

Katsuyoshi Michibayashi

List of Publications by Year in descending order

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118
papers

3,213
citations

172386

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175177

52
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121
all docs

121
docs citations

121
times ranked

2488
citing authors

#	ARTICLE	IF	CITATIONS
1	Oceanic core complexes and crustal accretion at slow-spreading ridges. <i>Geology</i> , 2007, 35, 623.	2.0	302
2	Trench-parallel anisotropy produced by serpentine deformation in the hydrated mantle wedge. <i>Nature</i> , 2009, 461, 1114-1117.	13.7	203
3	Subduction initiation and ophiolite crust: new insights from IODP drilling. <i>International Geology Review</i> , 2017, 59, 1439-1450.	1.1	145
4	The Role of Pre-existing Mechanical Anisotropy on Shear Zone Development within Oceanic Mantle Lithosphere: an Example from the Oman Ophiolite. <i>Journal of Petrology</i> , 2004, 45, 405-414.	1.1	136
5	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
6	A serpentinite-hosted ecosystem in the Southern Mariana Forearc. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 2831-2835.	3.3	107
7	Magnitude and symmetry of seismic anisotropy in mica- and amphibole-bearing metamorphic rocks and implications for tectonic interpretation of seismic data from the southeast Tibetan Plateau. <i>Journal of Geophysical Research: Solid Earth</i> , 2015, 120, 6404-6430.	1.4	91
8	The effect of dynamic recrystallization on olivine fabric and seismic anisotropy: Insight from a ductile shear zone, Oman ophiolite. <i>Earth and Planetary Science Letters</i> , 2006, 244, 695-708.	1.8	83
9	Infrared microspectroscopy analysis of water distribution in deformed and metamorphosed rocks. <i>Tectonophysics</i> , 1995, 245, 263-276.	0.9	80
10	A new calibration of seismic velocities, anisotropy, fabrics, and elastic moduli of amphibole-rich rocks. <i>Journal of Geophysical Research: Solid Earth</i> , 2013, 118, 4699-4728.	1.4	77
11	Propagation of seismic slip from brittle to ductile crust: Evidence from pseudotachylyte of the Woodroffe thrust, central Australia. <i>Tectonophysics</i> , 2005, 402, 21-35.	0.9	76
12	Poisson's Ratio and Auxetic Properties of Natural Rocks. <i>Journal of Geophysical Research: Solid Earth</i> , 2018, 123, 1161-1185.	1.4	65
13	Shape preferred orientation of rigid particles in a viscous matrix: reevaluation to determine kinematic parameters of ductile deformation. <i>Journal of Structural Geology</i> , 1995, 17, 115-129.	1.0	64
14	A database of plagioclase crystal preferred orientations (CPO) and microstructures – implications for CPO origin, strength, symmetry and seismic anisotropy in gabbroic rocks. <i>Solid Earth</i> , 2013, 4, 511-542.	1.2	58
15	Spatial variations in antigorite fabric across a serpentinite subduction channel: Insights from the Ohmachi Seamount, Izu-Bonin frontal arc. <i>Earth and Planetary Science Letters</i> , 2010, 299, 196-206.	1.8	55
16	Natural olivine crystal-fabrics in the western Pacific convergence region: A new method to identify fabric type. <i>Earth and Planetary Science Letters</i> , 2016, 443, 70-80.	1.8	52
17	B-type olivine fabrics developed in the fore-arc side of the mantle wedge along a subducting slab. <i>Earth and Planetary Science Letters</i> , 2008, 272, 747-757.	1.8	50
18	Shearing within lower crust during progressive retrogression: Structural analysis of gabbroic rocks from the Godzilla Mullion, an oceanic core complex in the Parece Vela backarc basin. <i>Tectonophysics</i> , 2008, 457, 183-196.	0.9	47

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19	Variable microstructure of peridotite samples from the southern Mariana Trench: Evidence of a complex tectonic evolution. <i>Tectonophysics</i> , 2007, 444, 111-118.	0.9	43
20	Mantle hydration along outer-rise faults inferred from serpentinite permeability. <i>Scientific Reports</i> , 2017, 7, 13870.	1.6	40
21	Olivine fabric evolution in a hydrated ductile shear zone at the Moho Transition Zone, Oman Ophiolite. <i>Earth and Planetary Science Letters</i> , 2013, 377-378, 299-310.	1.8	37
22	Dehydration breakdown of antigorite and the formation of B-type olivine CPO. <i>Earth and Planetary Science Letters</i> , 2014, 387, 67-76.	1.8	37
23	Peridotites from a ductile shear zone within back-arc lithospheric mantle, southern Mariana Trench: Results of a <i>Shinkai 6500</i> dive. <i>Geochemistry, Geophysics, Geosystems</i> , 2009, 10, .	1.0	36
24	Subduction related antigorite CPO patterns from forearc mantle in the Sanbagawa belt, southwest Japan. <i>Journal of Structural Geology</i> , 2011, 33, 1436-1445.	1.0	36
25	Syntectonic development of a strain-independent steady-state grain size during mylonitization. <i>Tectonophysics</i> , 1993, 222, 151-164.	0.9	35
26	Deformation fabrics of natural blueschists and implications for seismic anisotropy in subducting oceanic crust. <i>Physics of the Earth and Planetary Interiors</i> , 2013, 222, 8-21.	0.7	33
27	Plagioclase preferred orientation and induced seismic anisotropy in mafic igneous rocks. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 8064-8088.	1.4	33
28	Mariana serpentinite mud volcanism exhumes subducted seamount materials: implications for the origin of life. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2020, 378, 20180425.	1.6	33
29	Influence of mineral fraction on the rheological properties of forsterite+enstatite during grain size sensitive creep: 3. Application of grain growth and flow laws on peridotite ultramylonite. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 840-857.	1.4	32
30	P- and S-wave velocities of the lowermost crustal rocks from the Kohistan arc: Implications for seismic Moho discontinuity attributed to abundant garnet. <i>Tectonophysics</i> , 2009, 467, 44-54.	0.9	31
31	Antigorite-induced seismic anisotropy and implications for deformation in subduction zones and the Tibetan Plateau. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 2068-2099.	1.4	31
32	Deformation and hydrothermal metamorphism of gabbroic rocks within the Godzilla Megamullion, Parece Vela Basin, Philippine Sea. <i>Lithos</i> , 2011, 124, 185-199.	0.6	30
33	Shearing during progressive retrogression in granitoids: Abrupt grain size reduction of quartz at the plastic-brittle transition for feldspar. <i>Journal of Structural Geology</i> , 1993, 15, 1421-1432.	1.0	28
34	Shear sense inversion in the Hilti mantle section (Oman ophiolite) and active mantle uprise. <i>Marine Geophysical Researches</i> , 2000, 21, 259-268.	0.5	28
35	Direct evidence for upper mantle structure in the NW Pacific Plate: Microstructural analysis of a petit-spot peridotite xenolith. <i>Earth and Planetary Science Letters</i> , 2011, 302, 194-202.	1.8	28
36	Seismic anisotropy in the uppermost mantle, back-arc region of the northeast Japan arc: Petrophysical analyses of Ichinomegata peridotite xenoliths. <i>Geophysical Research Letters</i> , 2006, 33, n/a-n/a.	1.5	26

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37	Rheological contrast between glaucophane and lawsonite in naturally deformed blueschist from the Dora Maira orogenic belt, Piemonte, Italy. <i>Journal of Petrology</i> , 2013, 54, 101-123.	0.5	26
38	Two Contrasting Fabric Patterns of Olivine Observed in Garnet and Spinel Peridotite from a Mantle-derived Ultramafic Mass Enclosed in Felsic Granulite, the Moldanubian Zone, Czech Republic. <i>Journal of Petrology</i> , 2010, 51, 101-123.	1.1	24
39	Seismic anisotropy of the uppermost mantle beneath the Rio Grande rift: Evidence from Kilbourne Hole peridotite xenoliths, New Mexico. <i>Earth and Planetary Science Letters</i> , 2011, 311, 172-181.	1.8	24
40	Solution-precipitation of K-feldspar in deformed granitoids and its relationship to the distribution of water. <i>Tectonophysics</i> , 2012, 532-535, 175-185.	0.9	24
41	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.	1.8	22
42	Rheological contrast between garnet and clinopyroxene in the mantle wedge: An example from Higashi-akaishi peridotite mass, SW Japan. <i>Physics of the Earth and Planetary Interiors</i> , 2011, 184, 14-33.	0.7	22
43	The role of intragranular fracturing on grain size reduction in feldspar during mylonitization. <i>Journal of Structural Geology</i> , 1996, 18, 17-25.	1.0	21
44	AN ALGORITHM FOR THE TRANSFORMATION OF XRF IMAGES INTO MINERAL-DISTRIBUTION MAPS. <i>Canadian Mineralogist</i> , 2000, 38, 1283-1294.	0.3	20
45	Chemical interactions in the subduction factory: New insights from an in situ trace element and hydrogen study of the Ichinomegata and Ōki-Dogo mantle xenoliths (Japan). <i>Geochimica Et Cosmochimica Acta</i> , 2017, 208, 234-267.	1.6	20
46	Application of scanning X-ray analytical microscope to the petrographic characterization of a ductile shear zone: an alternative method to image microstructures. <i>Tectonophysics</i> , 1999, 310, 55-67.	0.9	18
47	A multi-technique analysis of deuterium trapping and near-surface precipitate growth in plasma-exposed tungsten. <i>Journal of Applied Physics</i> , 2015, 118, 073301.	1.1	18
48	Deformation microstructures of glaucophane and lawsonite in experimentally deformed blueschists: Implications for intermediate-depth intraplate earthquakes. <i>Journal of Geophysical Research: Solid Earth</i> , 2015, 120, 1229-1242.	1.4	18
49	Melt-fluid infiltration along detachment shear zones in oceanic core complexes: Insights from amphiboles in gabbro mylonites from the Godzilla Megamullion, Parece Vela Basin, the Philippine Sea. <i>Lithos</i> , 2019, 344-345, 217-231.	0.6	18
50	Rock seismic anisotropy of the low-velocity zone beneath the volcanic front in the mantle wedge. <i>Geophysical Research Letters</i> , 2009, 36, .	1.5	17
51	Amphibolitization within the lower crust in the termination area of the Godzilla Megamullion, an oceanic core complex in the Parece Vela Basin. <i>Island Arc</i> , 2010, 19, 718-730.	0.5	17
52	A new method for calculating seismic velocities in rocks containing strongly dimensionally anisotropic mineral grains and its application to antigorite-bearing serpentinite mylonites. <i>Earth and Planetary Science Letters</i> , 2014, 391, 24-35.	1.8	17
53	Exsolution of dolomite and application of calcite-dolomite solvus geothermometry in high-grade marbles: an example from Skallevikshalsen, East Antarctica. <i>Journal of Metamorphic Geology</i> , 2010, 28, 509-526.	1.6	16
54	Relicts of deformed lithospheric mantle within serpentinites and weathered peridotites from the Godzilla Megamullion, Parece Vela Back-arc Basin, Philippine Sea. <i>Island Arc</i> , 2011, 20, 174-187.	0.5	16

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55	Flow in the uppermost mantle during back-arc spreading revealed by Ichinomegata peridotite xenoliths, NE Japan. <i>Lithos</i> , 2014, 189, 89-104.	0.6	16
56	Geochemical characteristics of back-arc basin lower crust and upper mantle at final spreading stage of Shikoku Basin: an example of Mado Megamullion. <i>Progress in Earth and Planetary Science</i> , 2021, 8, .	1.1	16
57	Seismic velocity in antigorite-bearing serpentinite mylonites. <i>Geological Society Special Publication</i> , 2011, 360, 97-112.	0.8	15
58	Water content of the mantle xenoliths from Kimberley and implications for explaining textural variations in cratonic roots. <i>Geological Journal</i> , 2011, 46, 173-182.	0.6	15
59	Temperature dependence of [100](010) and [001](010) dislocation mobility in natural olivine. <i>Earth and Planetary Science Letters</i> , 2016, 441, 81-90.	1.8	15
60	Mica-dominated seismic properties of mid-crust beneath west Yunnan (China) and geodynamic implications. <i>Tectonophysics</i> , 2016, 677-678, 324-338.	0.9	15
61	Physical properties and seismic structure of <sc>lzu</sc>â€<sc>B</sc>oninâ€<sc>M</sc>ariana foreâ€arc crust: Results from IODP <sc>E</sc>xpedition 352 and comparison with oceanic crust. <i>Geochemistry, Geophysics, Geosystems</i> , 2016, 17, 4973-4991.	1.0	15
62	Crustal Accretion in a Slow Spreading Backâ€Arc Basin: Insights From the Mado Megamullion Oceanic Core Complex in the Shikoku Basin. <i>Geochemistry, Geophysics, Geosystems</i> , 2020, 21, e2020GC009199.	1.0	15
63	What Lies Beneath: The Formation and Evolution of Oceanic Lithosphere. <i>Oceanography</i> , 2019, 32, 138-149.	0.5	14
64	Progressive shape evolution of a mineral inclusion under differential stress at high temperature: Example of garnet inclusions within a granulite-facies quartzite from the L ¹ / ₄ tzow-Holm Complex, East Antarctica. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	13
65	The earliest mantle fabrics formed during subduction zone infancy. <i>Earth and Planetary Science Letters</i> , 2013, 377-378, 106-113.	1.8	13
66	Rheological properties of the detachment shear zone of an oceanic core complex inferred by plagioclase flow law: Godzilla Megamullion, Parece Vela back-arc basin, Philippine Sea. <i>Earth and Planetary Science Letters</i> , 2014, 408, 16-23.	1.8	13
67	Effects of olivine fabric, meltâ€rock reaction, and hydration on the seismic properties of peridotites: Insight from the Luobusha ophiolite in the Tibetan Plateau. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 3300-3323.	1.4	13
68	Geochemical Profiles Across the Listveniteâ€Metamorphic Transition in the Basal Megathrust of the Semail Ophiolite: Results From Drilling at OmanDP Hole BT1B. <i>Journal of Geophysical Research: Solid Earth</i> , 2021, 126, e2021JB022733.	1.4	13
69	Uppermost mantle anisotropy beneath the southern Laurentian margin: Evidence from Knippa peridotite xenoliths, Texas. <i>Geophysical Research Letters</i> , 2010, 37, .	1.5	12
70	Elastic wave velocity and electrical conductivity in a brine-saturated rock and microstructure of pores. <i>Earth, Planets and Space</i> , 2019, 71, .	0.9	12
71	Development of a shear band cleavage as a result of strain partitioning. <i>Journal of Structural Geology</i> , 2007, 29, 1070-1082.	1.0	11
72	Grain-size-sensitive deformation of upper greenschist- to lower amphibolite-facies metacherts from a low-P/high-T metamorphic belt. <i>Tectonophysics</i> , 2010, 492, 141-149.	0.9	11

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91	Effects of Alteration and Cracks on the Seismic Velocity Structure of Oceanic Lithosphere Inferred From Ultrasonic Measurements of Mafic and Ultramafic Samples Collected by the Oman Drilling Project. <i>Journal of Geophysical Research: Solid Earth</i> , 2021, 126, e2021JB021923.	1.4	5
92	High resolution X-ray computed tomography and scanning electron microscopy studies of multiphase solid inclusions in Oman podiform chromitite: implications for post-entrapment modification. <i>Journal of Mineralogical and Petrological Sciences</i> , 2020, 115, 247-260.	0.4	5
93	Cataclastic and crystal-plastic deformation in shallow mantle-wedge serpentinite controlled by cyclic changes in pore fluid pressures. <i>Earth and Planetary Science Letters</i> , 2021, 576, 117232.	1.8	5
94	Structural Geology of Peridotite and Rheology of the Uppermost Mantle. <i>Nihon Reoroji Gakkaishi</i> , 2006, 34, 291-300.	0.2	5
95	Heterogeneity in texture and crystal fabric of intensely hydrated ultramylonitic peridotites along a transform fault, Southwest Indian Ridge. <i>Tectonophysics</i> , 2022, 823, 229206.	0.9	5
96	Effect of grain growth on cation exchange between dunite and fluid: implications for chemical homogenization in the upper mantle. <i>Contributions To Mineralogy and Petrology</i> , 2010, 160, 339-357.	1.2	4
97	Grain growth kinetics and the effect of crystallographic anisotropy on normal grain growth of quartz. <i>Physics and Chemistry of Minerals</i> , 2012, 39, 213-218.	0.3	4
98	Deformation beneath Gakkel Ridge, Arctic Ocean: From mantle flow to mantle shear in a sparsely magmatic spreading zone. <i>Tectonophysics</i> , 2022, 822, 229186.	0.9	4
99	Image Analysis of Elemental X-ray Maps Obtained by the Scanning X-ray Analytical Microscope: Transformation from X-ray Maps to Mineral Maps.. <i>Journal of the Mineralogical Society of Japan</i> , 1998, 27, 203-212.	0.2	3
100	Feedback of mantle metasomatism on olivine microfabric and seismic properties of the deep lithosphere. <i>Lithos</i> , 2019, 328-329, 43-57.	0.6	3
101	History of Deep-sea Ocean Basement Drilling Programs and Contributions to the Earth Sciences. <i>Journal of Geography (Chigaku Zasshi)</i> , 2021, 130, 461-482.	0.1	3
102	Transmission Kikuchi diffraction study of submicrotexture within ultramylonitic peridotite. <i>Physics and Chemistry of Minerals</i> , 2021, 48, 1.	0.3	3
103	Dynamic evolution of deformation microstructures in rocks. Physical conditions for deformation. Intergranular tensile microfractures within a mylonitized Ryoke granite: evidence for post-mylonitic deformation at the ductile-to-brittle transition.. <i>Journal of the Geological Society of Japan</i> , 1996, 102, 190-198.	0.2	3
104	Olivine fabrics: a key to explore upper mantle structure. <i>Gansekai Kobutsu Kagaku</i> , 2012, 41, 267-274.	0.1	3
105	Rheological Contrast between Quartz and Coesite Generates Strain Localization in Deeply Subducted Continental Crust. <i>Minerals (Basel, Switzerland)</i> , 2021, 11, 842.	0.8	2
106	Crucial Scientific Issues in Earth Science Revealed Only by Mantle Drilling: Understanding the Current State of the Oceanic Plates of a Life-bearing Planet. <i>Journal of Geography (Chigaku Zasshi)</i> , 2021, 130, 483-506.	0.1	2
107	On porosity determination for hard rock drilling using core samples collected by the Oman Drilling Project. <i>Journal of the Geological Society of Japan</i> , 2020, 126, 713-717.	0.2	2
108	Attenuated total reflection infrared (ATR-IR) spectroscopy of antigorite, chrysotile, and lizardite. <i>Journal of Mineralogical and Petrological Sciences</i> , 2020, 115, 303-312.	0.4	2

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109	Reply to comment by Nozaka (2014) on "Dehydration breakdown of antigorite and the formation of B-type olivine CPO", Earth and Planetary Science Letters, 2014, 408, 406-407.	1.8	1
110	Virtual special issue: Understanding of the largest oceanic core complex on the Earth, Godzilla Megamullion. Island Arc, 2016, 25, 192-192.	0.5	1
111	Upper mantle seismic anisotropy beneath the Northern Transantarctic Mountains inferred from peridotite xenoliths near Mt. Melbourne, northern Victoria Land, Antarctica. Journal of Structural Geology, 2021, 143, 104237.	1.0	1
112	Orthopyroxene-magnetite symplectite in olivine gabbros from the lower crustal Oman Ophiolite: Oman Drilling Project, Hole GT2A. Journal of Mineralogical and Petrological Sciences, 2021, 116, 170-175.	0.4	1
113	Rapid Growth of Garnet within a Metamorphic Vein Inferred from Misorientation Angle Distribution of Garnet Porphyroblasts. AIP Conference Proceedings, 2006, , .	0.3	0
114	Reconfirmation of jadeite in the Sanbagawa belt of the Shibukawa region, central Japan: Occurrence within a veinlet cutting dunite. Journal of the Geological Society of Japan, 2021, 127, 59-65.	0.2	0
115	Corrigendum to "A database of plagioclase crystal preferred orientations (CPO) and microstructures" implications for CPO origin, strength, symmetry and seismic anisotropy in gabbroic rocks" published in Solid Earth, 4, 511-542, 2013. Solid Earth, 2014, 5, 509-509.	1.2	0
116	A shape-change model for isolated K-feldspar inclusions within a shear zone developed in the Teshima granite, Ryoke metamorphic belt, Japan: Estimation of the duration of deformation in a natural shear zone. Tectonophysics, 2022, 824, 229229.	0.9	0
117	Steady-State Microstructures of Quartz Revisited: Evaluation of Stress States in Deformation Experiments Using a Solid-Medium Apparatus. Minerals (Basel, Switzerland), 2022, 12, 329.	0.8	0
118	Peridotites with back-arc basin affinity exposed at the southwestern tip of the Mariana forearc. Progress in Earth and Planetary Science, 2022, 9, .	1.1	0