

Takehiro Hirose

List of Publications by Year in descending order

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119
papers

5,676
citations

87888

38
h-index

82547

72
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122
all docs

122
docs citations

122
times ranked

3050
citing authors

#	ARTICLE	IF	CITATIONS
1	Depth profile of frictional properties in the inner Nankai accretionary prism using cuttings from IODP Site C0002. <i>Progress in Earth and Planetary Science</i> , 2022, 9, .	3.0	3
2	Frictional stability of porous tuff breccia under subsurface pressure conditions and implications for shallow seismicity. <i>Earth, Planets and Space</i> , 2021, 73, .	2.5	0
3	Mechanical Weakness of the Nankai Accretionary Prism: Insights From V_p Measurements of Drill Cuttings. <i>Geochemistry, Geophysics, Geosystems</i> , 2021, 22, e2020GC009536.	2.5	4
4	Carbonate Fault Mirrors With Extremely Low Frictional Healing Rates: A Possible Source of Aseismic Creep. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL093749.	4.0	1
5	High Fluid-Pressure Patches Beneath the D \ddot{a} collement: A Potential Source of Slow Earthquakes in the Nankai Trough off Cape Muroto. <i>Journal of Geophysical Research: Solid Earth</i> , 2021, 126, e2021JB021831.	3.4	11
6	The stabilizing effect of high pore-fluid pressure along subduction megathrust faults: Evidence from friction experiments on accretionary sediments from the Nankai Trough. <i>Earth and Planetary Science Letters</i> , 2021, 574, 117161.	4.4	32
7	Hot fluids, burial metamorphism and thermal histories in the underthrust sediments at IODP 370 site C0023, Nankai Accretionary Complex. <i>Marine and Petroleum Geology</i> , 2020, 112, 104080.	3.3	8
8	The State of Stress on the Fault Before, During, and After a Major Earthquake. <i>Annual Review of Earth and Planetary Sciences</i> , 2020, 48, 49-74.	11.0	49
9	Influence of Effective Stress and Pore Fluid Pressure on Fault Strength and Slip Localization in Carbonate Slip Zones. <i>Journal of Geophysical Research: Solid Earth</i> , 2020, 125, e2020JB019805.	3.4	17
10	Temperature limits to deep seafloor life in the Nankai Trough subduction zone. <i>Science</i> , 2020, 370, 1230-1234.	12.6	65
11	Rupture to the trench? Frictional properties and fracture energy of incoming sediments at the Cascadia subduction zone. <i>Earth and Planetary Science Letters</i> , 2020, 546, 116413.	4.4	11
12	Thermal Conductivity Profile in the Nankai Accretionary Prism at IODP NanTroSEIZE Site C0002: Estimations From High-Pressure Experiments Using Input Site Sediments. <i>Geochemistry, Geophysics, Geosystems</i> , 2020, 21, e2020GC009108.	2.5	8
13	Structural records and mechanical characteristics of seismic slip along an active fault crosscutting unconsolidated Quaternary sediments: Suryum fault, SE Korea. <i>Geosciences Journal</i> , 2020, 24, 379-389.	1.2	9
14	Weakening of quartz rocks at subseismic slip rates due to frictional heating, but not to lubrication by wear materials of hydrated amorphous silica or silica gel. <i>Tectonophysics</i> , 2020, 784, 228429.	2.2	4
15	Examination of gas hydrate-bearing deep ocean sediments by X-ray Computed Tomography and verification of physical property measurements of sediments. <i>Marine and Petroleum Geology</i> , 2019, 108, 239-248.	3.3	19
16	Equivalent formation strength as a proxy tool for exploring for the location and distribution of gas hydrates. <i>Marine and Petroleum Geology</i> , 2019, 108, 356-367.	3.3	5
17	Provenance of submerged stone pillars in an earthquake and typhoon hazard zone, coastal Tosashimizu, southwest Japan: A multidisciplinary geological approach. <i>Marine Geology</i> , 2019, 415, 105962.	2.1	2
18	Dynamic weakening of ring faults and catastrophic caldera collapses. <i>Geology</i> , 2019, 47, 107-110.	4.4	11

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19	A New Method for Quality Control of Geological Cores by X-Ray Computed Tomography: Application in IODP Expedition 370. <i>Frontiers in Earth Science</i> , 2019, 7, .	1.8	10
20	Strength Profile of the Inner Nankai Accretionary Prism at IODP Site C0002. <i>Geophysical Research Letters</i> , 2019, 46, 10791-10799.	4.0	3
21	Experimental investigations on dating the last earthquake event using OSL signals of quartz from fault gouges. <i>Tectonophysics</i> , 2019, 769, 228191.	2.2	7
22	Frictional melt homogenisation during fault slip: Geochemical, textural and rheological fingerprints. <i>Geochimica Et Cosmochimica Acta</i> , 2019, 255, 265-288.	3.9	11
23	Strength characteristics of sediments from a gas hydrate deposit in the Krishnaâ€“Godavari Basin on the eastern margin of India. <i>Marine and Petroleum Geology</i> , 2019, 108, 348-355.	3.3	10
24	Porosity, permeability, and grain size of sediment cores from gas-hydrate-bearing sites and their implication for overpressure in shallow argillaceous formations: Results from the national gas hydrate program expedition 02, Krishna-Godavari Basin, India. <i>Marine and Petroleum Geology</i> , 2019, 108, 332-347.	3.3	13
25	Indian Monsoonal Variations During the Past 80ÂˆKyr Recorded in NGHPâ€“02 Hole 19B, Western Bay of Bengal: Implications From Chemical and Mineral Properties. <i>Geochemistry, Geophysics, Geosystems</i> , 2019, 20, 148-165.	2.5	12
26	Constraints on the fluid supply rate into and through gas hydrate reservoir systems as inferred from pore-water chloride and in situ temperature profiles, Krishna-Godavari Basin, India. <i>Marine and Petroleum Geology</i> , 2019, 108, 368-376.	3.3	8
27	Repeated large-scale mass-transport deposits and consequent rapid sedimentation in the western part of the Bay of Bengal, India. <i>Geological Society Special Publication</i> , 2019, 477, 183-193.	1.3	8
28	Continuous depth profile of the rock strength in the Nankai accretionary prism based on drilling performance parameters. <i>Scientific Reports</i> , 2018, 8, 2622.	3.3	7
29	In-situ mechanical weakness of subducting sediments beneath a plate boundary dÃ©collement in the Nankai Trough. <i>Progress in Earth and Planetary Science</i> , 2018, 5, .	3.0	5
30	A new perspective of the subduction zone derived from the Ocean Drilling Program for the Nankai Trough Seismogenic Zone Experiment (NanTroSEIZE). <i>Journal of the Geological Society of Japan</i> , 2018, 124, 47-65.	0.6	1
31	A debate on the fault strength and necessity of multidisciplinary perspectives. <i>Journal of the Geological Society of Japan</i> , 2018, 124, 725-739.	0.6	2
32	The effect of water on strain localization in calcite fault gouge sheared at seismic slip rates. <i>Journal of Structural Geology</i> , 2017, 97, 104-117.	2.3	26
33	The action of water films at Å…-scales in the Earth: Implications for the Nankai subduction system. <i>Earth and Planetary Science Letters</i> , 2017, 463, 266-276.	4.4	13
34	Quasi-equilibrium melting of quartzite upon extreme friction. <i>Nature Geoscience</i> , 2017, 10, 436-441.	12.9	39
35	Strength determination of rocks by using indentation tests with a spherical indenter. <i>Journal of Structural Geology</i> , 2017, 98, 1-11.	2.3	19
36	In Situ Stress and Pore Pressure in the Deep Interior of the Nankai Accretionary Prism, Integrated Ocean Drilling Program Site C0002. <i>Geophysical Research Letters</i> , 2017, 44, 9644-9652.	4.0	20

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37	Frictional properties of JFAST core samples and implications for slow earthquakes at the Tohoku subduction zone. <i>Geophysical Research Letters</i> , 2017, 44, 8822-8831.	4.0	19
38	Evaluating Stress State, Physical Properties, and Rupturing Behavior of Seismogenic Faults through Scientific Drillings. <i>Journal of Geography (Chigaku Zasshi)</i> , 2017, 126, 223-246.	0.3	3
39	Nucleation of frictional instability caused by fluid pressurization in subducted blueschist. <i>Geophysical Research Letters</i> , 2016, 43, 2543-2551.	4.0	36
40	Frictional strength of ground dolerite gouge at a wide range of slip rates. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 2961-2979.	3.4	5
41	Transient water adsorption on newly formed fault gouge and its relation to frictional heating. <i>Geophysical Research Letters</i> , 2016, 43, 7921-7927.	4.0	1
42	Spine growth and seismogenic faulting at Mt. Unzen, Japan. <i>Journal of Geophysical Research: Solid Earth</i> , 2015, 120, 4034-4054.	3.4	36
43	Dynamic weakening of smectite-bearing faults at intermediate velocities: Implications for subduction zone earthquakes. <i>Journal of Geophysical Research: Solid Earth</i> , 2015, 120, 1572-1586.	3.4	46
44	Pelagic smectite as an important factor in tsunamigenic slip along the Japan Trench. <i>Geology</i> , 2015, 43, 155-158.	4.4	65
45	Fault rheology beyond frictional melting. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 9276-9280.	7.1	25
46	Intact preservation of environmental samples by freezing under an alternating magnetic field. <i>Environmental Microbiology Reports</i> , 2015, 7, 243-251.	2.4	22
47	Development of Hydrothermal and Frictional Experimental Systems to Simulate Sub-seafloor Water-Rock-Microbe Interactions. , 2015, , 71-85.		2
48	Experimental Hydrogen Production in Hydrothermal and Fault Systems: Significance for Habitability of Subseafloor H ₂ Chemoautotroph Microbial Ecosystems. , 2015, , 87-94.		1
49	Frictional properties of incoming pelagic sediments at the Japan Trench: implications for large slip at a shallow plate boundary during the 2011 Tohoku earthquake. <i>Earth, Planets and Space</i> , 2014, 66, .	2.5	34
50	Pressure dependence of fluid transport properties of shallow fault systems in the Nankai subduction zone. <i>Earth, Planets and Space</i> , 2014, 66, .	2.5	11
51	Carbon-forming reactions under a reducing atmosphere during seismic fault slip. <i>Geology</i> , 2014, 42, 787-790.	4.4	27
52	Frictional melting of clayey gouge during seismic fault slip: Experimental observation and implications. <i>Geophysical Research Letters</i> , 2014, 41, 5457-5466.	4.0	22
53	Volcanic drumbeat seismicity caused by stick-slip motion and magmatic frictional melting. <i>Nature Geoscience</i> , 2014, 7, 438-442.	12.9	74
54	A frictional law for volcanic ash gouge. <i>Earth and Planetary Science Letters</i> , 2014, 400, 177-183.	4.4	25

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55	Displacement and dynamic weakening processes in smectite-rich gouge from the Central Deforming Zone of the San Andreas Fault. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 1777-1802.	3.4	34
56	The relationship between displacement and thickness of faults in the Shimanto accretionary complex. <i>Journal of the Geological Society of Japan</i> , 2014, 120, 11-21.	0.6	4
57	Stress State in the Largest Displacement Area of the 2011 Tohoku-Oki Earthquake. <i>Science</i> , 2013, 339, 687-690.	12.6	112
58	Fluid transport properties in sediments and their role in large slip near the surface of the plate boundary fault in the Japan Trench. <i>Earth and Planetary Science Letters</i> , 2013, 382, 150-160.	4.4	34
59	Graphite as a lubricating agent in fault zones: An insight from low- to high-velocity friction experiments on a mixed graphite-quartz gouge. <i>Journal of Geophysical Research: Solid Earth</i> , 2013, 118, 2067-2084.	3.4	52
60	Biological CO ₂ conversion to acetate in subsurface coal-sand formation using a high-pressure reactor system. <i>Frontiers in Microbiology</i> , 2013, 4, 361.	3.5	24
61	Clay-clast aggregates in fault gouge: An unequivocal indicator of seismic faulting at shallow depths?. <i>Journal of Structural Geology</i> , 2012, 43, 92-99.	2.3	34
62	Correction to "Mechanoradical H ₂ generation during simulated faulting: Implications for an earthquake-driven subsurface biosphere". <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	8
63	Velocity dependence of shear-induced permeability associated with frictional behavior in fault zones of the Nankai subduction zone. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	26
64	On the role of phyllosilicates on fault lubrication: Insight from micro- and nanostructural investigations on talc friction experiments. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	20
65	Dynamic process of turbidity generation triggered by the 2011 Tohoku-Oki earthquake. <i>Geochemistry, Geophysics, Geosystems</i> , 2012, 13, .	2.5	38
66	Coal maturation by frictional heat during rapid fault slip. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	37
67	The occurrence of graphite-bearing fault rocks in the Atotsugawa fault system, Japan: Origins and implications for fault creep. <i>Journal of Structural Geology</i> , 2012, 38, 39-50.	2.3	56
68	Wear processes in rocks at slow to high slip rates. <i>Journal of Structural Geology</i> , 2012, 38, 102-116.	2.3	61
69	Experimental generation of volcanic pseudotachylytes: Constraining rheology. <i>Journal of Structural Geology</i> , 2012, 38, 222-233.	2.3	46
70	Granular nanoparticles lubricate faults during seismic slip. <i>Geology</i> , 2011, 39, 599-602.	4.4	113
71	Thermal conductivities under high pressure in core samples from IODP NanTroSEIZE drilling site C0001. <i>Geochemistry, Geophysics, Geosystems</i> , 2011, 12, n/a-n/a.	2.5	21
72	Drilling constraints on lithospheric accretion and evolution at Atlantis Massif, Mid-Atlantic Ridge 30°N. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	112

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73	Frictional experiments of dolerite at intermediate slip rates with controlled temperature: Rate weakening or temperature weakening?. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	19
74	Stuck in the mud? Earthquake nucleation and propagation through accretionary forearcs. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	4.0	181
75	Mechanoradical H ₂ generation during simulated faulting: Implications for an earthquake-driven subsurface biosphere. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	4.0	68
76	Low- to high-velocity frictional properties of the clay-rich gouges from the slipping zone of the 1963 Vaiont slide, northern Italy. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	55
77	The geochemical signature caused by earthquake propagation in carbonate-hosted faults. <i>Earth and Planetary Science Letters</i> , 2011, 310, 225-232.	4.4	32
78	Fault lubrication during earthquakes. <i>Nature</i> , 2011, 471, 494-498.	27.8	712
79	Shear-induced graphitization of carbonaceous materials during seismic fault motion: Experiments and possible implications for fault mechanics. <i>Journal of Structural Geology</i> , 2011, 33, 1122-1134.	2.3	85
80	High-velocity frictional behavior of Longmenshan fault gouge from Hongkou outcrop and its implications for dynamic weakening of fault during the 2008 Wenchuan earthquake. <i>Earthquake Science</i> , 2011, 24, 267-281.	0.9	56
81	Fault lubrication and earthquake propagation in thermally unstable rocks. <i>Geology</i> , 2011, 39, 35-38.	4.4	159
82	FAULT LUBRICATION AND EARTHQUAKE PROPAGATION IN CARBONATE ROCKS. <i>Springer Series in Geomechanics and Geoengineering</i> , 2011, , 153-156.	0.1	1
83	Grain size distribution and microstructures of experimentally sheared granitoid gouge at coseismic slip rates â€” Criteria to distinguish seismic and aseismic faults?. <i>Journal of Structural Geology</i> , 2010, 32, 59-69.	2.3	45
84	Thermal decomposition of serpentine during coseismic faulting: Nanostructures and mineral reactions. <i>Journal of Structural Geology</i> , 2010, 32, 1476-1484.	2.3	23
85	Thickness and grain-size distribution of the 2004 Indian Ocean tsunami deposits in Periya Kalapuwa Lagoon, eastern Sri Lanka. <i>Sedimentary Geology</i> , 2010, 230, 95-104.	2.1	42
86	Evidence of thermal pressurization in high-velocity friction experiments on smectite-rich gouges. <i>Terra Nova</i> , 2010, 22, 347-353.	2.1	100
87	Influence of fault slip rate on shear-induced permeability. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	35
88	On the transient behavior of frictional melt during seismic slip. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	56
89	Strong velocity weakening and powder lubrication of simulated carbonate faults at seismic slip rates. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	165
90	Dehydration reactions and micro/nanostructures in experimentally-deformed serpentinites. <i>Contributions To Mineralogy and Petrology</i> , 2009, 157, 327-338.	3.1	23

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91	Experimental study for noble gas release and exchange under high-speed frictional melting. <i>Chemical Geology</i> , 2009, 266, 96-103.	3.3	8
92	High-velocity frictional behavior and microstructure evolution of fault gouge obtained from Nojima fault, southwest Japan. <i>Tectonophysics</i> , 2009, 471, 285-296.	2.2	76
93	Frictional melting of peridotite and seismic slip. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	62
94	Fault Heals Rapidly after Dynamic Weakening. <i>Bulletin of the Seismological Society of America</i> , 2009, 99, 3470-3474.	2.3	11
95	Technical note on thermal conductivity measurement for drilled core samples. <i>JAMSTEC Report of Research and Development</i> , 2009, 9, 2_1-2_14.	0.2	3
96	Volatile gas analysis released from simulated faults during frictional melting:. <i>JAMSTEC Report of Research and Development</i> , 2009, 2009, 51-57.	0.2	0
97	Internal structure and permeability of the Nojima fault, southwest Japan. <i>Journal of Structural Geology</i> , 2008, 30, 513-524.	2.3	79
98	Structure, permeability, and strength of a fault zone in the footwall of an oceanic core complex, the Central Dome of the Atlantis Massif, Mid-Atlantic Ridge, 30°N. <i>Journal of Structural Geology</i> , 2008, 30, 1060-1071.	2.3	29
99	Frictional melt and seismic slip. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	148
100	Hydration due to high-T brittle failure within in situ oceanic crust, 30°N Mid-Atlantic Ridge. <i>Earth and Planetary Science Letters</i> , 2008, 275, 348-354.	4.4	22
101	Ultralow Friction of Carbonate Faults Caused by Thermal Decomposition. <i>Science</i> , 2007, 316, 878-881.	12.6	370
102	Reconstruction of seismic faulting by high-velocity friction experiments: An example of the 1995 Kobe earthquake. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	134
103	Extreme dynamic weakening of faults during dehydration by coseismic shear heating. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	135
104	Relating high-velocity rock-friction experiments to coseismic slip in the presence of melts. <i>Geophysical Monograph Series</i> , 2006, , 121-134.	0.1	21
105	Moisture-related weakening and strengthening of a fault activated at seismic slip rates. <i>Geophysical Research Letters</i> , 2006, 33, .	4.0	41
106	Semi-brittle flow during dehydration of lizardite→chrysotile serpentinite deformed in torsion: Implications for the rheology of oceanic lithosphere. <i>Earth and Planetary Science Letters</i> , 2006, 249, 484-493.	4.4	27
107	Natural and Experimental Evidence of Melt Lubrication of Faults During Earthquakes. <i>Science</i> , 2006, 311, 647-649.	12.6	331
108	Slip-Weakening Distance of Faults during Frictional Melting as Inferred from Experimental and Natural Pseudotachylytes. <i>Bulletin of the Seismological Society of America</i> , 2005, 95, 1666-1673.	2.3	50

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109	Growth of molten zone as a mechanism of slip weakening of simulated faults in gabbro during frictional melting. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	300
110	Internal and permeability structures of Pre-Cretaceous nappe boundaries in the Inner Zone of Southwest Japan. <i>Journal of the Geological Society of Japan</i> , 2005, 111, 300-307.	0.6	3
111	Principal fault zone width and permeability of the active Neodani fault, Nobi fault system, Southwest Japan. <i>Tectonophysics</i> , 2004, 379, 93-108.	2.2	39
112	Fractal dimension of molten surfaces as a possible parameter to infer the slip-weakening distance of faults from natural pseudotachylytes. <i>Journal of Structural Geology</i> , 2003, 25, 1569-1574.	2.3	66
113	Materials Science and Seismological Approaches to Understanding Seismogenic Processes High-Velocity Friction of Faults and Earthquake Generating Processes: Current Status and Future Perspectives. <i>Journal of Geography (Chigaku Zasshi)</i> , 2003, 112, 979-999.	0.3	9
114	Laboratory verification of submicron magnetite production in pseudotachylytes: relevance for paleointensity studies. <i>Earth and Planetary Science Letters</i> , 2002, 201, 13-18.	4.4	37
115	Thermal conductivity changes in subducting basalt, Nankai subduction zone, SW Japan: An estimation from laboratory measurements under separate high-pressure and high-temperature conditions. , 0, , .		1
116	Site C0023. <i>Proceedings of the International Ocean Discovery Program</i> , 0, , .	0.0	5
117	Expedition 348 summary. <i>Proceedings of the Integrated Ocean Drilling Program Integrated Ocean Drilling Program</i> , 0, , .	1.0	18
118	Site C0002. <i>Proceedings of the Integrated Ocean Drilling Program Integrated Ocean Drilling Program</i> , 0, , .	1.0	28
119	Deformation and material transfer in a fossil subduction channel: Evidence from the Island of Elba (Italy). <i>Tectonics</i> , 0, , .	2.8	4