

# Koichi Takaki

## List of Publications by Year in descending order

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111  
papers

1,420  
citations

516710

16  
h-index

414414

32  
g-index

115  
all docs

115  
docs citations

115  
times ranked

1070  
citing authors

#	ARTICLE	IF	CITATIONS
1	Industrial Applications of Pulsed Power Technology. IEEE Transactions on Dielectrics and Electrical Insulation, 2007, 14, 1051-1064.	2.9	303
2	Influence of electrode configuration on ozone synthesis and microdischarge property in dielectric barrier discharge reactor. Vacuum, 2008, 83, 128-132.	3.5	89
3	Improvement of growth rate of plants by bubble discharge in water. Japanese Journal of Applied Physics, 2015, 54, 01AG07.	1.5	55
4	Fabrication of diamond-like carbon films using short-pulse HIPIMS. Surface and Coatings Technology, 2016, 286, 239-245.	4.8	53
5	High-voltage technologies for agriculture and food processing. Journal Physics D: Applied Physics, 2019, 52, 473001.	2.8	49
6	Purification of High-Conductivity Water Using Gas-Liquid Phase Discharge Reactor. IEEE Transactions on Plasma Science, 2010, 38, 2694-2700.	1.3	36
7	Effect of Electrical Stimulation on Fruit Body Formation in Cultivating Mushrooms. Microorganisms, 2014, 2, 58-72.	3.6	30
8	Decomposition of Ethylene Using Dual-Polarity Pulsed Dielectric Barrier Discharge. IEEE Transactions on Plasma Science, 2015, 43, 3476-3482.	1.3	29
9	Development of automatically controlled corona plasma system for inactivation of pathogen in hydroponic cultivation medium of tomato. Journal of Electrostatics, 2018, 91, 61-69.	1.9	29
10	Eugenol-chitosan nanoemulsion as an edible coating: Its impact on physicochemical, microbiological and sensorial properties of hairtail ( <i>Trichiurus haumela</i> ) during storage at 4°C. International Journal of Biological Macromolecules, 2021, 183, 2199-2204.	7.5	26
11	Inactivation of Bacteria using Discharge Plasma under Liquid Fertilizer in a Hydroponic Culture System. Plasma Medicine, 2016, 6, 247-254.	0.6	25
12	Impact of pre-treatment with pulsed electric field on drying rate and changes in spinach quality during hot air drying. Innovative Food Science and Emerging Technologies, 2021, 68, 102615.	5.6	25
13	A review on 3D printable food materials: types and development trends. International Journal of Food Science and Technology, 2022, 57, 164-172.	2.7	22
14	Streamer Propagation of Nanosecond Pulse Discharge With Various Rise Times. IEEE Transactions on Plasma Science, 2011, 39, 2232-2233.	1.3	20
15	Development of Pulsed Discharge Inside Bubble in Water. IEEE Transactions on Plasma Science, 2011, 39, 2654-2655.	1.3	19
16	Production of an Atmospheric-Pressure Glow Discharge Using an Inductive Energy Storage Pulsed Power Generator. Plasma Processes and Polymers, 2006, 3, 734-742.	3.0	17
17	Function of plasma and electrostatics for keeping quality of agricultural produce in post-harvest stage. Japanese Journal of Applied Physics, 2021, 60, 010501.	1.5	17
18	Water Remediation Using Pulsed Power Discharge under Water with an Advanced Oxidation Process. Journal of Advanced Oxidation Technologies, 2012, 15, .	0.5	16

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19	Influence of oxygen concentration on ethylene removal using dielectric barrier discharge. Japanese Journal of Applied Physics, 2018, 57, 01AG04.	1.5	16
20	Effect of water ice-glazing on the quality of frozen swimming crab ( <i>Portunus trituberculatus</i> ) by liquid nitrogen spray freezing during frozen storage. International Journal of Refrigeration, 2021, 131, 1010-1015.	3.4	16
21	Production of Atmospheric-Pressure Glow Discharge. Journal of Plasma and Fusion Research, 2003, 79, 1002-1008.	0.4	16
22	Removal of Ethylene and By-products Using Dielectric Barrier Discharge with Ag Nanoparticle-Loaded Zeolite for Keeping Freshness of Fruits and Vegetables. Transactions of the Materials Research Society of Japan, 2016, 41, 41-45.	0.2	15
23	External AC Electric Field-Induced Conformational Change in Bovine Serum Albumin. IEEE Transactions on Plasma Science, 2017, 45, 489-494.	1.3	15
24	Pulsed power applications for agriculture and food processing. Reviews of Modern Plasma Physics, 2021, 5, 1.	4.1	15
25	A capacitor discharge technique with optimized energy for joining ceramics. Vacuum, 2002, 65, 457-462.	3.5	14
26	Influence of circuit parameter on ozone synthesis using inductive energy storage system pulsed power generator. IEEE Transactions on Dielectrics and Electrical Insulation, 2011, 18, 1752-1758.	2.9	14
27	Mechanism of pulsed electric field enzyme activity change and pulsed discharge permeabilization of agricultural products. Japanese Journal of Applied Physics, 2021, 60, 060501.	1.5	14
28	Carbon Ion Production Using a High-Power Impulse Magnetron Sputtering Glow Plasma. IEEE Transactions on Plasma Science, 2013, 41, 3012-3020.	1.3	13
29	Physical and microbial collection efficiencies of an electrostatic precipitator for abating airborne particulates in postharvest agricultural processing. Journal of Electrostatics, 2013, 71, 734-738.	1.9	13
30	Determination of heat and ion fluxes in plasma immersion ion implantation by in situ measurement of temperature using laser interferometry. Surface and Coatings Technology, 2001, 136, 261-264.	4.8	12
31	Estimation of Hydroxyl Radicals Produced by Pulsed Discharge Inside Bubble in Water Using Indigo Carmine as Chemical Probe. IEEE Transactions on Plasma Science, 2018, 46, 663-669.	1.3	12
32	Outcomes of Pulsed Electric Fields and Nonthermal Plasma Treatments on Seed Germination and Protein Functions. Agronomy, 2022, 12, 482.	3.0	12
33	Influence of sodium carbonate on decomposition of formic acid by pulsed discharge plasma inside bubble in water. Japanese Journal of Applied Physics, 2016, 55, 07LF02.	1.5	11
34	Condition-dependent adenosine monophosphate decomposition pathways in striated adductor muscle from Japanese scallop ( <i>Patinopecten yessoensis</i> ). Journal of Food Science, 2020, 85, 1462-1469.	3.1	11
35	3D printing properties and printability definition of <i>Pennahia argentata</i> surimi and rice starch. Food Bioscience, 2022, 48, 101748.	4.4	11
36	Removal of NO and NO <sub>x</sub> using a multipoint-type dielectric barrier discharge at a narrow gap. Journal Physics D: Applied Physics, 2001, 34, 2032-2036.	2.8	10

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37	High deposition rate of amorphous carbon film using a magnetically driven shunting arc discharge. Surface and Coatings Technology, 2005, 196, 203-206.	4.8	10
38	Development of Compact High-Voltage Power Supply for Stimulation to Promote Fruiting Body Formation in Mushroom Cultivation. Materials, 2018, 11, 2471.	2.9	10
39	Influence of Electric Parameters on Hydroxyl Radical Production by Positive Pulsed Discharge Inside of a Bubble in Water. IEEE Transactions on Plasma Science, 2019, 47, 1105-1113.	1.3	10
40	Experimental Study on Heat Flux from an Argon RF Plasma Using Laser Interferometry Method. Japanese Journal of Applied Physics, 1998, 37, 3514-3520.	1.5	9
41	Production of Pulse Glow Discharge in Atmospheric Pressure Nitrogen Using Needle-Array Electrode. Japanese Journal of Applied Physics, 2006, 45, 8241-8245.	1.5	9
42	Optimization of Reactor Configuration for $\text{NO}_x$ Removal Using Magnetic Compression Pulsed-Power Generator. IEEE Transactions on Plasma Science, 2011, 39, 1713-1720.	1.3	9
43	Influence of Drying Rate on Hot Air Drying Processing of Fresh Foods Using Pulsed Electric Field. IEEJ Transactions on Electrical and Electronic Engineering, 2020, 15, 1123-1125.	1.4	9
44	Influence of Relative Humidity on Ethylene Removal Using Dielectric Barrier Discharge. IEEE Transactions on Plasma Science, 2021, 49, 61-68.	1.3	9
45	Preservation of Fresh Food Using AC Electric Field. Journal of Advanced Oxidation Technologies, 2014, 17, .	0.5	9
46	Agricultural and Food Processing Applications of Pulsed Power Technology. IEEJ Transactions on Fundamentals and Materials, 2009, 129, 439-445.	0.2	9
47	Influence of Pulse Width on Polyphenol Extraction from Agricultural Products by Pulsed Electric Field. IEEJ Transactions on Fundamentals and Materials, 2013, 133, 32-37.	0.2	9
48	The Resistance of a High-Current Pulsed Discharge in Nitrogen. Japanese Journal of Applied Physics, 2001, 40, 979-983.	1.5	8
49	Improvement of deoxidization efficiency of nitric monoxide by shortening pulse width of semiconductor opening switch pulse power generator. Japanese Journal of Applied Physics, 2015, 54, 01AG02.	1.5	8
50	Nutrition and protein function, properties (structure, rheology, thermal stability) analysis of Nepture volute based on proteomics and in vitro digestion/cells model. Food Bioscience, 2021, 43, 101321.	4.4	8
51	Treatment of Exhaust Gas from a Diesel Engine Generator by Dielectric Barrier Discharge. IEEJ Transactions on Fundamentals and Materials, 2000, 120, 553-559.	0.2	8
52	Development of a Megahertz High-Voltage Switching Pulse Modulator Using a SiC-JFET for an Induction Synchrotron. IEEE Transactions on Plasma Science, 2011, 39, 730-736.	1.3	7
53	Novel Package of SiC-JFET for a Switching Pulse Supply Operating at 1 MHz for an Induction Synchrotron. IEEE Transactions on Plasma Science, 2012, 40, 2205-2210.	1.3	7
54	Improvement of Growth Rate of <i>Brassica para var. perviridis</i> by Discharge inside Bubble under Water in Hydroponic Cultivation. Electronics and Communications in Japan, 2016, 99, 72-79.	0.5	7

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55	Pulsed Power Applications for Protein Conformational Change and the Permeabilization of Agricultural Products. <i>Molecules</i> , 2021, 26, 6288.	3.8	7
56	Self-Organization of Microgap Dielectric-Barrier Discharge in Gas Flow. <i>IEEE Transactions on Plasma Science</i> , 2008, 36, 1260-1261.	1.3	6
57	Removal of Ethylene and By-Products Using Packed Bed Dielectric Barrier Discharge with Ag Nanoparticle-Loaded Zeolite. <i>Electronics and Communications in Japan</i> , 2017, 100, 3-11.	0.5	6
58	Influence of pulsed electric field on enzymes, bacteria and volatile flavor compounds of unpasteurized sake. <i>Plasma Science and Technology</i> , 2018, 20, 044008.	1.5	6
59	Silicon wafer etching by pulsed high-power inductively coupled Ar/CF <sub>4</sub> plasma with 150 kHz band frequency. <i>Japanese Journal of Applied Physics</i> , 2020, 59, SHHE04.	1.5	6
60	Agricultural and Food Processing Applications of Pulsed Power and Plasma Technologies. <i>IEEJ Transactions on Fundamentals and Materials</i> , 2010, 130, 963-971.	0.2	6
61	The impact of thawing on the quality attributes of swimming crab ( <i>Portunus trituberculatus</i> ) frozen by liquid nitrogen freezing. <i>CYTA - Journal of Food</i> , 2021, 19, 33-39.	1.9	6
62	The Effect of Electron Density and Electron Temperature on the Partial Oxidation of Benzene Using a Micro-Plasma Reactor. <i>Journal of Chemical Engineering of Japan</i> , 2007, 40, 749-754.	0.6	5
63	Shunting arc-produced hybrid plasma and its magnetic drive for PBI&D. <i>Surface and Coatings Technology</i> , 2007, 201, 6490-6494.	4.8	5
64	Self-Organization Pattern of Microgap Atmospheric Barrier Discharge. <i>IEEE Transactions on Plasma Science</i> , 2011, 39, 2202-2203.	1.3	5
65	A New Approach to High-Power Pulsed Glow Plasma Generation: Shunting Glow Plasma. <i>IEEE Transactions on Plasma Science</i> , 2012, 40, 1801-1808.	1.3	5
66	Simultaneous Decomposition of Phenol and Sodium Formate by Discharge Inside Bubble in Water. <i>Transactions of the Materials Research Society of Japan</i> , 2016, 41, 183-187.	0.2	5
67	High-Voltage Methods for Mushroom Fruit-Body Developments. , 0, , .		5
68	Influence of a plasma-treated nutrient solution containing 2,4-dichlorobenzoic acid on the growth of cucumber in a hydroponic system. <i>Journal of Applied Physics</i> , 2021, 129, 143301.	2.5	5
69	Development of compact inductive energy storage pulsed-power generator driven by 13 kV SiC-MOSFET. <i>Review of Scientific Instruments</i> , 2021, 92, 064706.	1.3	5
70	Improvement of Growth Rate of <i>Brassica rapa</i> var. <i>perviridis</i> by Discharge Inside Bubble in Water. <i>IEEJ Transactions on Fundamentals and Materials</i> , 2013, 133, 211-216.	0.2	5
71	Differentiation between fresh and frozen-thawed scallop adductor muscle as raw materials for sashimi during cold storage. <i>Journal of Food Science</i> , 2021, 86, 5262-5271.	3.1	5
72	Deposition of Tungsten Carbide Thin Films by Simultaneous RF Sputtering. <i>Japanese Journal of Applied Physics</i> , 2006, 45, 8449-8452.	1.5	4

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73	Industrial Applications of Pulsed Power Technology. IEEJ Transactions on Fundamentals and Materials, 2009, 129, 62-65.	0.2	4
74	Spatial Distribution of a High-Power Impulse Magnetron Sputtering Glow Plasma by a Controlled Unbalanced Magnetic Field. IEEE Transactions on Plasma Science, 2014, 42, 2786-2787.	1.3	4
75	Long period preservation of marine products using electrostatic field. Japanese Journal of Applied Physics, 2016, 55, 07LG07.	1.5	4
76	Observation of the development of pulsed discharge inside a bubble under water using ICCD cameras. Vacuum, 2020, 182, 109690.	3.5	4
77	Development of a Corona Discharge Ionizer Utilizing High-Voltage AC Power Supply Driven by PWM Inverter for Highly Efficient Electrostatic Elimination. , 0, , .		4
78	Stimulatory growth effect of lightning strikes applied in the vicinity of shiitake mushroom bed logs. Journal Physics D: Applied Physics, 2020, 53, 204002.	2.8	4
79	Comparison of plasma characteristics of high-power pulsed sputtering glow discharge and hollow-cathode discharge. Japanese Journal of Applied Physics, 2021, 60, 015501.	1.5	4
80	Hybrid Plasma Generation Triggered by a Shunting Arc Discharge Using a Positively Biased Electrode. IEEE Transactions on Plasma Science, 2007, 35, 1020-1026.	1.3	3
81	2-D Measurement of Charged Particles Diffusing From a Double DC Corona Discharge Ionizer. IEEE Transactions on Plasma Science, 2013, 41, 1863-1868.	1.3	3
82	Decomposition process of volatile organic compounds dissolved into water by pulsed discharge inside bubble. Japanese Journal of Applied Physics, 2020, 59, SHHA06.	1.5	3
83	Silicon Wafer Etching Rate Characteristics with Burst Width Using 150 kHz Band High-Power Burst Inductively Coupled Plasma. Micromachines, 2021, 12, 599.	2.9	3
84	Influence of Pulse Width on Radical Production in ns-pulsed Discharge Reactor. IEEJ Transactions on Fundamentals and Materials, 2018, 138, 84-90.	0.2	3
85	Induction of Long Gap Discharge by Water Jet. IEEE Transactions on Plasma Science, 2008, 36, 1148-1149.	1.3	2
86	Development of Self-Organized Filaments in a Microgap Atmospheric Barrier Discharge on Bismuth Silicon Oxide Dielectrics. IEEE Transactions on Plasma Science, 2011, 39, 2140-2141.	1.3	2
87	Temporal and spatial distributions of carbon shunting arc plasma. Japanese Journal of Applied Physics, 2015, 54, 01AA04.	1.5	2
88	Global model analysis of Ar inductively coupled plasma driven by a 150 kHz-band high-power pulse burst. Japanese Journal of Applied Physics, 2019, 58, SAAB06.	1.5	2
89	Influence of Waveform of Applied Voltage on H <sub>2</sub> Production From Methane Reforming Using Dielectric Barrier Discharge. IEEE Transactions on Plasma Science, 2021, 49, 147-153.	1.3	2
90	Characteristics of Self-Organized Structure in Microgap Dielectric Barrier Discharge at Atmospheric Pressure. IEEE Transactions on Plasma Science, 2021, 49, 91-97.	1.3	2

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91	Improvement of Growth Rate of <i>Brassica rapa</i> var. <i>perviridis</i> by Discharge Inside Bubble Under Water in Hydroponic Cultivation. IEEJ Transactions on Fundamentals and Materials, 2015, 135, 467-472.	0.2	2
92	Effect of Micro Hydrodynamic Flow in Microgap Discharge at Atmospheric Pressure. Plasma and Fusion Research, 2008, 3, 007-007.	0.7	2
93	Design of High-School Mathematics Class Utilizing Electrical Energy as Teaching Materials. IEEJ Transactions on Fundamentals and Materials, 2015, 135, 630-635.	0.2	2
94	Mutation of <i>Bacillus velezensis</i> Using Corona Discharge. Agronomy, 2022, 12, 166.	3.0	2
95	A Novel Wastewater Treatment Method Using Electrical Pulsed Discharge Plasma over a Water Surface. , 0, , .		2
96	Removal of Ethylene and By-Products using Packed Bed Dielectric Barrier Discharge with Ag Nanoparticle-Loaded Zeolite. IEEJ Transactions on Fundamentals and Materials, 2015, 135, 320-327.	0.2	1
97	Influence of Pulse Width on Decolorization Efficiency of Organic Dye by Discharge Inside Argon Bubble in Water. IEEJ Transactions on Fundamentals and Materials, 2015, 135, 437-438.	0.2	1
98	Growth Properties and Sensitivities to Various Bactericidal Methods of Cold-Tolerant Microorganisms Isolated from Packed Tofu. Agronomy, 2022, 12, 233.	3.0	1
99	Production of Atmospheric-Pressure Glow Using Inductive Energy Storage System Pulsed Power Generator. International Power Modulator Symposium and High-Voltage Workshop, 2006, , .	0.0	0
100	Ion Extraction from Magnetically Driven Shunting Arc Plasma and Density Estimation at Sheath Boundary. IEEJ Transactions on Fundamentals and Materials, 2006, 126, 661-668.	0.2	0
101	Optical Observation of Emission Spectra from a Hybrid Plasma Triggered by a Shunting Arc Discharge using a Positively Biased Electrode. Plasma Processes and Polymers, 2007, 4, S124-S128.	3.0	0
102	Discharge Formation of DBD With Floating Electrode Array at Atmospheric Pressure in Mixed Gas of Helium and Nitrogen. IEEE Transactions on Plasma Science, 2011, 39, 2148-2149.	1.3	0
103	Introduction to the Special Issue on The 9th Asia-Pacific International Symposium on the Basics and Applications of Plasma Technology (APSPT-9), and The 28th Symposium on Plasma Science for Materials (SPSM-28). IEEE Transactions on Plasma Science, 2016, 44, 3050-3051.	1.3	0
104	A Recipe of Science Education; Scientific Demonstrations of Lightning. Journal of Plasma and Fusion Research, 2004, 80, 669-677.	0.4	0
105	Design of Electrical Mathematics for Improvement of Skill in Electric Circuits and Electromagnetic. IEEJ Transactions on Fundamentals and Materials, 2006, 126, 597-602.	0.2	0
106	Effects of Electrical Stimulation by High Voltage Pulse Generator on Yield of <i>Pleurotus</i> <i>jp</i> Takizawa in Sawdust-Bed Cultivation. IEEJ Transactions on Fundamentals and Materials, 2015, 135, 353-354.	0.2	0
107	Applications of Electrostatics for Preservation and Distribution of Agricultural Products; Inactivation of Bacteria and Decomposition of Ethylene. Journal of the Institute of Electrical Engineers of Japan, 2016, 136, 810-815.	0.0	0
108	High-voltage and Plasma Applications for Agriculture, Fishery and Food Processing. Journal of Smart Processing, 2019, 9, 108-115.	0.1	0

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109	High-voltage and Plasma Applications for Agriculture, Fishery and Food Processing. Vacuum and Surface Science, 2019, 62, 363-368.	0.1	0
110	Electrical Characteristics of 3.3 kV SiC-MOSFET and Development of Inductive Energy Storage Pulsed Power Generator. IEEJ Transactions on Fundamentals and Materials, 2019, 139, 413-420.	0.2	0
111	High-Voltage and Pulsed Power Technologies. , 2022, , 25-48.		0