Yoshinori Takao

List of Publications by Year
in descending order

117
papers

1,375
citations

331670
21
h-index

454955
30
g-index

120
all docs

120
docs citations

120
times ranked

677
citing authors

#	Article	IF	Citations
1	Experimental study on the performance characteristics of a miniature microwave discharge cathode. Acta Astronautica, 2022, 196, 231-237.	3.2	3
2	Uniform needle-emitter arrays for ionic liquid electrospray thrusters with precise thrust control. Japanese Journal of Applied Physics, 2021, 60, SCCL06.	1.5	3
3	Fabrication of nano-capillary emitter arrays for ionic liquid electrospray thrusters. Japanese Journal of Applied Physics, 2021, 60, SCCF07.	1.5	2
4	Investigation of Momentum Flux Lost to a Lateral Wall in an Electrodeless RF Plasma Thruster. , 2021, , .		0
5	Numerical investigation of internal plasma currents in a magnetic nozzle. Physics of Plasmas, 2021, 28, 093506.	1.9	11
6	Planar type electron emission device using atomic layered materials and it applications. , 2021, , .		0
7	>Oxygen Resistance Investigation of Graphene-Oxide-Semiconductor Planar-Type Electron Sources for Low Earth Orbit Applications. , 2021, , .		0
8	Vector Resolved Energy Fluxes and Collisional Energy Losses in Magnetic Nozzle Radiofrequency Plasma Thrusters. Frontiers in Physics, 2021, 9, .	2.1	3
9	Three-Dimensional Neutral and Charged Particle Simulations for a Miniature Microwave Discharge Neutralizer Using Water as the Propellant. , 2020, , .		0
10	Increased Thrust-to-Power Ratio of a Stepped-Diameter Helicon Plasma Thruster with Krypton Propellant. Journal of Propulsion and Power, 2020, 36, 961-965.	2.2	10
11	Commentary: On helicon thrusters: Will they ever fly?. Frontiers in Physics, 2020, 8, .	2.1	7
12	Electron loss mechanisms in a miniature microwave discharge water neutralizer. Physics of Plasmas, 2020, 27, 063505.	1.9	6
13	Mechanism of Highly Efficient Electron Emission from a Graphene/Oxide/Semiconductor Structure. ACS Applied Electronic Materials, 2020, 2, 2265-2273.	4.3	18
14	Low-power-consumption, high-current-density, and propellantless cathode using graphene-oxide-semiconductor structure array. Acta Astronautica, 2020, 174, 48-54.	3.2	10
15	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.	0.2	1
16	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.	3.1	9
17	Fabrication of a high-density emitter array for electrospray thrusters using field emitter array process. Japanese Journal of Applied Physics, 2019, 58, SEEG04.	1.5	6
18	High-performance planar-type electron source based on a graphene-oxide-semiconductor structure. Applied Physics Letters, 2019, 114, 213501.	3.3	29

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19	Assessment of Micropropulsion System Unifying Water Ion Thrusters and Water Resistojet Thrusters. Journal of Spacecraft and Rockets, 2019, 56, 1400-1408.	1.9	13
20	Effects of negative ions on discharge characteristics of water plasma source for a miniature microwave discharge ion thruster. Physics of Plasmas, 2019, 26, .	1.9	14
21	Computational design of a high-efficiency accelerator grid for a miniature ion thruster by full-aperture ion optics simulations. AIP Advances, 2019, 9, .	1.3	3
22	Microplasma thruster powered by X-band microwaves. Journal of Applied Physics, 2019, 125, .	2.5	4
23	Electron extraction enhancement via the magnetic field in a miniature microwave discharge neutralizer. Journal of Applied Physics, 2019, 126, 243302.	2.5	9
24	Effects of neutral distribution and external magnetic field on plasma momentum in electrodeless plasma thrusters. Physics of Plasmas, 2018, 25, 023507.	1.9	19
25	Numerical simulation of full-aperture-pair ion optics in a miniature ion thruster. Physics of Plasmas, 2018, 25, .	1.9	18
26	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.	0.2	7
27	Investigation of Ion Species in Water Plasma Discharges for Miniature Microwave Discharge Ion Thrusters. , 2018, , .		1
28	Fabrication of Electrospray Thrusters with a High-Density Emitter Array Utilizing Minimal-Fab System. , 2018, , .		1
29	Graphene-oxide-semiconductor planar-type electron emission device and its applications. , 2018, , .		0
30	Improvement of Electron Emission Efficiency of Graphene-Oxide-Semiconductor Planar-Type Electron Sources for Nanosatellite Neutralizers. , 2018, , .		0
31	Development of a momentum vector measurement instrument in steady-state plasmas. AIP Advances, 2018, 8, 105117.	1.3	8
32	Origin of plasma-induced surface roughening and ripple formation during plasma etching: The crucial role of ion reflection. Journal of Applied Physics, 2018, 124, .	2.5	6
33	Ripple formation on Si surfaces during plasma etching in Cl2. AIP Advances, 2018, 8, .	1.3	4
34	A Preliminary Study on Radiation Shielding Using Martian Magnetic Anomalies. Uchu Seibutsu Kagaku, 2018, 32, 1-5.	0.3	4
35	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.	0.7	20
36	Thrust imparted by a stepped-diameter magnetic nozzle rf plasma thruster. Applied Physics Letters, 2018, 113, .	3.3	14

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37	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.	0.2	0
38	Effects of <i>E</i>â€‰Ã—â€‰<i>B</i> drift on electron transport across the magnetic field in a miniature microwave discharge neutralizer. Physics of Plasmas, 2017, 24, .	1.9	16
39	Surface morphology evolution during plasma etching of silicon: roughening, smoothing and ripple formation. Journal Physics D: Applied Physics, 2017, 50, 414001.	2.8	17
40	Microfabricated emitter array for an ionic liquid electrospray thruster. Japanese Journal of Applied Physics, 2017, 56, 06GN18.	1.5	22
41	Numerical Investigation of Ion Beam Extraction Mechanism for Electrospray Thruster. The Proceedings of Conference of Kanto Branch, 2017, 2017.23, 816.	0.0	0
42	Electron extraction mechanisms of a micro-ECR neutralizer. Japanese Journal of Applied Physics, 2016, 55, 07LD09.	1.5	12
43	Surface smoothing during plasma etching of Si in Cl2. Applied Physics Letters, 2016, 109, .	3.3	7
44	Modifications of plasma density profile and thrust by neutral injection in a helicon plasma thruster. Applied Physics Letters, 2016, 109, .	3.3	36
45	Neutral-depletion-induced axially asymmetric density in a helicon source and imparted thrust. Applied Physics Letters, 2016, 108, .	3.3	34
46	3D Particle Simulation for Electron Extraction Mechanisms of a Miniature Microwave Discharge Neutralizer. , 2016, , .		0
47	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.	0.2	7
48	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.	0.2	0
49	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.	0.2	2
50	Evaluation technique for plasma-induced SiOC dielectric damage by capacitanceâ€“voltage hysteresis monitoring. Japanese Journal of Applied Physics, 2016, 55, 06HB04.	1.5	12
51	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, .	2.5	18
52	Numerical validation of axial plasma momentum lost to a lateral wall induced by neutral depletion. Physics of Plasmas, 2015, 22, 113509.	1.9	28
53	Silicon nanowire growth on Si and SiO₂substrates by rf magnetron sputtering in Ar/H₂. Applied Physics Express, 2015, 8, 066201.	2.4	2
54	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.	0.2	5

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55	Micro-photoreflectance spectroscopy for microscale monitoring of plasma-induced physical damage on Si substrate. Japanese Journal of Applied Physics, 2014, 53, 03DF01.	1.5	1
56	Effects of straggling of incident ions on plasma-induced damage creation in â€œfinâ€•type field-effect transistors. Japanese Journal of Applied Physics, 2014, 53, 03DE02.	1.5	36
57	Two modes of surface roughening during plasma etching of silicon: Role of ionized etch products. Journal of Applied Physics, 2014, 116, .	2.5	15
58	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, .	1.2	21
59	A Validation Study of a 3D PIC Model for a Miniature Microwave Discharge Ion Thruster. , 2014, , .		3
60	Effects of plasma-induced charging damage on random telegraph noise in metalâ€"oxideâ€"semiconductor field-effect transistors with SiO2and high-kgate dielectrics. Japanese Journal of Applied Physics, 2014, 53, 03DF02.	1.5	4
61	Molecular dynamics simulations of silicon chloride ion incidence during Si etching in Cl-based plasmas. Japanese Journal of Applied Physics, 2014, 53, 056201.	1.5	20
62	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.	3.1	44
63	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.	1.5	6
64	A new aspect of plasma-induced physical damage in three-dimensional scaled structures — Sidewall damage by stochastic straggling and sputtering. , 2014, , .		8
65	Random telegraph noise as a new measure of plasma-induced charging damage in MOSFETs. , 2014, , .		1
66	Atomistic simulations of plasma process-induced Si substrate damage - Effects of substrate bias-power frequency. , 2013, , .		9
67	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.	0.0	0
68	Modeling and Simulation of Nanoscale Surface Rippling during Plasma Etching of Si under Oblique Ion Incidence. Japanese Journal of Applied Physics, 2012, 51, 08HC01.	1.5	15
69	Effect of capacitive coupling in a miniature inductively coupled plasma source. Journal of Applied Physics, 2012, 112, .	2.5	22
70	High-k MOSFET performance degradation by plasma process-induced charging damage — Impacts on device parameter variation. , 2012, , .		4
71	Miniature Ion Thruster Using a Cylindrical Micro ICP. , 2012, , .		0
72	Optimization problems for plasma-induced damage - A concept for plasma-induced damage design. , 2012, , .		1

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73	Modeling and Simulation of Nanoscale Surface Rippling during Plasma Etching of Si under Oblique Ion Incidence. Japanese Journal of Applied Physics, 2012, 51, 08HC01.	1.5	10
74	Particle Simulations of Sheath Dynamics in Low-Pressure Capacitively Coupled Argon Plasma Discharges. Japanese Journal of Applied Physics, 2011, 50, 08JC02.	1.5	5
75	Trade-Off Relationship between Si Recess and Defect Density Formed by Plasma-Induced Damage in Planar Metalâ€"Oxideâ€"Semiconductor Field-Effect Transistors and the Optimization Methodology. Japanese Journal of Applied Physics, 2011, 50, 08KD04.	1.5	4
76	Comparative Study of Plasma-Charging Damage in High-k Dielectric and pâ€"n Junction and Their Effects on Off-State Leakage Current of Metalâ€"Oxideâ€"Semiconductor Field-Effect Transistors. Japanese Journal of Applied Physics, 2011, 50, 08KD05.	1.5	6
77	Molecular Dynamics Analysis of the Formation of Surface Roughness during Si Etching in Chlorine-Based Plasmas. Japanese Journal of Applied Physics, 2011, 50, 08KB02.	1.5	3
78	Advanced Contactless Analysis of Plasma-Induced Damage on Si by Temperature-Controlled Photoreflectance Spectroscopy. Japanese Journal of Applied Physics, 2011, 50, 08KD03.	1.5	6
79	Analytic Model of Threshold Voltage Variation Induced by Plasma Charging Damage in High-k Metalâ€"Oxideâ€"Semiconductor Field-Effect Transistor. Japanese Journal of Applied Physics, 2011, 50, 10PG02.	1.5	7
80	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.	1.5	0
81	PIC-MCC Simulations of Capacitive RF Discharges for Plasma Etching. AIP Conference Proceedings, 2011, , .	0.4	3
82	Structural and electrical characterization of HBr/O2 plasma damage to Si substrate. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2011, 29, .	2.1	41
83	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, .	2.1	20
84	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.	1.5	3
85	A new prediction model for effects of plasma-induced damage on parameter variations in advanced LSIs. , 2011, , .		4
86	Microwave-excited microplasma thruster with helium and hydrogen propellants. Physics of Plasmas, 2011, 18, .	1.9	21
87	Particle Simulations of Sheath Dynamics in Low-Pressure Capacitively Coupled Argon Plasma Discharges. Japanese Journal of Applied Physics, 2011, 50, 08JC02.	1.5	11
88	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.	1.5	6
89	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.	1.5	4
90	Molecular Dynamics Analysis of the Formation of Surface Roughness during Si Etching in Chlorine-Based Plasmas. Japanese Journal of Applied Physics, 2011, 50, 08KB02.	1.5	3

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91	Trade-Off Relationship between Si Recess and Defect Density Formed by Plasma-Induced Damage in Planar Metalâ€“Oxideâ€“Semiconductor Field-Effect Transistors and the Optimization Methodology. Japanese Journal of Applied Physics, 2011, 50, 08KD04.	1.5	8
92	Analytic Model of Threshold Voltage Variation Induced by Plasma Charging Damage in High-kMetalâ€“Oxideâ€“Semiconductor Field-Effect Transistor. Japanese Journal of Applied Physics, 2011, 50, 10PG02.	1.5	6
93	Advanced Contactless Analysis of Plasma-Induced Damage on Si by Temperature-Controlled Photoreflectance Spectroscopy. Japanese Journal of Applied Physics, 2011, 50, 08KD03.	1.5	4
94	Atomic-scale cellular model and profile simulation of Si etching: Formation of surface roughness and residue. Thin Solid Films, 2010, 518, 3475-3480.	1.8	21
95	Modeling of ion-bombardment damage on Si surfaces for in-line analysis. Thin Solid Films, 2010, 518, 3481-3486.	1.8	49
96	Two-dimensional particle-in-cell Monte Carlo simulation of a miniature inductively coupled plasma source. Journal of Applied Physics, 2010, 108, .	2.5	34
97	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.	1.5	52
98	Threshold Voltage Instability Induced by Plasma Process Damage in Advanced Metalâ€“Oxideâ€“Semiconductor Field-Effect Transistors. Japanese Journal of Applied Physics, 2010, 49, 08JC02.	1.5	12
99	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.	1.5	19
100	Model for Bias Frequency Effects on Plasma-Damaged Layer Formation in Si Substrates. Japanese Journal of Applied Physics, 2010, 49, 056203.	1.5	44
101	Comprehensive Modeling of Threshold Voltage Variability Induced by Plasma Damage in Advanced Metalâ€“Oxideâ€“Semiconductor Field-Effect Transistors. Japanese Journal of Applied Physics, 2010, 49, 04DA18.	1.5	13
102	Numerical Analysis of a Micro Ion Thruster Using PIC/MCC Model. , 2010, , .		1
103	Modeling the effects of plasma-induced physical damage on subthreshold leakage current in scaled MOSFETs. , 2010, , .		2
104	Numerical and experimental study of microwave-excited microplasma and micronozzle flow for a microplasma thruster. Physics of Plasmas, 2009, 16, .	1.9	27
105	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.	3.9	40
106	Plasma chemical behaviour of reactants and reaction products during inductively coupled CF₄plasma etching of SiO₂. Plasma Sources Science and Technology, 2009, 18, 045027.	3.1	31
107	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.	0.2	0
108	Microplasma thruster for ultra-small satellites: Plasma chemical and aerodynamical aspects. Pure and Applied Chemistry, 2008, 80, 2013-2023.	1.9	28

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109	Microwave-excited microplasma thruster: a numerical and experimental study of the plasma generation and micronozzle flow. Journal Physics D: Applied Physics, 2008, 41, 194005.	2.8	15
110	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	36
111	Performance Testing of a Miniature Electrothermal Thruster Using Microwave-Excited Microplasmas. , 2006, , .		1
112	A miniature electrothermal thruster using microwave-excited plasmas: a numerical design consideration. Plasma Sources Science and Technology, 2006, 15, 211-227.	3.1	37
113	Microwave-sustained miniature plasmas for an ultra small thruster. Thin Solid Films, 2006, 506-507, 592-596.	1.8	8
114	Development of small microwave discharge ion thruster. Thin Solid Films, 2006, 506-507, 605-608.	1.8	7
115	Plasma Diagnostics and Thrust Performance Analysis of a Microwave-Excited Microplasma Thruster. Japanese Journal of Applied Physics, 2006, 45, 8235-8240.	1.5	22
116	Development of Microplasma Thruster. Journal of High Temperature Society, 2005, 31, 283-290.	0.1	0
117	Axial momentum gains of ions and electrons in magnetic nozzle acceleration. Plasma Sources Science and Technology, 0, , .	3.1	8