

Tetsuya Hama

List of Publications by Year in descending order

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73
papers

2,008
citations

236925

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265206

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docs citations

73
times ranked

1501
citing authors

#	ARTICLE	IF	CITATIONS
1	Surface Processes on Interstellar Amorphous Solid Water: Adsorption, Diffusion, Tunneling Reactions, and Nuclear-Spin Conversion. <i>Chemical Reviews</i> , 2013, 113, 8783-8839.	47.7	245
2	DIRECT MEASUREMENTS OF HYDROGEN ATOM DIFFUSION AND THE SPIN TEMPERATURE OF NASCENT H ₂ MOLECULE ON AMORPHOUS SOLID WATER. <i>Astrophysical Journal Letters</i> , 2010, 714, L233-L237.	8.3	98
3	WATER FORMATION THROUGH A QUANTUM TUNNELING SURFACE REACTION, OH + H ₂ , AT 10 K. <i>Astrophysical Journal</i> , 2012, 749, 67.	4.5	97
4	EXPERIMENTAL STUDY OF CO ₂ FORMATION BY SURFACE REACTIONS OF NON-ENERGETIC OH RADICALS WITH CO MOLECULES. <i>Astrophysical Journal Letters</i> , 2010, 712, L174-L178.	8.3	92
5	LABORATORY STUDIES ON THE FORMATION OF FORMIC ACID (HCOOH) IN INTERSTELLAR AND COMETARY ICES. <i>Astrophysical Journal</i> , 2011, 727, 27.	4.5	84
6	THE MECHANISM OF SURFACE DIFFUSION OF H AND D ATOMS ON AMORPHOUS SOLID WATER: EXISTENCE OF VARIOUS POTENTIAL SITES. <i>Astrophysical Journal</i> , 2012, 757, 185.	4.5	75
7	Statistical ortho-to-para ratio of water desorbed from ice at 10 kelvin. <i>Science</i> , 2016, 351, 65-67.	12.6	61
8	The Surface of Ice under Equilibrium and Nonequilibrium Conditions. <i>Accounts of Chemical Research</i> , 2019, 52, 1006-1015.	15.6	57
9	Carboxylate Ion Availability at the Air-Water Interface. <i>Journal of Physical Chemistry A</i> , 2016, 120, 9224-9234.	2.5	51
10	FORMATION OF CARBONIC ACID (H ₂ CO ₃) BY SURFACE REACTIONS OF NON-ENERGETIC OH RADICALS WITH CO MOLECULES AT LOW TEMPERATURES. <i>Astrophysical Journal</i> , 2010, 722, 1598-1606.	4.5	50
11	Signatures of Quantum-Tunneling Diffusion of Hydrogen Atoms on Water Ice at 10 ÅK. <i>Physical Review Letters</i> , 2015, 115, 133201.	7.8	47
12	Reactive Uptake of Gaseous Sesquiterpenes on Aqueous Surfaces. <i>Journal of Physical Chemistry A</i> , 2017, 121, 810-818.	2.5	47
13	Adsorption Energies of Carbon, Nitrogen, and Oxygen Atoms on the Low-temperature Amorphous Water Ice: A Systematic Estimation from Quantum Chemistry Calculations. <i>Astrophysical Journal</i> , 2018, 855, 27.	4.5	43
14	A desorption mechanism of water following vacuum-ultraviolet irradiation on amorphous solid water at 90 K. <i>Journal of Chemical Physics</i> , 2010, 132, 164508.	3.0	40
15	Experimental studies of surface reactions among OH radicals that yield H ₂ O and CO ₂ at 40-60 K. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 15792.	2.8	39
16	TRANSLATIONAL AND ROTATIONAL ENERGY MEASUREMENTS OF PHOTODESORBED WATER MOLECULES IN THEIR VIBRATIONAL GROUND STATE FROM AMORPHOUS SOLID WATER. <i>Astrophysical Journal</i> , 2009, 699, L80-L83.	4.5	33
17	SPIN TEMPERATURE OF WATER MOLECULES DESORBED FROM THE SURFACES OF AMORPHOUS SOLID WATER, VAPOR-DEPOSITED AND PRODUCED FROM PHOTOLYSIS OF A CH ₄ /O ₂ SOLID MIXTURE. <i>Astrophysical Journal Letters</i> , 2011, 738, L15.	8.3	32
18	Liquid-like behavior of UV-irradiated interstellar ice analog at low temperatures. <i>Science Advances</i> , 2017, 3, eaao2538.	10.3	32

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19	Release of hydrogen molecules from the photodissociation of amorphous solid water and polycrystalline ice at 157 and 193nm. <i>Journal of Chemical Physics</i> , 2008, 129, 044501.	3.0	29
20	Desorption of hydroxyl radicals in the vacuum ultraviolet photolysis of amorphous solid water at 90 K. <i>Journal of Chemical Physics</i> , 2009, 131, 054508.	3.0	29
21	Measurements of Energy Partitioning in H ₂ Formation by Photolysis of Amorphous Water Ice. <i>Astrophysical Journal</i> , 2008, 682, L69-L72.	4.5	28
22	Photochemical reaction processes during vacuum-ultraviolet irradiation of water ice. <i>Journal of Photochemistry and Photobiology C: Photochemistry Reviews</i> , 2013, 16, 46-61.	11.6	28
23	Two-Step Process in Homogeneous Nucleation of Alumina in Supersaturated Vapor. <i>Chemistry of Materials</i> , 2016, 28, 8732-8741.	6.7	28
24	Hydrogen peroxide formation following the vacuum ultraviolet photodissociation of water ice films at 90K. <i>Journal of Chemical Physics</i> , 2008, 129, 014709.	3.0	27
25	FAUST I. The hot corino at the heart of the prototypical Class I protostar L1551 IRS5. <i>Monthly Notices of the Royal Astronomical Society: Letters</i> , 2020, 498, L87-L92.	3.3	27
26	Transmission Electron Microscopy Study of the Morphology of Ices Composed of H ₂ O, CO ₂ , and CO on Refractory Grains. <i>Astrophysical Journal</i> , 2021, 918, 45.	4.5	27
27	Hydrogenation and Deuteration of C ₂ H ₂ and C ₂ H ₄ on Cold Grains: A Clue to the Formation Mechanism of C ₂ H ₆ with Astronomical Interest. <i>Astrophysical Journal</i> , 2017, 837, 155.	4.5	26
28	The Ortho-to-para Ratio of Water Molecules Desorbed from Ice Made from Para-water Monomers at 11 K. <i>Astrophysical Journal Letters</i> , 2018, 857, L13.	8.3	26
29	Quantum tunneling observed without its characteristic large kinetic isotope effects. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 7438-7443.	7.1	25
30	Surface Temperature Dependence of Hydrogen Ortho-Para Conversion on Amorphous Solid Water. <i>Physical Review Letters</i> , 2016, 116, 253201.	7.8	25
31	Direct Measurements of Activation Energies for Surface Diffusion of CO and CO ₂ on Amorphous Solid Water Using In Situ Transmission Electron Microscopy. <i>Astrophysical Journal Letters</i> , 2020, 891, L22.	8.3	22
32	Nanodiamond Finding in the Hylean Shallow Mantle Xenoliths. <i>Scientific Reports</i> , 2015, 5, 10765.	3.3	21
33	Quantum Tunneling Hydrogenation of Solid Benzene and Its Control via Surface Structure. <i>Journal of Physical Chemistry Letters</i> , 2014, 5, 3843-3848.	4.6	20
34	Matrix sublimation method for the formation of high-density amorphous ice. <i>Chemical Physics Letters</i> , 2016, 658, 287-292.	2.6	20
35	Formation mechanisms of oxygen atoms in the O(D21) state from the 157nm photoirradiation of amorphous water ice at 90K. <i>Journal of Chemical Physics</i> , 2009, 131, 114510.	3.0	19
36	Fast crystalline ice formation at extremely low temperature through water/neon matrix sublimation. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 17677-17684.	2.8	19

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37	FAUST. II. Discovery of a Secondary Outflow in IRAS 15398 ⁺ 3359: Variability in Outflow Direction during the Earliest Stage of Star Formation?. <i>Astrophysical Journal</i> , 2021, 910, 11.	4.5	19
38	Formation mechanisms of oxygen atoms in the O(¹ P ₃) state from the 157nm photoirradiation of amorphous water ice at 90K. <i>Journal of Chemical Physics</i> , 2009, 131, 114511.	3.0	18
39	Evolution of Morphological and Physical Properties of Laboratory Interstellar Organic Residues with Ultraviolet Irradiation. <i>Astrophysical Journal</i> , 2017, 837, 35.	4.5	17
40	A theoretical and experimental study on translational and internal energies of H ₂ O and OH from the 157 nm irradiation of amorphous solid water at 90 K. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 15810.	2.8	16
41	Precometary organic matter: A hidden reservoir of water inside the snow line. <i>Scientific Reports</i> , 2020, 10, 7755.	3.3	16
42	Controlling factors of oligomerization at the water surface: why is isoprene such a unique VOC?. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 15400-15410.	2.8	15
43	Photostimulated desorption of OH radicals from amorphous solid water: Evidence for the interaction of visible light with an OH-ice complex. <i>Physical Review A</i> , 2020, 102, .	2.5	15
44	Translational and internal energy distributions of methyl and hydroxyl radicals produced by 157nm photodissociation of amorphous solid methanol. <i>Journal of Chemical Physics</i> , 2009, 131, 224512.	3.0	14
45	Interfacial Water Mediates Oligomerization Pathways of Monoterpene Carbocations. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 67-74.	4.6	14
46	In Situ Nondestructive Analysis of <i>Kalanchoe pinnata</i> Leaf Surface Structure by Polarization-Modulation Infrared Reflection-Absorption Spectroscopy. <i>Journal of Physical Chemistry B</i> , 2017, 121, 11124-11131.	2.6	13
47	Formation of chiral CO polyhedral crystals on icy interstellar grains. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 505, 1530-1542.	4.4	13
48	Role of OH radicals in the formation of oxygen molecules following vacuum ultraviolet photodissociation of amorphous solid water. <i>Journal of Chemical Physics</i> , 2010, 133, 104504.	3.0	12
49	Probing the Molecular Structure and Orientation of the Leaf Surface of <i>Brassica oleracea</i> L. by Polarization Modulation-Infrared Reflection-Absorption Spectroscopy. <i>Plant and Cell Physiology</i> , 2019, 60, 1567-1580.	3.1	12
50	Direct Visualization of Quasi-Liquid Layers on Ice Crystal Surfaces Induced by Hydrogen Chloride Gas. <i>Crystal Growth and Design</i> , 2016, 16, 2225-2230.	3.0	11
51	Chain-propagation, chain-transfer, and hydride-abstraction by cyclic carbocations on water surfaces. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 25256-25267.	2.8	11
52	Uptake Mechanism of Atmospheric Hydrogen Chloride Gas in Ice Crystals via Hydrochloric Acid Droplets. <i>Crystal Growth and Design</i> , 2018, 18, 4117-4122.	3.0	11
53	Interactions of Atomic and Molecular Hydrogen with a Diamond-like Carbon Surface: H ₂ Formation and Desorption. <i>Astrophysical Journal</i> , 2019, 878, 23.	4.5	11
54	Self-assembly of MoO ₃ needles in gas current for cubic formation pathway. <i>Nanoscale</i> , 2017, 9, 10109-10116.	5.6	10

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55	H ₂ Ortho-Para Spin Conversion on Inhomogeneous Grain Surfaces. <i>Astrophysical Journal</i> , 2019, 882, 172.	4.5	10
56	UV-ray irradiation never causes amorphization of crystalline CO ₂ : A transmission electron microscopy study. <i>Chemical Physics Letters</i> , 2020, 760, 137999.	2.6	10
57	Direct Observation of OH Radicals Ejected from Water Ice Surface in the Photoirradiation of Nitrate Adsorbed on Ice at 100 K. <i>Journal of Physical Chemistry A</i> , 2008, 112, 9763-9766.	2.5	9
58	Translational and internal states of hydrogen molecules produced from the ultraviolet photodissociation of amorphous solid methanol. <i>Journal of Chemical Physics</i> , 2009, 130, 164505.	3.0	9
59	High-Density Liquid Water at a Water-Ice Interface. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 6779-6784.	4.6	9
60	Misaligned Rotations of the Envelope, Outflow, and Disks in the Multiple Protostellar System of VLA 1623-2417: FAUST. III. <i>Astrophysical Journal</i> , 2022, 927, 54.	4.5	7
61	Absolute Absorption Cross Section and Orientation of Dangling OH Bonds in Water Ice. <i>Astrophysical Journal Letters</i> , 2021, 923, L3.	8.3	7
62	Acid-Catalyzed Oligomerization at the Air-Water Interface Modified by Competitive Adsorption of Surfactants. <i>Journal of Physical Chemistry C</i> , 2019, 123, 21662-21669.	3.1	6
63	Quantitative Anisotropic Analysis of Molecular Orientation in Amorphous N ₂ O at 6 K by Infrared Multiple-Angle Incidence Resolution Spectrometry. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 7857-7866.	4.6	5
64	Low- and High-Density Unknown Waters at Ice-Water Interfaces. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 4251-4256.	4.6	4
65	Surface abundance change in vacuum ultraviolet photodissociation of CO ₂ and H ₂ O mixture ices. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 15785.	2.8	3
66	Translational and rotational energy measurements of desorbed water molecules in their vibrational ground state following 157nm irradiation of amorphous solid water. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2011, 269, 1011-1015.	1.4	3
67	Immiscibility of Nucleating Aluminum Oxide Nanoparticles in Vapor. <i>Journal of Physical Chemistry C</i> , 2018, 122, 25092-25101.	3.1	3
68	Infrared multiple-angle incidence resolution spectrometry for vapor-deposited amorphous water. <i>Journal of Raman Spectroscopy</i> , 2022, 53, 1748-1772.	2.5	3
69	Simulations and spectra of water in CO matrices. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 7280-7287.	2.8	1
70	Ortho-to-para Ratio of Water Photodesorbed from Ice at 10 K and the Origin of Interstellar Water. <i>Journal of the Vacuum Society of Japan</i> , 2017, 60, 264-274.	0.3	1
71	In vivo characterization of the structures of films of a fatty acid and an alcohol adsorbed on the skin surface. <i>Biophysical Chemistry</i> , 2020, 266, 106459.	2.8	1
72	Nuclear spin temperatures of hydrogen and water molecules on amorphous solid water. , 2013, , .		0

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73	Ortho-to-para ratio of water desorbed from ice and its implications for astronomy and planetary science. Journal of Physics: Conference Series, 2017, 875, 042010.	0.4	0