

Christian David

List of Publications by Year in descending order

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70
papers

3,789
citations

147566

31
h-index

128067

60
g-index

75
all docs

75
docs citations

75
times ranked

2465
citing authors

#	ARTICLE	IF	CITATIONS
1	The transition from brittle faulting to cataclastic flow in porous sandstones: Mechanical deformation. <i>Journal of Geophysical Research</i> , 1997, 102, 3009-3025.	3.3	729
2	Laboratory measurement of compaction-induced permeability change in porous rocks: Implications for the generation and maintenance of pore pressure excess in the crust. <i>Pure and Applied Geophysics</i> , 1994, 143, 425-456.	0.8	560
3	Influence of stress-induced and thermal cracking on physical properties and microstructure of La Peyratte granite. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 1999, 36, 433-448.	2.6	221
4	Salt crystallization in pores: quantification and estimation of damage. <i>Environmental Geology</i> , 2007, 52, 205-213.	1.2	142
5	Geometry of flow paths for fluid transport in rocks. <i>Journal of Geophysical Research</i> , 1993, 98, 12267-12278.	3.3	132
6	Effective medium theory and network theory applied to the transport properties of rock. <i>Journal of Geophysical Research</i> , 1990, 95, 6993-7005.	3.3	120
7	Network modeling of permeability evolution during cementation and hot isostatic pressing. <i>Journal of Geophysical Research</i> , 1995, 100, 15451-15464.	3.3	118
8	Mechanical compaction, microstructures and permeability evolution in sandstones. <i>Physics and Chemistry of the Earth</i> , 2001, 26, 45-51.	0.6	97
9	Compaction and Failure in High Porosity Carbonates: Mechanical Data and Microstructural Observations. <i>Pure and Applied Geophysics</i> , 2009, 166, 869-898.	0.8	92
10	A study of the crack network in thermally and mechanically cracked granite samples using confocal scanning laser microscopy. <i>Physics and Chemistry of the Earth</i> , 1999, 24, 627-632.	0.6	88
11	Modification of the porous network by salt crystallization in experimentally weathered sedimentary stones. <i>Materials and Structures/Materiaux Et Constructions</i> , 2008, 41, 1091-1108.	1.3	82
12	Comparison of the anisotropic behaviour of undeformed sandstones under dry and saturated conditions. <i>Tectonophysics</i> , 2003, 370, 193-212.	0.9	71
13	Microstructural control on the anisotropy of elastic and transport properties in undeformed sandstones. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2005, 42, 911-923.	2.6	71
14	The mechanical behaviour of synthetic sandstone with varying brittle cement content. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 1998, 35, 759-770.	2.6	67
15	Acoustic and reservoir properties of microporous carbonate rocks: Implication of micrite particle size and morphology. <i>Journal of Geophysical Research: Solid Earth</i> , 2015, 120, 790-811.	1.4	65
16	Strength anisotropy of shales deformed under uppermost crustal conditions. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 110-129.	1.4	63
17	Compaction, permeability evolution and stress path effects in unconsolidated sand and weakly consolidated sandstone. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2014, 67, 226-239.	2.6	55
18	Microstructures and physical properties in carbonate rocks: A comprehensive review. <i>Marine and Petroleum Geology</i> , 2019, 103, 366-376.	1.5	54

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19	Confocal scanning laser microscopy applied to the study of pore and crack networks in rocks. Computers and Geosciences, 2001, 27, 1101-1109.	2.0	51
20	Elastic Anisotropy Reversal During Brittle Creep in Shale. Geophysical Research Letters, 2017, 44, 10,887.	1.5	42
21	Mechanical instability induced by water weakening in laboratory fluid injection tests. Journal of Geophysical Research: Solid Earth, 2015, 120, 4171-4188.	1.4	41
22	X-Ray CT scanning imaging for the Nubia sandstone as a tool for characterizing its capillary properties. Geosciences Journal, 2016, 20, 691-704.	0.6	41
23	Effects of bedding and foliation on mechanical anisotropy, damage evolution and failure mode. Geological Society Special Publication, 2005, 245, 223-249.	0.8	40
24	Elastic wave velocity evolution of shales deformed under uppermost crustal conditions. Journal of Geophysical Research: Solid Earth, 2017, 122, 130-141.	1.4	39
25	Interrelations of the petrophysical, sedimentological and microstructural properties of the Oolithe Blanche Formation (Bathonian, saline aquifer of the Paris Basin). Sedimentary Geology, 2010, 230, 123-138.	1.0	38
26	Impact of sedimentology and diagenesis on the petrophysical properties of a tight oolitic carbonate reservoir. The case of the Oolithe Blanche Formation (Bathonian, Paris Basin, France). Marine and Petroleum Geology, 2013, 48, 323-340.	1.5	38
27	Time and Temperature Dependent Creep in Tournemire Shale. Journal of Geophysical Research: Solid Earth, 2018, 123, 9658-9675.	1.4	38
28	Mechanical Compaction. International Geophysics, 2004, , 55-114.	0.6	33
29	Pore structures and transport properties of sandstone. Transport in Porous Media, 1993, 11, 161-177.	1.2	32
30	An integrated study of the petrophysical properties of carbonate rocks from the "Oolithe Blanche" formation in the Paris Basin. Tectonophysics, 2011, 503, 18-33.	0.9	32
31	Influence of microporosity distribution on the mechanical behavior of oolitic carbonate rocks. Geomechanics for Energy and the Environment, 2015, 3, 11-23.	1.2	32
32	A single method for the inversion of anisotropic data sets with application to structural studies. Journal of Structural Geology, 2004, 26, 2065-2072.	1.0	30
33	Deformation bands, early markers of tectonic activity in front of a fold-and-thrust belt: Example from the Tremp-Graus basin, southern Pyrenees, Spain. Journal of Structural Geology, 2018, 110, 65-85.	1.0	28
34	Anisotropy of elastic, magnetic and microstructural properties of the Callovo-Oxfordian argillite. Physics and Chemistry of the Earth, 2007, 32, 145-153.	1.2	27
35	Anisotropy of magnetic susceptibility and P-wave velocity in core samples from the Taiwan Chelungpu-Fault Drilling Project (TCDP). Journal of Structural Geology, 2008, 30, 948-962.	1.0	27
36	Detection of moving capillary front in porous rocks using X-ray and ultrasonic methods. Frontiers in Physics, 2015, 3, .	1.0	26

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37	Pressure-Dependent Elastic and Transport Properties of Porous and Permeable Rocks: Microstructural Control. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 8952-8968.	1.4	26
38	X-ray imaging of water motion during capillary imbibition: Geometry and kinetics of water front in intact and damaged porous rocks. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	21
39	The influence of environmental conditions on weathering of porous rocks by gypsum: a non-destructive study using acoustic emissions. <i>Environmental Earth Sciences</i> , 2013, 68, 1691-1706.	1.3	21
40	Pore fabric geometry inferred from magnetic and acoustic anisotropies in rocks with various mineralogy, permeability and porosity. <i>Tectonophysics</i> , 2014, 629, 109-122.	0.9	19
41	Remote monitoring of the mechanical instability induced by fluid substitution and water weakening in the laboratory. <i>Physics of the Earth and Planetary Interiors</i> , 2016, 261, 69-87.	0.7	19
42	Influence of mechanical damage on fluid flow patterns investigated using CT scanning imaging and acoustic emissions techniques. <i>Geophysical Research Letters</i> , 2008, 35, .	1.5	17
43	K&B, a collaborative benchmarking exercise for estimating the permeability of the Grimsel granodiorite " Part 1: measurements, pressure dependence and pore-fluid effects. <i>Geophysical Journal International</i> , 2018, 215, 799-824.	1.0	16
44	Evolution in Seismic Properties During Low and Intermediate Water Saturation: Competing Mechanisms During Water Imbibition?. <i>Geophysical Research Letters</i> , 2019, 46, 4581-4590.	1.5	16
45	X-ray imaging of water motion during capillary imbibition: A study on how compaction bands impact fluid flow in Bentheim sandstone. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	15
46	Multiscale anisotropy controlled by folding: the example of the Chaudrons fold (Corbières, France). <i>Journal of Structural Geology</i> , 2006, 28, 549-560.	1.0	14
47	Normal faults, layering and elastic properties of rocks. <i>Tectonophysics</i> , 2014, 622, 96-109.	0.9	12
48	Ultrasonic monitoring of spontaneous imbibition experiments: Precursory moisture diffusion effects ahead of water front. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 4948-4962.	1.4	12
49	Petrophysical and acoustic characteristics of Jurassic and Cretaceous rocks from Central Lebanon. <i>Carbonates and Evaporites</i> , 2020, 35, 1.	0.4	12
50	Ultrasonic monitoring of spontaneous imbibition experiments: Acoustic signature of fluid migration. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 4931-4947.	1.4	11
51	K&B, a collaborative benchmarking exercise for estimating the permeability of the Grimsel granodiorite "Part 2: modelling, microstructures and complementary data. <i>Geophysical Journal International</i> , 2018, 215, 825-843.	1.0	10
52	Rock physics and geomechanics in the study of reservoirs and repositories. <i>Geological Society Special Publication</i> , 2007, 284, 1-14.	0.8	9
53	Water-Induced Damage in Microporous Carbonate Rock by Low-Pressure Injection Test. <i>Rock Mechanics and Rock Engineering</i> , 2021, 54, 5185-5206.	2.6	9
54	Elastic anisotropy of core samples from the Taiwan Chelungpu Fault Drilling Project (TCDP): direct 3-D measurements and weak anisotropy approximations. <i>Geophysical Journal International</i> , 2012, 188, 239-252.	1.0	7

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55	Seismic and Microseismic Signatures of Fluids in Rocks: Bridging the Scale Gap. Journal of Geophysical Research: Solid Earth, 2019, 124, 5379-5386.	1.4	7
56	Influence of temperature and salt concentration on the salt weathering of a sedimentary stone with sodium sulphate. Geological Society Special Publication, 2010, 333, 35-42.	0.8	6
57	Petrophysical and acoustic assessment of carbonate rocks, Zahle area, central Lebanon. Bulletin of Engineering Geology and the Environment, 2020, 79, 5455-5475.	1.6	6
58	Pressure Solution Compaction During Creep Deformation of Tournemire Shale: Implications for Temporal Sealing in Shales. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB021370.	1.4	5
59	Compaction and Failure in High Porosity Carbonates: Mechanical Data and Microstructural Observations. , 2009, , 869-898.		5
60	A single laboratory setup for investigating the anisotropy of both seismic and electrical properties in core samples. Geophysical Journal International, 2017, 210, 1595-1608.	1.0	4
61	Reply to Comment by Y. Kovalyshen on "Ultrasonic Monitoring of Spontaneous Imbibition Experiments: Precursory Moisture Diffusion Effects Ahead of Water Front" Journal of Geophysical Research: Solid Earth, 2018, 123, 6610.	1.4	4
62	Numerical Simulation of Deformation Band Occurrence and the Associated Stress Field during the Growth of a Fault-Propagation Fold. Geosciences (Switzerland), 2019, 9, 257.	1.0	4
63	Fault imprint in clay units: Magnetic fabric, p-wave velocity, structural and mineralogical signatures. Tectonophysics, 2018, 745, 264-277.	0.9	3
64	Continuous Recording of Viscoelastic Relaxation Processes at a Constant Ultrasonic Frequency Due To Wave-Induced Fluid Flow in a Microporous Carbonate Rock. Geophysical Research Letters, 2021, 48, e2021GL095244.	1.5	3
65	An Integrated Study of Water Weakening and Fluid Rock Interaction Processes in Porous Rocks: Linking Mechanical Behavior to Surface Properties. Applied Sciences (Switzerland), 2021, 11, 11437.	1.3	3
66	Temperature-induced evolution of the elastic and magnetic anisotropy in argillite samples from Bure underground research laboratory, eastern France. Geological Society Special Publication, 2007, 284, 57-69.	0.8	2
67	Lithological control on shear-wave velocity anisotropy in core samples from the Taiwan Chelungpu Fault Drilling Project. Journal of Asian Earth Sciences, 2012, 52, 63-72.	1.0	2
68	The KG ² B Project: A World-Wide Benchmark of Low Permeability Measurement. , 2017, , .		2
69	Monitoring Strength Reduction in Sandstones Associated With Fluid Substitution Using Advanced Rock Mechanics Testing. , 2016, , .		1
70	Acoustics and petrophysical investigations on upper cretaceous carbonate rocks from northern Lebanon. Journal of African Earth Sciences, 2020, 172, 103955.	0.9	1