Yoshinori Takao

List of Publications by Citations

104 papers	1,002 citations	18 h-index	24 g-index
120 ext. papers	1,168 ext. citations	1.9 avg, IF	4.45 L-index

#	Paper	IF	Citations
104	Optical and Electrical Characterization of Hydrogen-Plasma-Damaged Silicon Surface Structures and Its Impact on In-line Monitoring. *Japanese Journal of Applied Physics*, **2010**, 49, 08JD02	1.4	46
103	Modeling of ion-bombardment damage on Si surfaces for in-line analysis. *Thin Solid Films*, **2010**, 518, 3481-3486	2.2	41
102	Plasma-Induced Defect-Site Generation in Si Substrate and Its Impact on Performance Degradation in Scaled MOSFETs. *IEEE Electron Device Letters*, **2009**, 30, 1275-1277	4.4	36
101	Three-dimensional particle-in-cell simulation of a miniature plasma source for a microwave discharge ion thruster. *Plasma Sources Science and Technology*, **2014**, 23, 064004	3.5	35
100	Structural and electrical characterization of HBr/O2 plasma damage to Si substratea). *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2011**, 29, 041301	2.9	34
99	A miniature electrothermal thruster using microwave-excited plasmas: a numerical design consideration. *Plasma Sources Science and Technology*, **2006**, 15, 211-227	3.5	31
98	Neutral-depletion-induced axially asymmetric density in a helicon source and imparted thrust. *Applied Physics Letters*, **2016**, 108, 074103	3.4	28
97	A miniature electrothermal thruster using microwave-excited microplasmas: Thrust measurement and its comparison with numerical analysis. *Journal of Applied Physics*, **2007**, 101, 123307	2.5	27
96	Modifications of plasma density profile and thrust by neutral injection in a helicon plasma thruster. *Applied Physics Letters*, **2016**, 109, 194101	3.4	26
95	Two-dimensional particle-in-cell Monte Carlo simulation of a miniature inductively coupled plasma source. *Journal of Applied Physics*, **2010**, 108, 093309	2.5	25
94	Plasma chemical behaviour of reactants and reaction products during inductively coupled CF4plasma etching of SiO2. *Plasma Sources Science and Technology*, **2009**, 18, 045027	3.5	25
93	Effects of straggling of incident ions on plasma-induced damage creation in fin-type field-effect transistors. *Japanese Journal of Applied Physics*, **2014**, 53, 03DE02	1.4	24
92	Model for Bias Frequency Effects on Plasma-Damaged Layer Formation in Si Substrates. *Japanese Journal of Applied Physics*, **2010**, 49, 056203	1.4	24
91	Numerical validation of axial plasma momentum lost to a lateral wall induced by neutral depletion. *Physics of Plasmas*, **2015**, 22, 113509	2.1	20
90	Atomic-scale cellular model and profile simulation of Si etching: Formation of surface roughness and residue. *Thin Solid Films*, **2010**, 518, 3475-3480	2.2	20
89	Microplasma thruster for ultra-small satellites: Plasma chemical and aerodynamical aspects. *Pure and Applied Chemistry*, **2008**, 80, 2013-2023	2.1	20
88	Plasma Diagnostics and Thrust Performance Analysis of a Microwave-Excited Microplasma Thruster. *Japanese Journal of Applied Physics*, **2006**, 45, 8235-8240	1.4	20

87	Molecular dynamics simulations of silicon chloride ion incidence during Si etching in Cl-based plasmas. *Japanese Journal of Applied Physics*, **2014**, 53, 056201	1.4	18
86	Numerical and experimental study of microwave-excited microplasma and micronozzle flow for a microplasma thruster. *Physics of Plasmas*, **2009**, 16, 083505	2.1	18
85	Microwave-excited microplasma thruster with helium and hydrogen propellants. *Physics of Plasmas*, **2011**, 18, 063505	2.1	18
84	Effect of capacitive coupling in a miniature inductively coupled plasma source. *Journal of Applied Physics*, **2012**, 112, 093306	2.5	18
83	Surface roughening and rippling during plasma etching of silicon: Numerical investigations and a comparison with experiments. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2014**, 32, 031212	1.3	17
82	Atomic-Scale Cellular Model and Profile Simulation of Si Etching: Analysis of Profile Anomalies and Microscopic Uniformity. *Japanese Journal of Applied Physics*, **2010**, 49, 08JE01	1.4	17
81	Modeling of plasma-induced damage and its impacts on parameter variations in advanced electronic devices. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2011**, 29, 041303	2.9	17
80	High-performance planar-type electron source based on a graphene-oxide-semiconductor structure. *Applied Physics Letters*, **2019**, 114, 213501	3.4	16
79	Two modes of surface roughening during plasma etching of silicon: Role of ionized etch products. *Journal of Applied Physics*, **2014**, 116, 223302	2.5	15
78	Effects of E □B drift on electron transport across the magnetic field in a miniature microwave discharge neutralizer. *Physics of Plasmas*, **2017**, 24, 064504	2.1	14
77	Modeling and Simulation of Nanoscale Surface Rippling during Plasma Etching of Si under Oblique Ion Incidence. *Japanese Journal of Applied Physics*, **2012**, 51, 08HC01	1.4	14
76	Numerical simulation of full-aperture-pair ion optics in a miniature ion thruster. *Physics of Plasmas*, **2018**, 25, 013524	2.1	13
75	Microfabricated emitter array for an ionic liquid electrospray thruster. *Japanese Journal of Applied Physics*, **2017**, 56, 06GN18	1.4	13
74	Molecular dynamics simulations of Si etching in Cl- and Br-based plasmas: Cl+ and Br+ ion incidence in the presence of Cl and Br neutrals. *Journal of Applied Physics*, **2015**, 118, 233304	2.5	13
73	Microwave-excited microplasma thruster: a numerical and experimental study of the plasma generation and micronozzle flow. *Journal Physics D: Applied Physics*, **2008**, 41, 194005	3	13
72	Numerical Analysis of a Miniature Microwave-discharge Ion Thruster Using Water as the Propellant. *Transactions of the Japan Society for Aeronautical and Space Sciences*, **2018**, 61, 152-159	0.8	13
71	Effects of negative ions on discharge characteristics of water plasma source for a miniature microwave discharge ion thruster. *Physics of Plasmas*, **2019**, 26, 043508	2.1	11
70	Effects of neutral distribution and external magnetic field on plasma momentum in electrodeless plasma thrusters. *Physics of Plasmas*, **2018**, 25, 023507	2.1	11

69	Surface morphology evolution during plasma etching of silicon: roughening, smoothing and ripple formation. *Journal Physics D: Applied Physics*, **2017**, 50, 414001	3	11
68	Evaluation technique for plasma-induced SiOC dielectric damage by capacitance–voltage hysteresis monitoring. *Japanese Journal of Applied Physics*, **2016**, 55, 06HB04	1.4	10
67	Threshold Voltage Instability Induced by Plasma Process Damage in Advanced Metal–Oxide–Semiconductor Field-Effect Transistors. *Japanese Journal of Applied Physics*, **2010**, 49, 08JC02	1.4	9
66	Electron extraction mechanisms of a micro-ECR neutralizer. *Japanese Journal of Applied Physics*, **2016**, 55, 07LD09	1.4	9
65	Assessment of Micropropulsion System Unifying Water Ion Thrusters and Water Resistojet Thrusters. *Journal of Spacecraft and Rockets*, **2019**, 56, 1400-1408	1.5	8
64	Comprehensive Modeling of Threshold Voltage Variability Induced by Plasma Damage in Advanced Metal–Oxide–Semiconductor Field-Effect Transistors. *Japanese Journal of Applied Physics*, **2010**, 49, 04DA18	1.4	8
63	Microwave-sustained miniature plasmas for an ultra small thruster. *Thin Solid Films*, **2006**, 506-507, 592-596	2.1	8
62	Investigation of Electron Extraction from a Microwave Discharge Neutralizer for a Miniature Ion Propulsion System. *Transactions of the Japan Society for Aeronautical and Space Sciences Aerospace Technology Japan*, **2016**, 14, Pb_41-Pb_46	0.3	7
61	Thrust imparted by a stepped-diameter magnetic nozzle rf plasma thruster. *Applied Physics Letters*, **2018**, 113, 034101	3.4	7
60	A new aspect of plasma-induced physical damage in three-dimensional scaled structures – Sidewall damage by stochastic straggling and sputtering **2014**,		7
59	Atomistic simulations of plasma process-induced Si substrate damage - Effects of substrate bias-power frequency **2013**,		7
58	Development of a momentum vector measurement instrument in steady-state plasmas. *AIP Advances*, **2018**, 8, 105117	1.5	7
57	Particle Simulations of Sheath Dynamics in Low-Pressure Capacitively Coupled Argon Plasma Discharges. *Japanese Journal of Applied Physics*, **2011**, 50, 08JC02	1.4	6
56	Model for Effects of RF Bias Frequency and Waveform on Si Damaged-Layer Formation during Plasma Etching. *Japanese Journal of Applied Physics*, **2011**, 50, 08JE04	1.4	6
55	Modeling and Simulation of Nanoscale Surface Rippling during Plasma Etching of Si under Oblique Ion Incidence. *Japanese Journal of Applied Physics*, **2012**, 51, 08HC01	1.4	6
54	Mechanism of Highly Efficient Electron Emission from a Graphene/Oxide/Semiconductor Structure. *ACS Applied Electronic Materials*, **2020**, 2, 2265-2273	4	5
53	Structural, mechanical, and electrical properties of cubic boron nitride thin films deposited by magnetically enhanced plasma ion plating method. *Japanese Journal of Applied Physics*, **2014**, 53, 03DB02	1.4	5
52	Particle Simulations of Sheath Dynamics in Low-Pressure Capacitively Coupled Argon Plasma Discharges. *Japanese Journal of Applied Physics*, **2011**, 50, 08JC02	1.4	5

51	Advanced Contactless Analysis of Plasma-Induced Damage on Si by Temperature-Controlled Photoreflectance Spectroscopy. *Japanese Journal of Applied Physics*, **2011**, 50, 08KD03	1.4	5
50	Development of small microwave discharge ion thruster. *Thin Solid Films*, **2006**, 506-507, 605-608	2.2	5
49	Trade-Off Relationship between Si Recess and Defect Density Formed by Plasma-Induced Damage in Planar Metal□Oxide□Semiconductor Field-Effect Transistors and the Optimization Methodology. *Japanese Journal of Applied Physics*, **2011**, 50, 08KD04	1.4	5
48	Analytic Model of Threshold Voltage Variation Induced by Plasma Charging Damage in High-k Metal□Oxide□Semiconductor Field-Effect Transistor. *Japanese Journal of Applied Physics*, **2011**, 50, 10PG02	1.4	5
47	Increased Thrust-to-Power Ratio of a Stepped-Diameter Helicon Plasma Thruster with Krypton Propellant. *Journal of Propulsion and Power*, **2020**, 36, 961-965	1.8	5
46	Surface smoothing during plasma etching of Si in Cl2. *Applied Physics Letters*, **2016**, 109, 204101	3.4	5
45	Electron extraction enhancement via the magnetic field in a miniature microwave discharge neutralizer. *Journal of Applied Physics*, **2019**, 126, 243302	2.5	5
44	Low-power-consumption, high-current-density, and propellantless cathode using graphene-oxide-semiconductor structure array. *Acta Astronautica*, **2020**, 174, 48-54	2.9	5
43	Numerical investigation of internal plasma currents in a magnetic nozzle. *Physics of Plasmas*, **2021**, 28, 093506	2.1	5
42	Fabrication of a high-density emitter array for electrospray thrusters using field emitter array process. *Japanese Journal of Applied Physics*, **2019**, 58, SEEG04	1.4	4
41	Low-magnetic-field enhancement of thrust imparted by a stepped-diameter and downstream-gas-injected rf plasma thruster. *Plasma Sources Science and Technology*, **2019**, 28, 085014	3.5	4
40	Investigation of Plasma Characteristics and Ion Beam Extraction for a Micro RF Ion Thruster. *Transactions of the Japan Society for Aeronautical and Space Sciences Aerospace Technology Japan*, **2014**, 12, Pb_13-Pb_18	0.3	4
39	Advanced Contactless Analysis of Plasma-Induced Damage on Si by Temperature-Controlled Photoreflectance Spectroscopy. *Japanese Journal of Applied Physics*, **2011**, 50, 08KD03	1.4	4
38	Origin of plasma-induced surface roughening and ripple formation during plasma etching: The crucial role of ion reflection. *Journal of Applied Physics*, **2018**, 124, 143301	2.5	4
37	Microplasma thruster powered by X-band microwaves. *Journal of Applied Physics*, **2019**, 125, 083301	2.5	3
36	A Validation Study of a 3D PIC Model for a Miniature Microwave Discharge Ion Thruster **2014**,		3
35	Molecular Dynamics Analysis of the Formation of Surface Roughness during Si Etching in Chlorine-Based Plasmas. *Japanese Journal of Applied Physics*, **2011**, 50, 08KB02	1.4	3
34	PIC-MCC Simulations of Capacitive RF Discharges for Plasma Etching **2011**,		3

33	Three-Dimensional Atomic-Scale Cellular Model and Feature Profile Evolution during Si Etching in Chlorine-Based Plasmas: Analysis of Profile Anomalies and Surface Roughness. *Japanese Journal of Applied Physics*, **2011**, 50, 08JE06	1.4	3
32	A new prediction model for effects of plasma-induced damage on parameter variations in advanced LSIs **2011**,		3
31	High-k MOSFET performance degradation by plasma process-induced charging damage Impacts on device parameter variation **2012**,		3
30	Three-Dimensional Atomic-Scale Cellular Model and Feature Profile Evolution during Si Etching in Chlorine-Based Plasmas: Analysis of Profile Anomalies and Surface Roughness. *Japanese Journal of Applied Physics*, **2011**, 50, 08JE06	1.4	3
29	Numerical Investigation of Steady and Transient Ion Beam Extraction Mechanisms for Electrospray Thrusters. *Transactions of the Japan Society for Aeronautical and Space Sciences Aerospace Technology Japan*, **2018**, 16, 110-115	0.3	3
28	Ripple formation on Si surfaces during plasma etching in Cl2. *AIP Advances*, **2018**, 8, 055027	1.5	3
27	Silicon nanowire growth on Si and SiO2substrates by rf magnetron sputtering in Ar/H2. *Applied Physics Express*, **2015**, 8, 066201	2.4	2
26	Electron loss mechanisms in a miniature microwave discharge water neutralizer. *Physics of Plasmas*, **2020**, 27, 063505	2.1	2
25	Modeling the effects of plasma-induced physical damage on subthreshold leakage current in scaled MOSFETs **2010**,		2
24	Trade-Off Relationship between Si Recess and Defect Density Formed by Plasma-Induced Damage in Planar MetalOxideSemiconductor Field-Effect Transistors and the Optimization Methodology. *Japanese Journal of Applied Physics*, **2011**, 50, 08KD04	1.4	2
23	Analytic Model of Threshold Voltage Variation Induced by Plasma Charging Damage in High-k MetalOxideSemiconductor Field-Effect Transistor. *Japanese Journal of Applied Physics*, **2011**, 50, 10PG02	1.4	2
22	Molecular Dynamics Analysis of the Formation of Surface Roughness during Si Etching in Chlorine-Based Plasmas. *Japanese Journal of Applied Physics*, **2011**, 50, 08KB02	1.4	2
21	Commentary: On helicon thrusters: Will they ever fly?. *Frontiers in Physics*, **2020**, 8,	3.9	2
20	A Preliminary Study on Radiation Shielding Using Martian Magnetic Anomalies. *Uchu Seibutsu Kagaku*, **2018**, 32, 1-5	1	2
19	Computational design of a high-efficiency accelerator grid for a miniature ion thruster by full-aperture ion optics simulations. *AIP Advances*, **2019**, 9, 035343	1.5	1
18	Investigation of Ion Beam Extraction Mechanism for Higher Thrust Density of Ion Thrusters. *Transactions of the Japan Society for Aeronautical and Space Sciences Aerospace Technology Japan*, **2016**, 14, Pb_57-Pb_62	0.3	1
17	Random telegraph noise as a new measure of plasma-induced charging damage in MOSFETs **2014**,		1
16	Effects of plasma-induced charging damage on random telegraph noise in metalOxideSemiconductor field-effect transistors with SiO2and high-kgate dielectrics. *Japanese Journal of Applied Physics*, **2014**, 53, 03DF02	1.4	1

List of Publications

15	Comparative Study of Plasma-Charging Damage in High-k Dielectric and p□ Junction and Their Effects on Off-State Leakage Current of Metal□Oxide□Semiconductor Field-Effect Transistors. *Japanese Journal of Applied Physics*, **2011**, 50, 08KD05	1.4	1
14	Investigation of Ion Species in Water Plasma Discharges for Miniature Microwave Discharge Ion Thrusters **2018**,		1
13	Fabrication of Electrospray Thrusters with a High-Density Emitter Array Utilizing Minimal-Fab System **2018**,		1
12	Uniform needle-emitter arrays for ionic liquid electrospray thrusters with precise thrust control. *Japanese Journal of Applied Physics*, **2021**, 60, SCCL06	1.4	0
11	Fabrication of nano-capillary emitter arrays for ionic liquid electrospray thrusters. *Japanese Journal of Applied Physics*, **2021**, 60, SCCF07	1.4	0
10	Optimization of Plasma Production with Impedance Analysis for a Micro RF Ion Thruster. *Transactions of the Japan Society for Aeronautical and Space Sciences Aerospace Technology Japan*, **2016**, 14, Pb_63-Pb_68	0.3	
9	Micro-photoreflectance spectroscopy for microscale monitoring of plasma-induced physical damage on Si substrate. *Japanese Journal of Applied Physics*, **2014**, 53, 03DF01	1.4	
8	Plasma Etch Challenges for Nanoscale ULSI Device Fabrication: Modeling and Simulation of Surface Roughening and Rippling during Plasma Etching of Si. *Hyomen Kagaku*, **2013**, 34, 528-534		
7	Model for Effects of RF Bias Frequency and Waveform on Si Damaged-Layer Formation during Plasma Etching. *Japanese Journal of Applied Physics*, **2011**, 50, 08JE04	1.4	
6	Design of High Efficiency Grid System for Water Propellant Miniature Ion Thrusters. *Transactions of the Japan Society for Aeronautical and Space Sciences Aerospace Technology Japan*, **2020**, 18, 412-416	0.3	
5	Development of Microplasma Thruster. *Journal of High Temperature Society*, **2005**, 31, 283-290		
4	Numerical Investigation of Neutral-Injection Effect on an Electrodeless Plasma Thruster. *Transactions of the Japan Society for Aeronautical and Space Sciences Aerospace Technology Japan*, **2018**, 16, 105-109	0.3	
3	Numerical Investigation of Ion Beam Extraction Mechanism for Electrospray Thruster. *The Proceedings of Conference of Kanto Branch*, **2017**, 2017.23, 816	0	
2	Numerical Simulation of a Microwave-Excited Microplasma Thruster. *Transactions of the Japan Society for Aeronautical and Space Sciences Space Technology Japan*, **2009**, 7, Pb_135-Pb_140		
1	Experimental study on the performance characteristics of a miniature microwave discharge cathode. *Acta Astronautica*, **2022**, 196, 231-237	2.9	