Ippei Obayashi

List of Publications by Year
in descending order

34	750	566801 15	525886 27
papers	citations	h-index	g-index

35	35	35	626
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Relationship between local coordinates and thermal conductivity in amorphous carbon. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2022, 40, .	0.9	4
2	Persistent Homology Analysis for Materials Research and Persistent Homology Software: HomCloud. Journal of the Physical Society of Japan, 2022, 91, .	0.7	29
3	Topological descriptor of thermal conductivity in amorphous Si. Journal of Chemical Physics, 2022, 156, .	1.2	8
4	Flow estimation solely from image data through persistent homology analysis. Scientific Reports, 2021, 11, 17948.	1.6	16
5	Inferring fracture forming processes by characterizing fracture network patterns with persistent homology. Computers and Geosciences, 2020, 143, 104550.	2.0	12
6	Structural changes during glass formation extracted by computational homology with machine learning. Communications Materials, 2020, 1, .	2.9	22
7	Fractal mechanism of basin of attraction in passive dynamic walking. Bioinspiration and Biomimetics, 2020, 15, 055002.	1.5	16
8	Protein-Folding Analysis Using Features Obtained by Persistent Homology. Biophysical Journal, 2020, 118, 2926-2937.	0.2	15
9	Very sharp diffraction peak in nonglass-forming liquid with the formation of distorted tetraclusters. NPG Asia Materials, 2020, 12, .	3.8	28
10	Structure and properties of densified silica glass: characterizing the order within disorder. NPG Asia Materials, 2020, 12, .	3.8	57
11	Understanding Diffraction from Disordered Materials and the Extraction of Topology Hidden in the Pairwise Correlations by Persistent Homology. Nihon Kessho Gakkaishi, 2020, 62, 43-50.	0.0	0
12	Disappearance of chaotic attractor of passive dynamic walking by stretch-bending deformation in basin of attraction. , 2020, , .		0
13	Ultrahigh-pressure form of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Si</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> glass with dense pyrite-type crystalline homology. Physical Review B, 2019, 99, .	1.1	44
14	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
15	Persistent Homology and Its Applications to Materials Science. Materia Japan, 2019, 58, 17-22.	0.1	0
16	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
17	Origin of the mixed alkali effect in silicate glass. NPG Asia Materials, 2019, 11, .	3.8	72
18	Non-empirical identification of trigger sites in heterogeneous processes using persistent homology. Scientific Reports, 2018, 8, 3553.	1.6	40

#	Article	IF	Citations
19	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
20	Non-Empirical Identification of Trigger Sites in Image Data using Persistent Homology: Crack Formation during Heterogeneous Reduction of Iron-Ore Sinters. Microscopy and Microanalysis, 2018, 24, 540-541.	0.2	0
21	Persistence diagrams with linear machine learning models. Journal of Applied and Computational Topology, 2018, 1, 421-449.	1.0	61
22	Persistent Homology and Materials Informatics. , 2018, , 75-95.		16
23	Chemical State Mapping Using X-ray Microscopes and Non-empirical Analysis of Trigger Sites Using Applied Mathematics. Materia Japan, 2018, 57, 595-595.	0.1	0
24	Persistent homology analysis of craze formation. Physical Review E, 2017, 95, 012504.	0.8	50
25	Chemical state mapping of heterogeneous reduction of iron ore sinter. Journal of Physics: Conference Series, 2017, 849, 012015.	0.3	2
26	A Cyclone Identification Algorithm with Persistent Homology and Merge-Tree. Scientific Online Letters on the Atmosphere, 2017, 13, 214-218.	0.6	2
27	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
28	Continuation of point clouds via persistence diagrams. Physica D: Nonlinear Phenomena, 2016, 334, 118-132.	1.3	15
29	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
30	An Attempt to Understand Global Structure of Dynamics in Nonlinear Phenomena. The Brain & Neural Networks, 2015, 22, 68-77.	0.1	1
31	Capturing the Global Behavior of Dynamical Systems with Conley-Morse Graphs. , 2013, , 665-672.		0
32	Combinatorial-topological framework for the analysis of global dynamics. Chaos, 2012, 22, 047508.	1.0	40
33	Computer-Assisted Verification Method for Invariant Densities and Rates of Decay of Correlations. SIAM Journal on Applied Dynamical Systems, 2011, 10, 788-816.	0.7	7
34	Exponential decay of correlations for surface semiflows with an expanding direction. Kyoto Journal of Mathematics, 2009, 49, .	0.2	2