Hidekazu Tanaka

List of Publications by Year
in descending order

98 papers	7,003 citations	76326 40 h-index	64796 79 g-index
98 all docs	98 docs citations	98 times ranked	3005 citing authors

#	Article	IF	Citations
1	Threeâ€dimensional Interaction between a Planet and an Isothermal Gaseous Disk. I. Corotation and Lindblad Torques and Planet Migration. Astrophysical Journal, 2002, 565, 1257-1274.	4.5	823
2	RAPID COAGULATION OF POROUS DUST AGGREGATES OUTSIDE THE SNOW LINE: A PATHWAY TO SUCCESSFUL ICY PLANETESIMAL FORMATION. Astrophysical Journal, 2012, 752, 106.	4.5	331
3	COLLISIONAL GROWTH CONDITIONS FOR DUST AGGREGATES. Astrophysical Journal, 2009, 702, 1490-1501.	4.5	284
4	Threeâ€dimensional Interaction between a Planet and an Isothermal Gaseous Disk. II. Eccentricity Waves and Bending Waves. Astrophysical Journal, 2004, 602, 388-395.	4.5	281
5	SINTERING-INDUCED DUST RING FORMATION IN PROTOPLANETARY DISKS: APPLICATION TO THE HL TAU DISK. Astrophysical Journal, 2016, 821, 82.	4.5	275
6	Fluffy dust forms icy planetesimals by static compression. Astronomy and Astrophysics, 2013, 557, L4.	5.1	207
7	Numerical Simulation of Dust Aggregate Collisions. II. Compression and Disruption of Threeâ€Dimensional Aggregates in Headâ€on Collisions. Astrophysical Journal, 2008, 677, 1296-1308.	4.5	176
8	Steady-State Size Distribution for the Self-Similar Collision Cascade. Icarus, 1996, 123, 450-455.	2.5	172
9	Dust Growth and Settling in Protoplanetary Disks and Disk Spectral Energy Distributions. I. Laminar Disks. Astrophysical Journal, 2005, 625, 414-426.	4.5	164
10	Growth of a Migrating Protoplanet. Icarus, 1999, 139, 350-366.	2.5	159
11	MASS ESTIMATES OF A GIANT PLANET IN A PROTOPLANETARY DISK FROM THE GAP STRUCTURES. Astrophysical Journal Letters, 2015, 806, L15.	8.3	153
12	Radial Migration of Gap-opening Planets in Protoplanetary Disks. I. The Case of a Single Planet. Astrophysical Journal, 2018, 861, 140.	4.5	151
13	High-Accuracy Statistical Simulation of Planetary Accretion: II. Comparison with N-Body Simulation. Icarus, 2001, 149, 235-250.	2.5	145
14	Numerical Simulation of Dust Aggregate Collisions. I. Compression and Disruption of Twoâ€Dimensional Aggregates. Astrophysical Journal, 2007, 661, 320-333.	4.5	142
15	Numerical Simulation of Density Evolution of Dust Aggregates in Protoplanetary Disks. I. Headâ€on Collisions. Astrophysical Journal, 2008, 684, 1310-1322.	4.5	137
16	NUMERICAL MODELING OF THE COAGULATION AND POROSITY EVOLUTION OF DUST AGGREGATES. Astrophysical Journal, 2009, 707, 1247-1263.	4.5	131
17	Orbital Migration of Neptune and Orbital Distribution of Transâ€Neptunian Objects. Astrophysical Journal, 2000, 534, 428-445.	4.5	127
18	THE REBOUND CONDITION OF DUST AGGREGATES REVEALED BY NUMERICAL SIMULATION OF THEIR COLLISIONS. Astrophysical Journal, 2011, 737, 36.	4.5	127

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19	Viscosity in a Dense Planetary Ring with Self-Gravitating Particles. Icarus, 2001, 154, 296-312.	2.5	124
20	Growth efficiency of dust aggregates through collisions with high mass ratios. Astronomy and Astrophysics, 2013, 559, A62.	5.1	121
21	Opacity of fluffy dust aggregates. Astronomy and Astrophysics, 2014, 568, A42.	5.1	105
22	Mass constraint for a planet in a protoplanetary disk from the gap width. Publication of the Astronomical Society of Japan, 2016, 68, .	2.5	104
23	Large scale molecular dynamics simulations of homogeneous nucleation. Journal of Chemical Physics, 2013, 139, 074309.	3.0	102
24	FINAL MASSES OF GIANT PLANETS. II. JUPITER FORMATION IN A GAS-DEPLETED DISK. Astrophysical Journal, 2016, 823, 48.	4.5	102
25	Fragmentation model dependence of collision cascades. Icarus, 2010, 206, 735-746.	2.5	101
26	Orbital Evolution of Asteroids during Depletion of the Solar Nebula. Astronomical Journal, 2000, 119, 1480-1497.	4.7	100
27	Formation of a disc gap induced by a planet: effect of the deviation from Keplerian disc rotation. Monthly Notices of the Royal Astronomical Society, 2015, 448, 994-1006.	4.4	98
28	Planetary growth with collisional fragmentation and gas drag. Icarus, 2010, 209, 836-847.	2.5	82
29	ELECTROSTATIC BARRIER AGAINST DUST GROWTH IN PROTOPLANETARY DISKS. I. CLASSIFYING THE EVOLUTION OF SIZE DISTRIBUTION. Astrophysical Journal, 2011, 731, 95.	4.5	75
30	GEOMETRIC CROSS SECTIONS OF DUST AGGREGATES AND A COMPRESSION MODEL FOR AGGREGATE COLLISIONS. Astrophysical Journal, 2012, 753, 115.	4.5	75
31	LIGHT SCATTERING BY FRACTAL DUST AGGREGATES. I. ANGULAR DEPENDENCE OF SCATTERING. Astrophysical Journal, 2016, 823, 70.	4.5	72
32	Detailed structure of the outer disk around HDâ€‰169142 with polarized light in <i>H</i>-band. Publication of the Astronomical Society of Japan, 2015, 67, .	2.5	65
33	ELECTROSTATIC BARRIER AGAINST DUST GROWTH IN PROTOPLANETARY DISKS. II. MEASURING THE SIZE OF THE â€œFROZENâ€•ZONE. Astrophysical Journal, 2011, 731, 96.	4.5	61
34	Gravitational Interaction between a Protoplanet and a Protoplanetary Disk. I. Local Threeâ€Ðimensional Simulations. Astrophysical Journal, 1999, 516, 451-464.	4.5	61
35	PLANETARY CORE FORMATION WITH COLLISIONAL FRAGMENTATION AND ATMOSPHERE TO FORM GAS GIANT PLANETS. Astrophysical Journal, 2011, 738, 35.	4.5	58
36	Distribution of Planetesimals around a Protoplanet in the Nebula Gas. Icarus, 1997, 125, 302-316.	2.5	56

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37	Modelling of deep gaps created by giant planets in protoplanetary disks. Publication of the Astronomical Society of Japan, 2017, 69, .	2.5	54
38	MIGRATION RATES OF PLANETS DUE TO SCATTERING OF PLANETESIMALS. Astrophysical Journal, 2012, 758, 80.	4.5	53
39	Tests of the homogeneous nucleation theory with molecular-dynamics simulations. I. Lennard-Jones molecules. Journal of Chemical Physics, 2005, 122, 184514.	3.0	51
40	Direct simulations of homogeneous bubble nucleation: Agreement with classical nucleation theory and no local hot spots. Physical Review E, 2014, 90, 052407.	2.1	51
41	Slowing Down Type II Migration of Gas Giants to Match Observational Data. Astrophysical Journal, 2018, 864, 77.	4.5	44
42	A new theory of bubble formation in magma. Journal of Geophysical Research, 2005, 110, .	3.3	42
43	Molecular dynamics simulations of nucleation from vapor to solid composed of Lennard-Jones molecules. Journal of Chemical Physics, 2011, 134, 204313.	3.0	41
44	Resolution dependence of disruptive collisions between planetesimals in the gravity regime. Icarus, 2015, 262, 58-66.	2.5	41
45	Origin of high orbital eccentricity and inclination of asteroids. Earth, Planets and Space, 2001, 53, 1085-1091.	2.5	39
46	FROM PLANETESIMALS TO PLANETS IN TURBULENT PROTOPLANETARY DISKS. I. ONSET OF RUNAWAY GROWTH. Astrophysical Journal, 2016, 817, 105.	4.5	38
47	Properties of liquid clusters in large-scale molecular dynamics nucleation simulations. Journal of Chemical Physics, 2014, 140, 074303.	3.0	36
48	Distribution of Planetesimals around a Protoplanet in the Nebula Gas. Icarus, 1996, 120, 371-386.	2.5	35
49	Simple improvements to classical bubble nucleation models. Physical Review E, 2015, 92, 022401.	2.1	34
50	Effect of dust size and structure on scattered-light images of protoplanetary discs. Monthly Notices of the Royal Astronomical Society, 2019, 485, 4951-4966.	4.4	34
51	Orbital Stability of a Protoplanet System under a Drag Force Proportional to the Random Velocity. Publication of the Astronomical Society of Japan, 2002, 54, 471-479.	2.5	33
52	The evidence of an early stellar encounter in Edgeworthâ€“Kuiper belt. Icarus, 2005, 177, 246-255.	2.5	33
53	Molecular dynamics simulations of the nucleation of water: Determining the sticking probability and formation energy of a cluster. Journal of Chemical Physics, 2014, 140, 114302.	3.0	33
54	Light Scattering by Fractal Dust Aggregates. II. Opacity and Asymmetry Parameter. Astrophysical Journal, 2018, 860, 79.	4.5	33

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55	Unveiling Dust Aggregate Structure in Protoplanetary Disks by Millimeter-wave Scattering Polarization. Astrophysical Journal, 2019, 885, 52.	4.5	33
56	EVAPORATION OF ICY PLANETESIMALS DUE TO BOW SHOCKS. Astrophysical Journal, 2013, 764, 120.	4.5	32
57	Homogeneous SPC/E water nucleation in large molecular dynamics simulations. Journal of Chemical Physics, 2015, 143, 064507.	3.0	32
58	Comprehensive Study of Thermal Desorption of Grain-surface Species by Accretion Shocks around Protostars. Astrophysical Journal, 2017, 839, 47.	4.5	30
59	Tensile Strength of Porous Dust Aggregates. Astrophysical Journal, 2019, 874, 159.	4.5	29
60	Growth of Cosmic Dust Aggregates and Reexamination of Particle Interaction Models. Progress of Theoretical Physics Supplement, 2012, 195, 101-113.	0.1	28
61	Validity of the Statistical Coagulation Equation and Runaway Growth of Protoplanets. Icarus, 1994, 107, 404-412.	2.5	27
62	The Gas-Drag Effect on the Orbital Instability of a Protoplanet System. Publication of the Astronomical Society of Japan, 2001, 53, 321-329.	2.5	27
63	Free energy of cluster formation and a new scaling relation for the nucleation rate. Journal of Chemical Physics, 2014, 140, 194310.	3.0	27
64	Final Masses of Giant Planets. III. Effect of Photoevaporation and a New Planetary Migration Model. Astrophysical Journal, 2020, 891, 143.	4.5	27
65	Non-equilibrium Condensation ina Primordial Solar Nebula: Formation of Refractory Metal Nuggets. Icarus, 2002, 160, 197-207.	2.5	26
66	High-accuracy statistical simulation of planetary accretion: I. Test of the accuracy by comparison with the solution to the stochastic coagulation equation. Earth, Planets and Space, 1999, 51, 205-217.	2.5	23
67	Can Stellar-mass Black Hole Growth Disrupt Disks of Active Galactic Nuclei? The Role of Mechanical Feedback. Astrophysical Journal, 2022, 927, 41.	4.5	23
68	Orbital evolution and accretion of protoplanets tidally interacting with a gas disk. Icarus, 2006, 185, 492-507.	2.5	22
69	Impact erosion model for gravity-dominated planetesimals. Icarus, 2017, 294, 234-246.	2.5	22
70	Collisional Growth and Fragmentation of Dust Aggregates with Low Mass Ratios. I. Critical Collision Velocity for Water Ice. Astrophysical Journal, 2021, 915, 22.	4.5	22
71	Stochastic Coagulation Equation and Validity of the Statistical Coagulation Equation.. Journal of Geomagnetism and Geoelectricity, 1993, 45, 361-381.	0.9	22
72	Rapid Formation of Gas-giant Planets via Collisional Coagulation from Dust Grains to Planetary Cores. Astrophysical Journal, 2021, 922, 16.	4.5	22

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73	Excitation of Orbital Inclinations of Asteroids during Depletion of a Protoplanetary Disk: Dependence on the Disk Configuration. Icarus, 2002, 159, 322-327.	2.5	21
74	Bubble evolution and properties in homogeneous nucleation simulations. Physical Review E, 2014, 90, 063301.	2.1	21
75	Shock Heating Due to Accretion of a Clumpy Cloud onto a Protoplanetary Disk. Icarus, 1998, 134, 137-154.	2.5	20
76	Orbital evolution and accretion of protoplanets tidally interacting with a gas disk. Icarus, 2005, 178, 540-552.	2.5	20
77	Ring Formation by Coagulation of Dust Aggregates in the Early Phase of Disk Evolution around a Protostar. Astrophysical Journal, 2021, 907, 80.	4.5	19
78	Evolution of Morphological and Physical Properties of Laboratory Interstellar Organic Residues with Ultraviolet Irradiation. Astrophysical Journal, 2017, 837, 35.	4.5	17
79	Gravitational interaction between a planet and an optically thin disc. Monthly Notices of the Royal Astronomical Society, 2003, 346, 915-923.	4.4	15
80	Thermal conductivity of porous aggregates. Astronomy and Astrophysics, 2017, 608, L7.	5.1	15
81	From Planetesimal to Planet in Turbulent Disks. II. Formation of Gas Giant Planets. Astrophysical Journal, 2018, 862, 127.	4.5	15
82	Shock-generating Planetesimals Perturbed by a Giant Planet in a Gas Disk. Astrophysical Journal, 2019, 871, 110.	4.5	13
83	A new formulation of the viscosity in planetary rings. Icarus, 2003, 161, 144-156.	2.5	12
84	REVISITING JOVIAN-RESONANCE INDUCED CHONDRULE FORMATION. Astrophysical Journal Letters, 2014, 794, L7.	8.3	10
85	Analyzing multistep homogeneous nucleation in vapor-to-solid transitions using molecular dynamics simulations. Physical Review E, 2017, 96, 022804.	2.1	10
86	Collisional disruption of planetesimals in the gravity regime with iSALE code: Comparison with SPH code for purely hydrodynamic bodies. Icarus, 2018, 314, 121-132.	2.5	10
87	Impacts of Viscous Dissipation on Collisional Growth and Fragmentation of Dust Aggregates. Astrophysical Journal, 2022, 933, 144.	4.5	10
88	Radial diffusion rate of planetesimals due to gravitational encounters. Icarus, 2003, 162, 47-58.	2.5	8
89	Dust Rings as a Footprint of Planet Formation in a Protoplanetary Disk. Astrophysical Journal, 2021, 921, 169.	4.5	6
90	Eccentric Gap Induced by a Super-Jupiter-mass Planet. Astrophysical Journal, 2022, 925, 95.	4.5	6

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91	Electric Charging of Dust Aggregates and its Effect on Dust Coagulation in Protoplanetary Disks. , 2009, , .		4
92	Numerical Simulation of Dust Aggregate Collisions: Growth and Disruption of Dust Aggregates. , 2009, , .		2
93	Comments on â€˜Type II migration strikes back â€“ an old paradigm for planet migration in discsâ€™ by Scardoni etÂal.. Monthly Notices of the Royal Astronomical Society, 2020, 494, 3449-3452.	4.4	2
94	Reply to â€œComment on â€˜Simple improvements to classical bubble nucleation modelsâ€™â€‰â€. Physical Review E, 2016, 94, 026802.	2.1	1
95	Dust Growth in Protoplanetary Disks. , 2009, , .		0
96	Numerical Simulation of Structure Evolution of Dust Aggregates Growing in Protoplanetary Disks. , 2009, , .		0
97	Large scale MD simulations of nucleation. , 2013, , .		0
98	The physics of nucleated droplets in large-scale MD Lennard-Jones simulations. , 2013, , .		0