Tomohiro Nozaki

List of Publications by Year
in descending order

108 papers	3,758 citations	117625 34 h-index	133252 59 g-index
109 all docs	109 docs citations	109 times ranked	2531 citing authors

#	Article	IF	Citations
1	The 2020 plasma catalysis roadmap. Journal Physics D: Applied Physics, 2020, 53, 443001.	2.8	362
2	Non-thermal plasma catalysis of methane: Principles, energy efficiency, and applications. Catalysis Today, 2013, 211, 29-38.	4.4	227
3	Dissociation of vibrationally excited methane on Ni catalyst. Catalysis Today, 2004, 89, 57-65.	4.4	142
4	Comparative Study on the Localized Surface Plasmon Resonance of Boron- and Phosphorus-Doped Silicon Nanocrystals. ACS Nano, 2015, 9, 378-386.	14.6	133
5	Partial oxidation of methane using a microscale non-equilibrium plasma reactor. Catalysis Today, 2004, 98, 607-616.	4.4	119
6	Reaction mechanism of methane activation using non-equilibrium pulsed discharge at room temperature. Fuel, 2003, 82, 2291-2297.	6.4	109
7	Diagnosis of atmospheric pressure low temperature plasma and application to high efficient methane conversion. Catalysis Today, 2004, 89, 47-55.	4.4	107
8	Microplasma synthesis of tunable photoluminescent silicon nanocrystals. Nanotechnology, 2007, 18, 235603.	2.6	94
9	Pulsed dry methane reforming in plasma-enhanced catalytic reaction. Catalysis Today, 2015, 256, 67-75.	4.4	87
10	Energy distribution and heat transfer mechanisms in atmospheric pressure non-equilibrium plasmas. Journal Physics D: Applied Physics, 2001, 34, 3383-3390.	2.8	85
11	Synthesis and oxidation of luminescent silicon nanocrystals from silicon tetrachloride by very high frequency nonthermal plasma. Nanotechnology, 2011, 22, 305605.	2.6	80
12	Controlled Doping of Silicon Nanocrystals Investigated by Solution-Processed Field Effect Transistors. ACS Nano, 2014, 8, 5650-5656.	14.6	78
13	A single step methane conversion into synthetic fuels using microplasma reactor. Chemical Engineering Journal, 2011, 166, 288-293.	12.7	77
14	Methane oxidative conversion pathways in a dielectric barrier discharge reactorâ€"Investigation of gas phase mechanism. Chemical Engineering Journal, 2007, 132, 85-95.	12.7	75
15	Plasma-catalyst hybrid reactor with CeO 2 /Î³-Al 2 O 3 for benzene decomposition with synergetic effect and nano particle by-product reduction. Journal of Hazardous Materials, 2018, 347, 150-159.	12.4	73
16	Ligand-Free, Colloidal, and Plasmonic Silicon Nanocrystals Heavily Doped with Boron. ACS Photonics, 2016, 3, 415-422.	6.6	72
17	Dissociation of vibrationally excited methane on Ni catalyst. Catalysis Today, 2004, 89, 67-74.	4.4	71
18	Fabrication of vertically aligned single-walled carbon nanotubes in atmospheric pressure non-thermal plasma CVD. Carbon, 2007, 45, 364-374.	10.3	71

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19	Boron- and Phosphorus-Hyperdoped Silicon Nanocrystals. Particle and Particle Systems Characterization, 2015, 32, 213-221.	2.3	68
20	Carbon nanotubes deposition in glow barrier discharge enhanced catalytic CVD. Journal Physics D: Applied Physics, 2002, 35, 2779-2784.	2.8	67
21	Kinetic Analysis of the Catalyst and Nonthermal Plasma Hybrid Reaction for Methane Steam Reforming. Energy & Fuels, 2007, 21, 2525-2530.	5.1	65
22	Sizeâ€Dependent Structures and Optical Absorption of Boronâ€Hyperdoped Silicon Nanocrystals. Advanced Optical Materials, 2016, 4, 700-707.	7.3	63
23	Ultrashort pulsed barrier discharges and applications. Pure and Applied Chemistry, 2002, 74, 447-452.	1.9	62
24	Crystallineâ€"Amorphous Silicon Nanocomposites with Reduced Thermal Conductivity for Bulk Thermoelectrics. ACS Applied Materials & Interfaces, 2015, 7, 13484-13489.	8.0	62
25	Thermal structure of atmospheric pressure non-equilibrium plasmas. Plasma Sources Science and Technology, 2002, 11, 431-438.	3.1	59
26	Carbon Nanotube Synthesis in Atmospheric Pressure Glow Discharge: A Review. Plasma Processes and Polymers, 2008, 5, 300-321.	3.0	59
27	Optical diagnostics for determining gas temperature of reactive microdischarges in a methane-fed dielectric barrier discharge. Journal Physics D: Applied Physics, 2001, 34, 2504-2511.	2.8	56
28	Direct conversion from methane to methanol for high efficiency energy system with exergy regeneration. Energy Conversion and Management, 2002, 43, 1459-1468.	9.2	52
29	Plasma-enabled mode-selective activation of CH4 for dry reforming: First touch on the kinetic analysis. Chemical Engineering Journal, 2020, 399, 125751.	12.7	52
30	Silicon nanocrystal conjugated polymer hybrid solar cells with improved performance. Nano Energy, 2014, 9, 25-31.	16.0	50
31	Gas-to-liquids process using multi-phase flow, non-thermal plasma microreactor. Chemical Engineering Journal, 2011, 167, 560-566.	12.7	49
32	Hydrogen Enrichment of Low-Calorific Fuels Using Barrier Discharge Enhanced Ni/Î³-Al2O3Bed Reactor:â€‰ Thermal and Nonthermal Effect of Nonequilibrium Plasma. Energy & Fuels, 2006, 20, 339-345.	5.1	45
33	Oxygen passivation of silicon nanocrystals: Influences on trap states, electron mobility, and hybrid solar cell performance. Nano Energy, 2014, 10, 322-328.	16.0	42
34	Plasma-assisted partial oxidation of methane at low temperatures: numerical analysis of gas-phase chemical mechanism. Journal Physics D: Applied Physics, 2011, 44, 274011.	2.8	40
35	CO(B 1Î£+â†'A 1Î) Angstrom System for Gas Temperature Measurements in CO2 Containing Plasmas. Plasma Chemistry and Plasma Processing, 2017, 37, 29-41.	2.4	36
36	Interfacial reactions between DBD and porous catalyst in dry methane reforming. Journal Physics D: Applied Physics, 2018, 51, 114006.	2.8	36

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37	Plasma-chemical promotion of catalysis for CH₄dry reforming: unveiling plasma-enabled reaction mechanisms. Physical Chemistry Chemical Physics, 2020, 22, 19349-19358.	2.8	33
38	Reaction Enhancement Mechanism of the Nonthermal Discharge and Catalyst Hybrid Reaction for Methane Reforming. Energy & Fuels, 2008, 22, 3600-3604.	5.1	32
39	Optical Extinction Spectra of Silicon Nanocrystals: Size Dependence upon the Lowest Direct Transition. Langmuir, 2013, 29, 1802-1807.	3.5	32
40	Freestanding doped silicon nanocrystals synthesized by plasma. Journal Physics D: Applied Physics, 2015, 48, 314006.	2.8	30
41	In Situ Fourier Transform Infrared (FTIR) Study of Nonthermal-Plasma-Assisted Methane Oxidative Conversion. Industrial & Engineering Chemistry Research, 2007, 46, 3486-3496.	3.7	28
42	A parametric study of non-thermal plasma synthesis of silicon nanoparticles from a chlorinated precursor. Journal Physics D: Applied Physics, 2014, 47, 485202.	2.8	26
43	Parametric analysis of plasmaâ€assisted pulsed dry methane reforming over Ni/Al₂O₃ catalyst. Plasma Processes and Polymers, 2017, 14, 1600096.	3.0	26
44	Selective conversion of methane to synthetic fuels using dielectric barrier discharge contacting liquid film. Journal Physics D: Applied Physics, 2011, 44, 274010.	2.8	25
45	Innovative Methane Conversion Technology Using Atmospheric Pressure Non-thermal Plasma. Journal of the Japan Petroleum Institute, 2011, 54, 146-158.	0.6	24
46	Progress and perspectives in dry processes for nanoscale feature fabrication: fine pattern transfer and high-aspect-ratio feature formation. Japanese Journal of Applied Physics, 2019, 58, SE0802.	1.5	24
47	Materials processing at atmospheric pressure: Nonequilibrium effects on nanotechnology and mega-industries. Pure and Applied Chemistry, 2006, 78, 1157-1172.	1.9	23
48	Doped silicon nanocrystals from organic dopant precursor by a SiCl4-based high frequency nonthermal plasma. Applied Physics Letters, 2014, 105, .	3.3	22
49	Si/SiO2 Core/Shell Luminescent Silicon Nanocrystals and Porous Silicon Powders With High Quantum Yield, Long Lifetime, and Good Stability. Frontiers in Physics, 2019, 7, .	2.1	22
50	Highly efficient decomposition of toluene using a high-temperature plasma-catalysis reactor. Chemosphere, 2020, 247, 125863.	8.2	22
51	A pressure-dependent selective growth of single-walled and multi-walled carbon nanotubes using plasma enhanced chemical vapor deposition. Carbon, 2010, 48, 232-238.	10.3	20
52	Comprehensive process and environmental impact analysis of integrated DBD plasma steam methane reforming. Fuel, 2021, 304, 121328.	6.4	20
53	Plasma chemical reactions at atmospheric pressure for high efficiency use of hydrocarbon fuels. Energy, 1997, 22, 369-374.	8.8	19
54	Oxidation behavior of Ni/Al₂O₃ catalyst in nonthermal plasma-enabled catalysis. Journal Physics D: Applied Physics, 2018, 51, 445205.	2.8	19

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55	Deposition of vertically oriented carbon nanofibers in atmospheric pressure radio frequency discharge. Journal of Applied Physics, 2006, 99, 024310.	2.5	18
56	CH4 dry reforming in fluidized-bed plasma reactor enabling enhanced plasma-catalyst coupling. Journal of CO2 Utilization, 2021, 54, 101771.	6.8	17
57	A Novel Four-Way Plasma-Catalytic Approach for The After-Treatment of Diesel Engine Exhausts. Industrial & Engineering Chemistry Research, 2018, 57, 1159-1168.	3.7	16
58	Factors determining synergism in plasma catalysis of biogas at reduced pressure. Journal Physics D: Applied Physics, 2019, 52, 414002.	2.8	16
59	Thermal conductivity of silicon nanocrystals and polystyrene nanocomposite thin films. Journal Physics D: Applied Physics, 2016, 49, 365303.	2.8	14
60	Mechanism on the plasma-catalytic oxidation of graphitic carbon over Au/Î³-Al2O3 by in situ plasma DRIFTS-mass spectrometer. Journal of Hazardous Materials, 2020, 396, 122730.	12.4	14
61	Functional nitrogen science based on plasma processing: quantum devices, photocatalysts and activation of plant defense and immune systems. Japanese Journal of Applied Physics, 2022, 61, SA0805.	1.5	13
62	Silicon Nanocrystal Synthesis in Microplasma Reactor. Journal of Thermal Science and Technology, 2007, 2, 192-199.	1.1	11
63	Hybrid Silicon Nanocrystal/Poly(3-hexylthiophene-2,5-diyl) Solar Cells from a Chlorinated Silicon Precursor. Japanese Journal of Applied Physics, 2013, 52, 11NM04.	1.5	11
64	Analysis of temporal evolution of quantum dot surface chemistry by surface-enhanced Raman scattering. Scientific Reports, 2016, 6, 29508.	3.3	11
65	Silicon nanocrystal hybrid photovoltaic devices for indoor light energy harvesting. RSC Advances, 2020, 10, 12611-12618.	3.6	11
66	Micro-plasma technology â€" direct methaneto-m ethanol in extremely confined environment-. Studies in Surface Science and Catalysis, 2004, , 505-510.	1.5	10
67	Atmospheric-pressure plasma synthesis of carbon nanotubes. Journal Physics D: Applied Physics, 2011, 44, 174007.	2.8	10
68	Optical, electrical, and photovoltaic properties of silicon nanoparticles with different crystallinities. Applied Physics Letters, 2015, 107, .	3.3	10
69	Comparative study of thermal conductivity in crystalline and amorphous nanocomposite. Applied Physics Letters, 2017, 110, .	3.3	10
70	One step methane conversion to syngas by dielectric barrier discharge. Japanese Journal of Applied Physics, 2015, 54, 01AG01.	1.5	9
71	Double-parallel-junction hybrid solar cells based on silicon nanocrystals. Organic Electronics, 2016, 30, 99-104.	2.6	9
72	Plasma-Enabled Dry Methane Reforming. , 0, , .		9

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73	Progress and perspectives in dry processes for leading-edge manufacturing of devices: toward intelligent processes and virtual product development. Japanese Journal of Applied Physics, 2019, 58, SE0804.	1.5	7
74	Mechanism of CO2-formation promotion by Au in plasma-catalytic oxidation of CH4 over Au/Î³-Al2O3 at room temperature. Journal of Hazardous Materials, 2019, 373, 698-704.	12.4	7
75	Plasma enhanced C1-chemistry: towards greener methane conversion. Green Processing and Synthesis, 2012, 1, .	3.4	6
76	Plasmaâ€Induced Damage and Surface Functionalization of Doubleâ€Walled Carbon Nanotubes Using Atmospheric Pressure RF Discharge. Plasma Processes and Polymers, 2012, 9, 1154-1159.	3.0	5
77	Boron nanocrystals as high-energy-density fuels. Journal Physics D: Applied Physics, 2018, 51, 025305.	2.8	5
78	Promotion of graphitic carbon oxidation via stimulating CO2 desorption by calcium carbonate. Journal of Hazardous Materials, 2019, 363, 10-15.	12.4	5
79	Progress and perspectives in dry processes for emerging multidisciplinary applications: how can we improve our use of dry processes?. Japanese Journal of Applied Physics, 2019, 58, SE0803.	1.5	4
80	Parametric Study for Selective Growth of Single-Walled Carbon Nanotubes in Plasma Enhanced Chemical Vapor Deposition. Japanese Journal of Applied Physics, 2011, 50, 01AF03.	1.5	3
81	Silicon nanocrystals synthesized using very high frequency non-thermal plasma and their application in photovoltaics. Journal Physics D: Applied Physics, 2015, 48, 314011.	2.8	3
82	Controlled Growth of Carbon Nanotubes Using Pulsed Glow-Barrier Discharge. , 2005, , 477-487.		2
83	Plasma Synthesis of Silicon Nanoparticles: Optimization of Yield, Size Distribution, and Crystallinity. 880-02 Nihon Kikai Gakkai RonbunshÅ« Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2013, 79, 1616-1623.	0.2	2
84	Plasma Synthesis of Silicon Nanocrystals: Application to Organic/Inorganic Photovoltaics through Solution Processing. Materials Science Forum, 0, 783-786, 2002-2004.	0.3	2
85	Silicon Nanocrystals: Sizeâ€Dependent Structures and Optical Absorption of Boronâ€Hyperdoped Silicon Nanocrystals (Advanced Optical Materials 5/2016). Advanced Optical Materials, 2016, 4, 646-646.	7.3	2
86	Synthesis of Nanostructured Silicon Nanoparticles for Anodes of Li-Ion Battery. , 2019, , .		2
87	Interfacial region effect on thermal conductivity of silicon nanocrystal and polystyrene nanocomposites. Plasma Processes and Polymers, 2020, 17, 1900212.	3.0	2
88	Materials Processing in Atmospheric Pressure Glow Plasma CVD. Journal of the Institute of Electrical Engineers of Japan, 2006, 126, 788-791.	0.0	2
89	Plasma-Catalytic Conversion of Methane. Springer Series on Atomic, Optical, and Plasma Physics, 2019, , 231-269.	0.2	2
90	Gas breakdown mechanism in pulse-modulated asymmetric ratio frequency dielectric barrier discharges. Physics of Plasmas, 2014, 21, 083503.	1.9	1

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91	Silicon Nanocrystal-Based Organic/Inorganic Hybrid Solar Cells. , 2018, , 177-203.		1
92	Nonthermal plasma synthesis of silicon nanoparticles and their thermal transport properties. Journal Physics D: Applied Physics, 2018, 51, 505301.	2.8	1
93	Numerical Investigation on Atmospheric-Pressure Dielectric Barrier Discharges Driven by Combined rf and Short-Pulse Sources in Co-Axial Electrodes. , 2014, , .		1
94	Nonthermal Plasma Conversion of Natural Gas to Oxygenates. , 2020, , 53-70.		1
95	Application of Atmospheric-Pressure Glow Plasma: Advanced Carbon-Based Materials Processing in Atmospheric-Pressure Glow Discharge. Journal of Plasma and Fusion Research, 2003, 79, 1016-1021.	0.4	0
96	High-Yield Synthesis of Vertically Aligned Single-Walled Carbon Nanotubes in Ion-Damage and Radical-Damage Free Atmospheric Pressure PECVD. Materials Research Society Symposia Proceedings, 2007, 1057, 1.	0.1	0
97	å§æ°—åœ§ãƒ—ãƒ©ã‚ºãƒžCVDã«ã‚ˆã‚‹å¤šå±¤ã‚«ãƒ¼ãƒœãƒ³ãƒŠãƒŽãƒãƒ¥ãƒ¼ãƒ–åˆæˆ. Hyomen Gijutsu/Journal of the Surface Finishing …	0.2	0
98	A Pressure-Dependent Transition of Carbon Nanotube Growth Mode in Plasma Enhanced Chemical Vapor Deposition(Thermal Engineering). 880-02 Nihon Kikai Gakkai RonbunshÅ« Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2009, 75, 1662-1668.	0.2	0
99	Phonon transport properties in silicon nanoparticles and polymer nanocomposite thin films. AIP Conference Proceedings, 2018, , .	0.4	0
100	Blue luminescent silicon nanocrystals fabricated by microplasma jet. Transactions of the Materials Research Society of Japan, 2007, 32, 459-463.	0.2	0
101	Kinetic Study of Low-temperature Methane Steam Reforming in Plasma/Catalyst Hybrid Reaction. Kagaku Kogaku Ronbunshu, 2007, 33, 439-445.	0.3	0
102	Microplasma Synthesis of Silicon Nanoparticles. Journal of High Temperature Society, 2010, 36, 168-173.	0.1	0
103	J054054 In-flight plasma synthesis of silicon quantum dots. The Proceedings of Mechanical Engineering Congress Japan, 2011, 2011, _J054054-1-_J054054-4.	0.0	0
104	Parametric Study for Selective Growth of Single-Walled Carbon Nanotubes in Plasma Enhanced Chemical Vapor Deposition. Japanese Journal of Applied Physics, 2011, 50, 01AF03.	1.5	0
105	Silicon nanocrystals doped with boron and phosphorous. Series in Materials Science and Engineering, 2017, , 341-366.	0.1	0
106	Basic Characteristics of Hydrogen Combustion Turbine Power Generation System. The Proceedings of the National Symposium on Power and Energy Systems, 2019, 2019.24, D125.	0.0	0
107	Methane Reforming Utilizing Vibrational Excitation. Vacuum and Surface Science, 2020, 63, 641-648.	0.1	0
108	Impact of non-condensable gas on oxygen-hydrogen combustion power generation system. The Proceedings of the International Conference on Power Engineering (ICOPE), 2021, 2021.15, 2021-0231.	0.0	0