

Ippei Obayashi

List of Publications by Year in descending order

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Version: 2024-02-01

34
papers

750
citations

566801

15
h-index

525886

27
g-index

35
all docs

35
docs citations

35
times ranked

626
citing authors

#	ARTICLE	IF	CITATIONS
1	Origin of the mixed alkali effect in silicate glass. NPG Asia Materials, 2019, 11, .	3.8	72
2	Hepatic tumor classification using texture and topology analysis of non-contrast-enhanced three-dimensional T1-weighted MR images with a radiomics approach. Scientific Reports, 2019, 9, 8764.	1.6	68
3	Persistence diagrams with linear machine learning models. Journal of Applied and Computational Topology, 2018, 1, 421-449.	1.0	61
4	Structure and properties of densified silica glass: characterizing the order within disorder. NPG Asia Materials, 2020, 12, .	3.8	57
5	Persistent homology analysis of craze formation. Physical Review E, 2017, 95, 012504.	0.8	50
6	Understanding diffraction patterns of glassy, liquid and amorphous materials via persistent homology analyses. Journal of the Ceramic Society of Japan, 2019, 127, 853-863.	0.5	50
7	Ultrahigh-pressure form of SiO_2 glass with dense pyrite-type crystalline homology. Physical Review B, 2019, 99, .	1.1	44
8	Combinatorial-topological framework for the analysis of global dynamics. Chaos, 2012, 22, 047508.	1.0	40
9	Non-empirical identification of trigger sites in heterogeneous processes using persistent homology. Scientific Reports, 2018, 8, 3553.	1.6	40
10	Volume-Optimal Cycle: Tightest Representative Cycle of a Generator in Persistent Homology. SIAM Journal on Applied Algebra and Geometry, 2018, 2, 508-534.	0.9	39
11	Persistent Homology Analysis for Materials Research and Persistent Homology Software: HomCloud. Journal of the Physical Society of Japan, 2022, 91, .	0.7	29
12	Very sharp diffraction peak in nonglass-forming liquid with the formation of distorted tetraclusters. NPG Asia Materials, 2020, 12, .	3.8	28
13	Structural changes during glass formation extracted by computational homology with machine learning. Communications Materials, 2020, 1, .	2.9	22
14	Formation mechanism of a basin of attraction for passive dynamic walking induced by intrinsic hyperbolicity. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20160028.	1.0	18
15	Common formation mechanism of basin of attraction for bipedal walking models by saddle hyperbolicity and hybrid dynamics. Japan Journal of Industrial and Applied Mathematics, 2015, 32, 315-332.	0.5	16
16	Fractal mechanism of basin of attraction in passive dynamic walking. Bioinspiration and Biomimetics, 2020, 15, 055002.	1.5	16
17	Flow estimation solely from image data through persistent homology analysis. Scientific Reports, 2021, 11, 17948.	1.6	16
18	Persistent Homology and Materials Informatics. , 2018, , 75-95.		16

#	ARTICLE	IF	CITATIONS
19	Continuation of point clouds via persistence diagrams. <i>Physica D: Nonlinear Phenomena</i> , 2016, 334, 118-132.	1.3	15
20	Protein-Folding Analysis Using Features Obtained by Persistent Homology. <i>Biophysical Journal</i> , 2020, 118, 2926-2937.	0.2	15
21	Inferring fracture forming processes by characterizing fracture network patterns with persistent homology. <i>Computers and Geosciences</i> , 2020, 143, 104550.	2.0	12
22	Topological descriptor of thermal conductivity in amorphous Si. <i>Journal of Chemical Physics</i> , 2022, 156, .	1.2	8
23	Computer-Assisted Verification Method for Invariant Densities and Rates of Decay of Correlations. <i>SIAM Journal on Applied Dynamical Systems</i> , 2011, 10, 788-816.	0.7	7
24	Relationship between local coordinates and thermal conductivity in amorphous carbon. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2022, 40, .	0.9	4
25	Exponential decay of correlations for surface semiflows with an expanding direction. <i>Kyoto Journal of Mathematics</i> , 2009, 49, .	0.2	2
26	Chemical state mapping of heterogeneous reduction of iron ore sinter. <i>Journal of Physics: Conference Series</i> , 2017, 849, 012015.	0.3	2
27	A Cyclone Identification Algorithm with Persistent Homology and Merge-Tree. <i>Scientific Online Letters on the Atmosphere</i> , 2017, 13, 214-218.	0.6	2
28	An Attempt to Understand Global Structure of Dynamics in Nonlinear Phenomena. <i>The Brain & Neural Networks</i> , 2015, 22, 68-77.	0.1	1
29	Non-Empirical Identification of Trigger Sites in Image Data using Persistent Homology: Crack Formation during Heterogeneous Reduction of Iron-Ore Sinters. <i>Microscopy and Microanalysis</i> , 2018, 24, 540-541.	0.2	0
30	Persistent Homology and Its Applications to Materials Science. <i>Materia Japan</i> , 2019, 58, 17-22.	0.1	0
31	Capturing the Global Behavior of Dynamical Systems with Conley-Morse Graphs. , 2013, , 665-672.		0
32	Chemical State Mapping Using X-ray Microscopes and Non-empirical Analysis of Trigger Sites Using Applied Mathematics. <i>Materia Japan</i> , 2018, 57, 595-595.	0.1	0
33	Understanding Diffraction from Disordered Materials and the Extraction of Topology Hidden in the Pairwise Correlations by Persistent Homology. <i>Nihon Kessho Gakkaishi</i> , 2020, 62, 43-50.	0.0	0
34	Disappearance of chaotic attractor of passive dynamic walking by stretch-bending deformation in basin of attraction. , 2020, , .		0