

Philippe Davy

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/5577208/publications.pdf>

Version: 2024-02-01

138
papers

10,633
citations

22153

59
h-index

32842

100
g-index

141
all docs

141
docs citations

141
times ranked

7286
citing authors

#	ARTICLE	IF	CITATIONS
1	Scaling of fracture systems in geological media. <i>Reviews of Geophysics</i> , 2001, 39, 347-383.	23.0	1,047
2	Experiments on shortening of a 4-layer model of the continental lithosphere. <i>Tectonophysics</i> , 1991, 188, 1-25.	2.2	363
3	Connectivity of random fault networks following a power law fault length distribution. <i>Water Resources Research</i> , 1997, 33, 1567-1583.	4.2	320
4	Lateral extrusion in the eastern Alps, Part 1: Boundary conditions and experiments scaled for gravity. <i>Tectonics</i> , 1991, 10, 245-256.	2.8	316
5	Impact of transient groundwater storage on the discharge of Himalayan rivers. <i>Nature Geoscience</i> , 2012, 5, 127-132.	12.9	242
6	The Namche Barwa syntaxis: evidence for exhumation related to compressional crustal folding. <i>Journal of Asian Earth Sciences</i> , 1998, 16, 239-252.	2.3	240
7	Discharge, discharge variability, and the bedrock channel profile. <i>Journal of Geophysical Research</i> , 2005, 110, n/a-n/a.	3.3	223
8	The dynamics of back-arc extension: an experimental approach to the opening of the Tyrrhenian Sea. <i>Geophysical Journal International</i> , 1996, 126, 781-795.	2.4	222
9	Hydraulic properties of two-dimensional random fracture networks following a power law length distribution: 1. Effective connectivity. <i>Water Resources Research</i> , 2001, 37, 2065-2078.	4.2	199
10	Flow Intermittency, Dispersion, and Correlated Continuous Time Random Walks in Porous Media. <i>Physical Review Letters</i> , 2013, 110, 184502.	7.8	184
11	Hydraulic properties of two-dimensional random fracture networks following a power law length distribution: 2. Permeability of networks based on lognormal distribution of apertures. <i>Water Resources Research</i> , 2001, 37, 2079-2095.	4.2	177
12	On the connectivity of three-dimensional fault networks. <i>Water Resources Research</i> , 1998, 34, 2611-2622.	4.2	168
13	Some consequences of a proposed fractal nature of continental faulting. <i>Nature</i> , 1990, 348, 56-58.	27.8	165
14	Exhumation during crustal folding in the Namche-Barwa syntaxis. <i>Terra Nova</i> , 1997, 9, 53-56.	2.1	164
15	Evolution of soil surface roughness and flowpath connectivity in overland flow experiments. <i>Catena</i> , 2002, 46, 125-139.	5.0	160
16	Connectivity properties of two-dimensional fracture networks with stochastic fractal correlation. <i>Water Resources Research</i> , 2003, 39, .	4.2	155
17	On the frequency-length distribution of the San Andreas Fault System. <i>Journal of Geophysical Research</i> , 1993, 98, 12141-12151.	3.3	149
18	Unexpected spatial stability of water chemistry in headwater stream networks. <i>Ecology Letters</i> , 2018, 21, 296-308.	6.4	149

#	ARTICLE	IF	CITATIONS
19	Non-Fickian mixing: Temporal evolution of the scalar dissipation rate in heterogeneous porous media. <i>Advances in Water Resources</i> , 2010, 33, 1468-1475.	3.8	147
20	A statistical scaling model for fracture network geometry, with validation on a multiscale mapping of a joint network (Hornelen Basin, Norway). <i>Journal of Geophysical Research</i> , 2002, 107, ETC 4-1.	3.3	137
21	Connectivity, permeability, and channeling in randomly distributed and kinematically defined discrete fracture network models. <i>Water Resources Research</i> , 2016, 52, 8526-8545.	4.2	133
22	Hydraulic properties of two-dimensional random fracture networks following power law distributions of length and aperture. <i>Water Resources Research</i> , 2002, 38, 12-1-12-9.	4.2	132
23	Laboratory experiments simulating the geomorphic response to tectonic uplift. <i>Journal of Geophysical Research</i> , 2003, 108, ETC 3-1-ETC 3-20.	3.3	128
24	OZCAR: The French Network of Critical Zone Observatories. <i>Vadose Zone Journal</i> , 2018, 17, 1-24.	2.2	126
25	Sedimentary basins and crustal thickening. <i>Sedimentary Geology</i> , 1993, 86, 77-89.	2.1	124
26	The stacking of thrust slices in collision zones and its thermal consequences. <i>Tectonics</i> , 1986, 5, 913-929.	2.8	123
27	Right-lateral shear along the Northwest Pacific Margin and the India-Eurasia Collision. <i>Tectonics</i> , 1990, 9, 1409-1419.	2.8	122
28	Fluvial erosion/transport equation of landscape evolution models revisited. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	120
29	Periodic instabilities during compression or extension of the lithosphere 1. Deformation modes from an analytical perturbation method. <i>Journal of Geophysical Research</i> , 1992, 97, 1999-2014.	3.3	116
30	Clustering and size distributions of fault patterns: Theory and measurements. <i>Geophysical Research Letters</i> , 1999, 26, 2001-2004.	4.0	114
31	A likely universal model of fracture scaling and its consequence for crustal hydromechanics. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	113
32	Initiation of subduction at Atlantic-type margins: Insights from laboratory experiments. <i>Journal of Geophysical Research</i> , 1999, 104, 2749-2766.	3.3	110
33	Constraints on the long-term colluvial erosion law by analyzing slope-area relationships at various tectonic uplift rates in the Siwaliks Hills (Nepal). <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	109
34	Scaling of fracture connectivity in geological formations. <i>Geophysical Research Letters</i> , 2000, 27, 2061-2064.	4.0	105
35	Compartmentalization of physical and chemical properties in hard-rock aquifers deduced from chemical and groundwater age analyses. <i>Applied Geochemistry</i> , 2008, 23, 2686-2707.	3.0	105
36	Structuration of the lithosphere in plate tectonics as a self-organized critical phenomenon. <i>Journal of Geophysical Research</i> , 1990, 95, 17353-17361.	3.3	104

#	ARTICLE	IF	CITATIONS
37	Physical models of extensional tectonics at various scales. Geological Society Special Publication, 1987, 28, 95-107.	1.3	99
38	Growth of fractal fault patterns. Physical Review Letters, 1990, 65, 2266-2269.	7.8	96
39	Shortening of analogue models of the continental lithosphere: New hypothesis for the formation of the Tibetan plateau. Tectonics, 1994, 13, 475-483.	2.8	96
40	A stochastic "precipitation" model for simulating erosion/sedimentation dynamics. Computers and Geosciences, 2001, 27, 815-827.	4.2	91
41	Equivalent mean flow models for fractured aquifers: Insights from a pumping tests scaling interpretation. Water Resources Research, 2004, 40, .	4.2	87
42	Rapid post-seismic landslide evacuation boosted by dynamic river width. Nature Geoscience, 2017, 10, 680-684.	12.9	86
43	The influence of pre-existing thrust faults on normal fault geometry in nature and in experiments. Journal of Structural Geology, 1995, 17, 1139-1149.	2.3	85
44	Percolation parameter and percolation-threshold estimates for three-dimensional random ellipses with widely scattered distributions of eccentricity and size. Physical Review E, 2000, 62, 5948-5952.	2.1	84
45	A model of fracture nucleation, growth and arrest, and consequences for fracture density and scaling. Journal of Geophysical Research: Solid Earth, 2013, 118, 1393-1407.	3.4	82
46	Mechanisms of Nitrate Transfer from Soil to Stream in an Agricultural Watershed of French Brittany. Water, Air, and Soil Pollution, 2002, 133, 161-183.	2.4	81
47	Fault growth in brittle-ductile experiments and the mechanics of continental collisions. Journal of Geophysical Research, 1993, 98, 12111-12139.	3.3	80
48	Modes of continental lithospheric extension: experimental verification of strain localization processes. Tectonophysics, 1996, 254, 69-87.	2.2	79
49	Partitioning a regional groundwater flow system into shallow local and deep regional flow compartments. Water Resources Research, 2013, 49, 2274-2286.	4.2	78
50	Influence of spatial correlation of fracture centers on the permeability of two-dimensional fracture networks following a power law length distribution. Water Resources Research, 2004, 40, .	4.2	75
51	Periodic instabilities during compression of the lithosphere: 2. Analogue experiments. Journal of Geophysical Research, 1994, 99, 12057-12069.	3.3	72
52	Connecting source and transport: Suspended sediments in the Nepal Himalayas. Earth and Planetary Science Letters, 2012, 351-352, 158-170.	4.4	70
53	Study of three subsurface hydrologic systems based on spectral and cross-spectral analysis of time series. Journal of Hydrology, 1999, 222, 152-164.	5.4	69
54	Temporal and spatial scaling of hydraulic response to recharge in fractured aquifers: Insights from a frequency domain analysis. Water Resources Research, 2013, 49, 3007-3023.	4.2	68

#	ARTICLE	IF	CITATIONS
55	Localization and fault growth in layered brittle-ductile systems: Implications for deformations of the continental lithosphere. <i>Journal of Geophysical Research</i> , 1995, 100, 6281-6294.	3.3	67
56	Persistence of incomplete mixing: A key to anomalous transport. <i>Physical Review E</i> , 2011, 84, 015301.	2.1	65
57	Modeling preasymptotic transport in flows with significant inertial and trapping effects – The importance of velocity correlations and a spatial Markov model. <i>Advances in Water Resources</i> , 2014, 70, 89-103.	3.8	63
58	Cataclastic slip band distribution in normal fault damage zones, Nubian sandstones, Suez rift. <i>Journal of Geophysical Research</i> , 2002, 107, ETG 6-1-ETG 6-12.	3.3	61
59	Effects of surface water storage by soil roughness on overland-flow generation. <i>Earth Surface Processes and Landforms</i> , 2002, 27, 223-233.	2.5	60
60	Backarc extension and collision: an experimental approach to the tectonics of Asia. <i>Geophysical Journal International</i> , 2004, 157, 871-889.	2.4	60
61	Symetrie et asymetrie des rifts et mecanismes d'amincissement de la lithosphere. <i>Bulletin - Societe Geologique De France</i> , 1989, V, 445-451.	2.2	56
62	Flow in multiscale fractal fracture networks. <i>Geological Society Special Publication</i> , 2006, 261, 31-45.	1.3	54
63	Fault growth model and the universal fault length distribution. <i>Geophysical Research Letters</i> , 1991, 18, 1079-1081.	4.0	53
64	Continental collision, gravity spreading, and kinematics of Aegea and Anatolia. <i>Tectonics</i> , 2000, 19, 290-299.	2.8	50
65	Stereological analysis of fractal fracture networks. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	50
66	Mesoscale fluvial erosion parameters deduced from modeling the Mediterranean sea level drop during the Messinian (late Miocene). <i>Journal of Geophysical Research</i> , 2006, 111, n/a-n/a.	3.3	50
67	Upscaling local-scale transport processes in large-scale relief dynamics. <i>Physics and Chemistry of the Earth</i> , 2000, 25, 533-541.	0.6	49
68	How did the Messinian Salinity Crisis end?. <i>Terra Nova</i> , 2005, 17, 414-419.	2.1	49
69	Impact of climate changes during the last 5 million years on groundwater in basement aquifers. <i>Scientific Reports</i> , 2015, 5, 14132.	3.3	49
70	Estimating uplift rate and erodibility from the area-slope relationship: Examples from Brittany (France) and numerical modelling. <i>Physics and Chemistry of the Earth</i> , 2000, 25, 543-548.	0.6	47
71	Statistical characteristics of flow as indicators of channeling in heterogeneous porous and fractured media. <i>Advances in Water Resources</i> , 2010, 33, 257-269.	3.8	47
72	Seismic cycles, earthquakes, landslides and sediment fluxes: Linking tectonics to surface processes using a reduced-complexity model. <i>Geomorphology</i> , 2019, 339, 87-103.	2.6	47

#	ARTICLE	IF	CITATIONS
73	The impact of inertial effects on solute dispersion in a channel with periodically varying aperture. <i>Physics of Fluids</i> , 2012, 24, .	4.0	46
74	On the tectonic significance of retrograde P-T paths in eclogites of the French Massif Central. <i>Tectonics</i> , 1991, 10, 131-140.	2.8	45
75	Did the Ebro basin connect to the Mediterranean before the Messinian salinity crisis?. <i>Geomorphology</i> , 2006, 81, 155-165.	2.6	45
76	Topology of fracture networks. <i>Frontiers in Physics</i> , 2013, 1, .	2.1	45
77	Characterization of the velocity field organization in heterogeneous media by conditional correlation. <i>Water Resources Research</i> , 2007, 43, .	4.2	44
78	How to model shallow water-table depth variations: the case of the Kervidy-Naizin catchment, France. <i>Hydrological Processes</i> , 2005, 19, 901-920.	2.6	43
79	Porosity and fluid velocities in the upper continental crust (2 to 4 km) inferred from injection tests at the Soultz-sous-Forêts geothermal site. <i>Geochimica Et Cosmochimica Acta</i> , 2004, 68, 2405-2415.	3.9	42
80	Oxido-reduction sequence related to flux variations of groundwater from a fractured basement aquifer (Ploemeur area, France). <i>Applied Geochemistry</i> , 2006, 21, 29-47.	3.0	42
81	Coulomb Mechanics and Relief Constraints Explain Landslide Size Distribution. <i>Geophysical Research Letters</i> , 2019, 46, 4258-4266.	4.0	42
82	Effect of depression storage capacity on overland-flow generation for rough horizontal surfaces: water transfer distance and scaling. <i>Earth Surface Processes and Landforms</i> , 2002, 27, 177-191.	2.5	38
83	Impact of permafrost development on groundwater flow patterns: a numerical study considering freezing cycles on a two-dimensional vertical cut through a generic river-plain system. <i>Hydrogeology Journal</i> , 2013, 21, 257-270.	2.1	34
84	General Database for Ground Water Site Information. <i>Ground Water</i> , 2006, 44, 060515055722002-???.	1.3	33
85	Experimental discovery of scaling laws relating fractal dimensions and the length distribution exponent of fault systems. <i>Geophysical Research Letters</i> , 1992, 19, 361-363.	4.0	32
86	Buckling of the oceanic lithosphere from geophysical data and experiments. <i>Tectonics</i> , 1992, 11, 537-548.	2.8	32
87	Non-Newtonian effects during injection in partially crystallised magmas. <i>Journal of Volcanology and Geothermal Research</i> , 1996, 71, 31-44.	2.1	31
88	Scaling relationships of channel networks at large scales: Examples from two large-magnitude watersheds in Brittany, France. <i>Tectonophysics</i> , 1997, 269, 91-111.	2.2	31
89	Analogue modelling of relief dynamics. <i>Physics and Chemistry of the Earth</i> , 2000, 25, 549-553.	0.6	30
90	A precipitation method to calculate river hydrodynamics, with applications to flood prediction, landscape evolution models, and braiding instabilities. <i>Journal of Geophysical Research F: Earth Surface</i> , 2017, 122, 1491-1512.	2.8	29

#	ARTICLE	IF	CITATIONS
91	Sediment transfer and the hydrological cycle of Himalayan rivers in Nepal. <i>Comptes Rendus - Geoscience</i> , 2012, 344, 627-635.	1.2	27
92	Timescales of regional circulation of saline fluids in continental crystalline rock aquifers (Armorican Massif, western France). <i>Hydrology and Earth System Sciences</i> , 2015, 19, 1413-1426.	4.9	27
93	Thickening history of the Western Alps. <i>Earth and Planetary Science Letters</i> , 1986, 78, 44-52.	4.4	26
94	Thermal constraints on the tectonic evolution of a metamorphic core complex (Santa Catalina) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 62	4.4	25
95	Cross-correlation between length and position in real fracture networks. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	25
96	A note on the angular correction applied to fracture intensity profiles along drill core. <i>Journal of Geophysical Research</i> , 2006, 111, n/a-n/a.	3.3	24
97	A finite volume approach with local adaptation scheme for the simulation of free surface flow in porous media. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2012, 36, 1574-1591.	3.3	24
98	Is the Dupuit assumption suitable for predicting the groundwater seepage area in hillslopes?. <i>Water Resources Research</i> , 2014, 50, 2394-2406.	4.2	24
99	Elastic Properties of Fractured Rock Masses With Frictional Properties and Power Law Fracture Size Distributions. <i>Journal of Geophysical Research: Solid Earth</i> , 2018, 123, 6521-6539.	3.4	24
100	Topological impact of constrained fracture growth. <i>Frontiers in Physics</i> , 2015, 3, .	2.1	22
101	Brittle-ductile coupling: Role of ductile viscosity on brittle fracturing. <i>Geophysical Research Letters</i> , 2005, 32, .	4.0	20
102	An inverse problem methodology to identify flow channels in fractured media using synthetic steady-state head and geometrical data. <i>Advances in Water Resources</i> , 2010, 33, 782-800.	3.8	20
103	Performance of automated methods for flash flood inundation mapping: a comparison of a digital terrain model (DTM) filling and two hydrodynamic methods. <i>Hydrology and Earth System Sciences</i> , 2021, 25, 2979-2995.	4.9	19
104	Anomalous kinetics in diffusion limited reactions linked to non-Gaussian concentration probability distribution function. <i>Journal of Chemical Physics</i> , 2011, 135, 174104.	3.0	18
105	Shear Flows Accelerate Mixing Dynamics in Hyporheic Zones and Hillslopes. <i>Geophysical Research Letters</i> , 2018, 45, 11,659.	4.0	18
106	Mechanics of the transition from localized to distributed fracturing in layered brittle-ductile systems. <i>Tectonophysics</i> , 2010, 484, 48-59.	2.2	17
107	A methodology for using borehole temperature-depth profiles under ambient, single and cross-borehole pumping conditions to estimate fracture hydraulic properties. <i>Journal of Hydrology</i> , 2011, , .	5.4	17
108	Anomalous diffusion exponents in continuous two-dimensional multifractal media. <i>Physical Review E</i> , 2004, 70, 016306.	2.1	16

#	ARTICLE	IF	CITATIONS
109	Landscape dynamics revealed by luminescence signals of feldspars from fluvial terraces. <i>Scientific Reports</i> , 2019, 9, 8569.	3.3	16
110	Gravity instabilities in magma chambers: rheological modelling. <i>Earth and Planetary Science Letters</i> , 1991, 105, 319-329.	4.4	15
111	Relation between fractional flow models and fractal or long-range 2-D permeability fields. <i>Water Resources Research</i> , 2007, 43, .	4.2	15
112	Connectivity-consistent mapping method for 2D discrete fracture networks. <i>Water Resources Research</i> , 2010, 46, .	4.2	15
113	Use of power averaging for quantifying the influence of structure organization on permeability upscaling in on-lattice networks under mean parallel flow. <i>Water Resources Research</i> , 2010, 46, .	4.2	15
114	Hypotheses mecaniques de deformation de la lithosphere appliquees a la formation des Pyrenees. <i>Bulletin - Societe Geologique De France</i> , 1990, VI, 219-228.	2.2	14
115	Gravity influenced brittle-ductile deformation and growth faulting in the lithosphere during collision: Results from laboratory experiments. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	14
116	A precipitation-based approach to model hydro-sedimentary hazards induced by large sediment supplies in alluvial fans. <i>Earth Surface Processes and Landforms</i> , 2017, 42, 2054-2067.	2.5	14
117	Spectral and cross-spectral analysis of three hydrological systems. <i>Physics and Chemistry of the Earth</i> , 2000, 25, 391-397.	0.3	13
118	Horizontal pre-asymptotic solute transport in a plane fracture with significant density contrasts. <i>Journal of Contaminant Hydrology</i> , 2011, 120-121, 184-197.	3.3	13
119	Which fractures are imaged with Ground Penetrating Radar? Results from an experiment in the Åspö Hardrock Laboratory, Sweden. <i>Engineering Geology</i> , 2020, 273, 105674.	6.3	13
120	A Discrete Fracture Network Model With Stress-Driven Nucleation: Impact on Clustering, Connectivity, and Topology. <i>Frontiers in Physics</i> , 2020, 8, .	2.1	12
121	New injection experiments in non-Newtonian fluids. <i>Terra Nova</i> , 1994, 6, 274-281.	2.1	11
122	Graph-based flow modeling approach adapted to multiscale discrete-fracture-network models. <i>Physical Review E</i> , 2020, 102, 053312.	2.1	11
123	Understanding the Hydromechanical Behavior of a Fault Zone From Transient Surface Tilt and Fluid Pressure Observations at Hourly Time Scales. <i>Water Resources Research</i> , 2017, 53, 10558-10582.	4.2	10
124	Channel Widening Downstream of Valley Gorges Influenced by Flood Frequency and Floodplain Roughness. <i>Journal of Geophysical Research F: Earth Surface</i> , 2019, 124, 154-174.	2.8	10
125	Hydro-Geomorphic Metrics for High Resolution Fluvial Landscape Analysis. <i>Journal of Geophysical Research F: Earth Surface</i> , 2022, 127, .	2.8	10
126	Evidence for a Saline Component at Shallow Depth in the Crystalline Armorican Basement (W France). <i>Procedia Earth and Planetary Science</i> , 2013, 7, 19-22.	0.6	9

#	ARTICLE	IF	CITATIONS
127	Some Experiments on Block Rotation in the Brittle Upper Crust. , 1989, , 145-155.		8
128	Contribution dâ€™un modÃ©le hydrogÃ©ologique Ã fractures discrÃ©tes Ã lâ€™Ã©tude des aquifÃ©res fracturÃ©s du socle ArchÃ©en de Touba (Nord-Ouest, CÃ©te dâ€™Ivoire). Revue Des Sciences De L'Eau, 0, 23, 41-56.	0.2	7
129	A modified Lagrangian-volumes method to simulate nonlinearly and kinetically sorbing solute transport in heterogeneous porous media. Journal of Contaminant Hydrology, 2011, 120-121, 89-98.	3.3	7
130	Advective transport in the percolation backbone in two dimensions. Physical Review E, 2001, 64, 056305.	2.1	6
131	Autogenic knickpoints in laboratory landscape experiments. Earth Surface Dynamics, 2022, 10, 229-246.	2.4	6
132	On the Density Variability of Poissonian Discrete Fracture Networks, with application to power-law fracture size distributions. Advances in Geosciences, 0, 49, 77-83.	12.0	4
133	Advanced DFN Models from Multi-Support Data for Underground Facilities. Procedia Engineering, 2017, 191, 1015-1022.	1.2	3
134	GPR-inferred fracture aperture widening in response to a high-pressure tracer injection test at the ÅspÅ Hard Rock Laboratory, Sweden. Engineering Geology, 2021, 292, 106249.	6.3	3
135	Reply to comment on "How plausible are high-frequency sediment supply-driven cycles in the stratigraphic record?" by Jasper Knight. Sedimentary Geology, 2004, 164, 331-334.	2.1	2
136	Characterizing flow in natural fracture networks. , 2007, , 437-449.		2
137	Fractal fault patterns as a dual DLA problem. International Journal of Rock Mechanics and Mining Sciences, 1992, 29, A74.	0.0	1
138	A particle-tracking formulation of advectiveâ€“diffusive heat transport in deformable fracture networks. Journal of Hydrology, 2021, 603, 127157.	5.4	1