Journal of Geophysical Research: Solid Earth, 2014, 119, 4123-4148.	3.4	19
129	Thermodynamic models for swelling of unconfined coal due to adsorption of mixed gases. Fuel, 2015, 157, 151-161.	6.4	19
130	Frictional properties of JFAST core samples and implications for slow earthquakes at the Tohoku subduction zone. Geophysical Research Letters, 2017, 44, 8822-8831.	4.0	19
131	Compaction experiments on wet calcite powder at room temperature: evidence for operation of intergranular pressure solution. Geological Society Special Publication, 2002, 200, 29-39.	1.3	18
132	Frictional properties of actinolite-chlorite gouge at hydrothermal conditions. Tectonophysics, 2020, 779, 228377.	2.2	17
133	The effects of lateral variations in rock composition and texture on anhydrite caprock integrity of CO2 storage systems. International Journal of Rock Mechanics and Minings Sciences, 2014, 69, 80-92.	5.8	16
134	Nanocrystalline Principal Slip Zones and Their Role in Controlling Crustal Fault Rheology. Minerals (Basel, Switzerland), 2019, 9, 328.	2.0	16
135	Nucleation of Stickâ€Slip Instability Within a Largeâ€Scale Experimental Fault: Effects of Stress Heterogeneities Due to Loading and Gouge Layer Compaction. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB018429.	3.4	16
136	On Mechanisms and Kinetics of Creep by Intergranular Pressure Solution. , 1999, , 345-366.		16
137	Deformation of polycrystalline salt in compression and in shear at 250â€“350Â°C. Geological Society Special Publication, 1990, 54, 201-213.	1.3	15
138	Effects of pore fluid flow and chemistry on compaction creep of calcite by pressure solution at 150Â°C. Geofluids, 2011, 11, 108-122.	0.7	15
139	Structure and properties of loaded silica contacts during pressure solution: impedance spectroscopy measurements under hydrothermal conditions. Physics and Chemistry of Minerals, 2011, 38, 501-516.	0.8	15
140	Kinetic effects of microscale plasticity at grain boundaries during pressure solution. Journal of Geophysical Research, 2009, 114, .	3.3	14
141	Ground motions induced by a producing hydrocarbon reservoir that is overlain by a viscoelastic rocksalt layer: a numerical model. Geophysical Journal International, 2015, 203, 198-212.	2.4	14
142	The physics of fault friction: insights from experiments on simulated gouges at low shearing velocities. Solid Earth, 2020, 11, 2075-2095.	2.8	14
143	Misorientation distributions in hot deformed NaCl using electron backscattered diffraction. Journal of Microscopy, 2002, 205, 285-94.	1.8	14
144	Frictional properties of simulated anhydrite-dolomite fault gouge and implications for seismogenic potential. Journal of Structural Geology, 2016, 84, 31-46.	2.3	13

#	Article	IF	Citations
145	Intergranular Clay Films Control Inelastic Deformation in the Groningen Gas Reservoir: Evidence From Splitâ€Cylinder Deformation Tests. Journal of Geophysical Research: Solid Earth, 2019, 124, 12679-12702.	3.4	13
146	Impact of Chemical Environment on Compaction Behaviour of Quartz Sands during Stress-Cycling. Rock Mechanics and Rock Engineering, 2021, 54, 981-1003.	5.4	13
147	Effects of interfacial energy on compaction creep by intergranular pressure solution: Theory versus experiments on a rock analog (NaNO₃). Journal of Geophysical Research, 2012, 117, .	3.3	12
148	Shear localization in a mature mylonitic rock analog during fast slip. Geochemistry, Geophysics, Geosystems, 2017, 18, 513-530.	2.5	12
149	Influence of Grain Boundary Structural Evolution on Pressure Solution Creep Rates. Journal of Geophysical Research: Solid Earth, 2019, 124, 10210-10230.	3.4	12
150	Impact of downhole pressure and fluid-access on the effectiveness of wellbore cement expansion additives. Cement and Concrete Research, 2021, 147, 106514.	11.0	12
151	Compaction creep of quartz-muscovite mixtures at 500Â°C: Preliminary results on the influence of muscovite on pressure solution. Geological Society Special Publication, 2002, 200, 61-71.	1.3	11
152	Measurements of ionic diffusivity in various rock samples: Low diffusivity through nanoscale pores. International Journal of Rock Mechanics and Minings Sciences, 2008, 45, 450-459.	5.8	11
153	Temperature and Gas/Brine Content Affect Seismogenic Potential of Simulated Fault Gouges Derived From Groningen Gas Field Caprock. Geochemistry, Geophysics, Geosystems, 2019, 20, 2827-2847.	2.5	11
154	Effects of heterogeneous gouge segments on the slip behavior of experimental faults at dm scale. Earth and Planetary Science Letters, 2021, 554, 116652.	4.4	11
155	Frictional Properties of Subduction Input Sediments at an Erosive Convergent Continental Margin and Related Controls on DÃ©collement Slip Modes: The Costa Rica Seismogenesis Project. Journal of Geophysical Research: Solid Earth, 2018, 123, 8385-8408.	3.4	10
156	Seismic Slipâ€Pulse Experiments Simulate Induced Earthquake Rupture in the Groningen Gas Field. Geophysical Research Letters, 2021, 48, e2021GL092417.	4.0	10
157	Grain boundary populations in wet and dry NaCl. Materials Science and Technology, 2006, 22, 1307-1315.	1.6	9
158	A new experimental method to determine the CO2 sorption capacity of coal. Energy Procedia, 2011, 4, 3125-3130.	1.8	9
159	Direct determination of total CO2 uptake by coal: A new technique compared with the manometric method. Fuel, 2013, 105, 192-205.	6.4	9
160	Impact of Chemical Environment on Compaction Creep of Quartz Sand and Possible Geomechanical Applications. Journal of Geophysical Research: Solid Earth, 2019, 124, 5584-5606.	3.4	9
161	Healing Behavior of Simulated Fault Gouges From the Groningen Gas Field and Implications for Induced Fault Reactivation. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB018790.	3.4	9
162	Salt Dynamics. , 2008, , 248-344.		9

#	Article	IF	Citations
163	Reaction-driven casing expansion: potential for wellbore leakage mitigation. Acta Geotechnica, 2018, 13, 341.	5.7	8
164	Investigation of Subgrain Rotation Recrystallization in Dry Polycrystalline NaCl. Materials Science Forum, 2004, 467-470, 597-602.	0.3	7
165	Low Friction Coefficient of Phyllosilicate Fault Gouges and the Effect of Humidity: Insights From a New Microphysical Model. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB018683.	3.4	7
166	Microphysical Modeling of Carbonate Fault Friction at Slip Rates Spanning the Full Seismic Cycle. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB021024.	3.4	7
167	Electrical impedance measurement of hydrous microcrystalline quartz. Journal of Mineralogical and Petrological Sciences, 2009, 104, 176-181.	0.9	7
168	Applied stress reduces swelling of coal induced by adsorption of water. Geomechanics for Energy and the Environment, 2018, 16, 45-63.	2.5	6
169	Effect of pore fluid chemistry on uniaxial compaction creep of Bentheim sandstone and implications for reservoir injection operations. Geomechanics for Energy and the Environment, 2021, 29, 100272.	2.5	6
170	Dynamic Recrystallization of Dense Polycrystalline NaCl: Dependence of Grain Size Distribution on Stress and Temperature. Materials Science Forum, 2004, 467-470, 1187-1192.	0.3	5
171	Microphysics of Inelastic Deformation in Reservoir Sandstones from the Seismogenic Center of the Groningen Gas Field. Rock Mechanics and Rock Engineering, 2020, 53, 5301-5328.	5.4	5
172	Microstructural Evolution of Synthetic Forsterite Aggregates Deformed to High Strain. Materials Science Forum, 2004, 467-470, 579-584.	0.3	4
173	Effect of pre-existing crystallographic preferred orientation on the rheology of Carrara marble. Journal of Structural Geology, 2014, 68, 44-57.	2.3	4
174	4D Synchrotron X-ray Imaging of Grain Scale Deformation Mechanisms in a Seismogenic Gas Reservoir Sandstone During Axial Compaction. Rock Mechanics and Rock Engineering, 2022, 55, 4697-4715.	5.4	4
175	Misorientation distributions in hot deformed NaCl using electron backscattered diffraction. Journal of Microscopy, 2002, 208, 75-75.	1.8	3
176	Role of Adsorption in the Creep Behavior of Coal and Shale. , 2013, , .		3
177	Creep behaviour of bischofite, carnallite and mixed bischofite-carnallite-halite salt rock. Geotectonic Research, 2015, 97, 15-17.	0.1	3
178	Drill core from seismically active sandstone gas reservoir yields clues to internal deformation mechanisms. Geology, 2021, 49, 483-487.	4.4	3
179	Frictional properties of simulated shale-coal fault gouges: Implications for induced seismicity in source rocks below Europe's largest gas field. International Journal of Coal Geology, 2020, 226, 103499.	5.0	2
180	Compaction of the Groningen Gas Reservoir Sandstone: Discrete Element Modeling Using Microphysically Based Grainâ€Scale Interaction Laws. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB021722.	3.4	2

#	Article	IF	Citations
181	Frictional slip weakening and shear-enhanced crystallinity in simulated coal fault gouges at slow slip rates. Solid Earth, 2020, 11, 1399-1422.	2.8	2
182	Permeability of Bituminous Coal to CH4 and CO2 Under Fixed Volume and Fixed Stress Boundary Conditions: Effects of Sorption. Frontiers in Earth Science, 2022, 10, .	1.8	1
183	Stress-Strain-Sorption Behaviour of Smectites Upon Exposure to Dry and Wet CO2. Frontiers in Earth Science, 2022, 10, .	1.8	1
184	Surface microstructures developed on polished quartz crystals embedded in wet quartz sand compacted under hydrothermal conditions. Scientific Reports, 2021, 11, 14920.	3.3	0