Toshio Itoh

List of Publications by Year
in descending order

118	2,100	236925	302126
papers	citations	25 h-index	39 g-index

118	118	118	2351
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	NO and NO2 Sensing Properties of WO3 and Co3O4 Based Gas Sensors. Sensors, 2013, 13, 12467-12481.	3.8	103
2	Catalyst-free Highly Sensitive SnO₂ Nanosheet Gas Sensors for Parts per Billion-Level Detection of Acetone. ACS Applied Materials & Interfaces, 2020, 12, 51637-51644.	8.0	79
3	Diagnosis by Volatile Organic Compounds in Exhaled Breath from Lung Cancer Patients Using Support Vector Machine Algorithm. Sensors, 2017, 17, 287.	3.8	78
4	Reversible Color Changes in Lamella Hybrids of Poly(diacetylenecarboxylates) Incorporated in Layered Double Hydroxide Nanosheets. Journal of Physical Chemistry B, 2005, 109, 3199-3206.	2.6	70
5	Preparation of layered organicâ€“inorganic nanohybrid thin films of molybdenum trioxide with polyaniline derivatives for aldehyde gases sensors of several tens ppb level. Sensors and Actuators B: Chemical, 2008, 128, 512-520.	7.8	60
6	Nonanal gas sensing properties of platinum, palladium, and gold-loaded tin oxide VOCs sensors. Sensors and Actuators B: Chemical, 2013, 187, 135-141.	7.8	60
7	Calorimetric Thermoelectric Gas Sensor for the Detection of Hydrogen, Methane and Mixed Gases. Sensors, 2014, 14, 8350-8362.	3.8	55
8	Development of an Exhaled Breath Monitoring System with Semiconductive Gas Sensors, a Gas Condenser Unit, and Gas Chromatograph Columns. Sensors, 2016, 16, 1891.	3.8	54
9	Gas response, response time and selectivity of a resistive CO sensor based on two connected CeO2 thick films with various particle sizes. Sensors and Actuators B: Chemical, 2009, 136, 364-370.	7.8	52
10	CO sensing properties of Au/SnO 2 â€“Co 3 O 4 catalysts on a micro thermoelectric gas sensor. Sensors and Actuators B: Chemical, 2016, 223, 774-783.	7.8	50
11	Ppm level methane detection using micro-thermoelectric gas sensors with Pd/Al2O3 combustion catalyst films. Sensors and Actuators B: Chemical, 2015, 206, 488-494.	7.8	49
12	Robust hydrogen detection system with a thermoelectric hydrogen sensor for hydrogen station application. International Journal of Hydrogen Energy, 2009, 34, 2834-2841.	7.1	48
13	SnO2 Nanosheet/Nanoparticle Detector for the Sensing of 1-Nonanal Gas Produced by Lung Cancer. Scientific Reports, 2015, 5, 10122.	3.3	45
14	Sensing performance of thermoelectric hydrogen sensor for breath hydrogen analysisâˆ†. Sensors and Actuators B: Chemical, 2009, 137, 524-528.	7.8	43
15	Effects of High-Humidity Aging on Platinum, Palladium, and Gold Loaded Tin Oxideâ€”Volatile Organic Compound Sensors. Sensors, 2010, 10, 6513-6521.	3.8	42
16	New Structural Design of Micro-Thermoelectric Sensor for Wide Range Hydrogen Detection. Journal of the Ceramic Society of Japan, 2006, 114, 853-856.	1.3	39
17	Formation mechanism of monodispersed spherical coreâ€“shell ceria/polymer hybrid nanoparticles. Materials Research Bulletin, 2011, 46, 1168-1176.	5.2	39
18	Selective Detection of Target Volatile Organic Compounds in Contaminated Humid Air Using a Sensor Array with Principal Component Analysis. Sensors, 2017, 17, 1662.	3.8	36

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19	Effects of noble metal addition on response of ceria thick film CO sensors. Sensors and Actuators B: Chemical, 2012, 171-172, 350-353.	7.8	33
20	Controlled Synthesis of Monodispersed Cerium Oxide Nanoparticle Sols Applicable to Preparing Ordered Self-Assemblies. Bulletin of the Chemical Society of Japan, 2008, 81, 761-766.	3.2	29
21	Effects of ethyl cellulose polymers on rheological properties of (La,Sr)(Ti,Fe)O3-terpineol pastes for screen printing. Ceramics International, 2014, 40, 1661-1666.	4.8	29
22	Development of an oxide semiconductor thick film gas sensor for the detection of total volatile organic compounds. Electronics and Communications in Japan, 2010, 93, 34-41.	0.5	28
23	VOCs sensing properties of layered organicâ€“inorganic hybrid thin films: MoO3 with various interlayer organic components. Materials Letters, 2008, 62, 3021-3023.	2.6	26
24	Resistive Oxygen Sensor Using Ceria-Zirconia Sensor Material and Ceria-Yttria Temperature Compensating Material for Lean-Burn Engine. Sensors, 2009, 9, 8884-8895.	3.8	26
25	Preparation of total VOC sensor with sensor-response stability for humidity by noble metal addition to SnO2. Journal of the Ceramic Society of Japan, 2009, 117, 1297-1301.	1.1	26
26	Long-term stability of Pt/alumina catalyst combustors for micro-gas sensor application. Journal of the European Ceramic Society, 2008, 28, 2183-2190.	5.7	25
27	Fabrication of thermoelectric gas sensors on micro-hotplates. Sensors and Actuators B: Chemical, 2009, 139, 340-345.	7.8	25
28	Synthesis and characterization of layered organic/inorganic hybrid thin films based on molybdenum trioxide with poly(N-methylaniline) for VOC sensor. Materials Letters, 2007, 61, 4031-4034.	2.6	24
29	Heat transfer control of micro-thermoelectric gas sensor for breath gas monitoring. Sensors and Actuators B: Chemical, 2017, 249, 571-580.	7.8	24
30	Preparation and Characterization of a Layered Molybdenum Trioxide with Poly(o-anisidine) Hybrid Thin Film and Its Aldehydic Gases Sensing Properties. Bulletin of the Chemical Society of Japan, 2007, 80, 1011-1016.	3.2	22
31	CO oxidation performance of Au/Co3O4 catalyst on the micro gas sensor device. Catalysis Today, 2013, 201, 85-91.	4.4	22
32	Polyol synthesis of Al-doped ZnO spherical nanoparticles and their UVâ€“visâ€“NIR absorption properties. Ceramics International, 2014, 40, 8775-8781.	4.8	22
33	Surfactant-assisted synthesis of mono-dispersed cubic BaTiO3 nanoparticles. Materials Research Bulletin, 2014, 57, 103-109.	5.2	22
34	CO Responses of Sensors Based on Cerium Oxide Thick Films Prepared from Clustered Spherical Nanoparticles. Sensors, 2013, 13, 3252-3261.	3.8	21
35	Effect of Coreâ€“Shell Ceria/Poly(vinylpyrrolidone) (PVP) Nanoparticles Incorporated in Polymer Films and Their Optical Properties. Materials, 2013, 6, 2119-2129.	2.9	21
36	Sensing Properties of Pd-Loaded Co3O4 Film for a ppb-Level NO Gas Sensor. Sensors, 2015, 15, 8109-8120.	3.8	21

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37	Preparation of Î³-alumina large grain particles with large specific surface area via polyol synthesis. Ceramics International, 2015, 41, 3631-3638.	4.8	20
38	Thermoelectric gas sensor with CO combustion catalyst for ppm level carbon monoxide detection. Sensors and Actuators B: Chemical, 2013, 182, 789-794.	7.8	19
39	Atomic step formation on porous ZnO nanobelts: remarkable promotion of acetone gas detection up to the parts per trillion level. Journal of Materials Chemistry A, 2022, 10, 13839-13847.	10.3	19
40	The effect of hafnia doping on the resistance of ceria for use in resistive oxygen sensors. Sensors and Actuators B: Chemical, 2007, 123, 407-412.	7.8	18
41	Synthesis of spherical cobalt oxide nanoparticles by a polyol method. Journal of the Ceramic Society of Japan, 2017, 125, 701-704.	1.1	18
42	Thermoelectric hydrogen sensors using Si and SiGe thin films with a catalytic combustor. Journal of the Ceramic Society of Japan, 2010, 118, 188-192.	1.1	17
43	CO Sensing Performance of a Micro Thermoelectric Gas Sensor with AuPtPd/SnO2 Catalyst and Effects of a Double Catalyst Structure with Pt/Î±-Al2O3. Sensors, 2015, 15, 31687-31698.	3.8	17
44	Selective Detection of Target Volatile Organic Compounds in Contaminated Air Using Sensor Array with Machine Learning: Aging Notes and Mold Smells in Simulated Automobile Interior Contaminant Gases. Sensors, 2020, 20, 2687.	3.8	17
45	High-Temperature Thermoelectric Measurement of B-Doped SiGe and Si Thin Films. Materials Transactions, 2009, 50, 1596-1602.	1.2	16
46	Planar-type thermoelectric micro devices using ceramic catalytic combustor. Current Applied Physics, 2011, 11, S36-S40.	2.4	16
47	Effect of Coordinatively Unsaturated Sites in MOFâ€Derived Highly Porous CuO for Catalystâ€Free ppbâ€Level Gas Sensors. Advanced Materials Interfaces, 2021, 8, 2100283.	3.7	15
48	Monitoring Breath Hydrogen Using Thermoelectric Sensor. Sensor Letters, 2011, 9, 684-687.	0.4	15
49	Highly adhesive layered molybdenum oxide thin films prepared on a silicon substrate using suitable buffer materials. Thin Solid Films, 2006, 515, 2709-2716.	1.8	14
50	Thermoelectric Gas Sensor using Au Loaded Titania CO Oxidation Catalyst. Journal of the Ceramic Society of Japan, 2007, 115, 37-41.	1.3	14
51	Layered Hybrid Thin Film of Molybdenum Trioxide with Poly(2,5-dimethylaniline) for Gas Sensor Sensitive to VOC Gases in ppm Level. Chemistry Letters, 2007, 36, 100-101.	1.3	14
52	Fabrication and performance of free-standing hydrogen gas sensors. Sensors and Actuators B: Chemical, 2008, 129, 1-9.	7.8	14
53	Influence of particle size and aggregation state of alumina on the rheology of a ceramic paste with an organic binder of ethyleneâ€“vinyl acetate copolymer and stearic acid. Ceramics International, 2012, 38, 1591-1597.	4.8	14
54	Gas sensor properties of nanopore-bearing Co₃O₄ particles containing Pt or Pd particles. Journal of Asian Ceramic Societies, 2020, 8, 138-148.	2.3	14

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55	Preparation of core-shell type cerium oxide/polymer hybrid nanoparticles for ink-jet printing. Journal of the Ceramic Society of Japan, 2009, 117, 769-772.	1.1	13
56	Physicochemical properties and microstructures of core-shell type cerium oxide/organic polymer nanospheres. Journal of the Ceramic Society of Japan, 2009, 117, 773-776.	1.1	13
57	CH3SH and H2S Sensing Properties of V2O5/WO3/TiO2 Gas Sensor. Chemosensors, 2021, 9, 113.	3.6	13
58	Layered double hydroxide hybrids with dicetylphosphate. Journal of Colloid and Interface Science, 2005, 291, 218-222.	9.4	12
59	CO Sensor Having Two Zr-Doped CeO[sub 2] Films with and Without Catalyst Layer. Electrochemical and Solid-State Letters, 2007, 10, J37.	2.2	12
60	Reversible Redox Processes of Poly(anilines) in Layered Semiconductor Niobate Films under Alternate UVâ^Vis Light Illumination. Journal of Physical Chemistry B, 2007, 111, 12162-12169.	2.6	12
61	CO combustion catalyst for micro gas sensor application. Journal of Materials Science, 2011, 46, 1176-1183.	3.7	11
62	Preparation of SnO2 nanoparticles less than 10Ânm in size by precipitation using hydrophilic carbon black powder. Materials Letters, 2008, 62, 313-316.	2.6	10
63	13C CP/MAS NMR Study of Cross-linked Poly(vinylpyrrolidone) on Surface of Cerium Oxide Nanoparticles. Chemistry Letters, 2008, 37, 1116-1117.	1.3	10
64	Effect of oxygen vacancy sites in exposed crystal facet on the gas sensing performance of ZnO nanomaterial. Journal of the American Ceramic Society, 2022, 105, 2150-2160.	3.8	10
65	Platinum Micro-Hotplates on Thermal Insulated Structure for Micro-Thermoelectric Gas Sensor. IEEJ Transactions on Sensors and Micromachines, 2006, 126, 568-572.	0.1	9
66	Analytical Study of Resistance Drift Phenomena on (PANI)xMoO3 Hybrid Thin Films as Gas Sensors. Bulletin of the Chemical Society of Japan, 2008, 81, 1331-1335.	3.2	9
67	Thermal Balance Analysis of a Micro-Thermoelectric Gas Sensor Using Catalytic Combustion of Hydrogen. Sensors, 2014, 14, 1822-1834.	3.8	9
68	Elimination of Flammable Gas Effects in Cerium Oxide Semiconductor-Type Resistive Oxygen Sensors for Monitoring Low Oxygen Concentrations. Sensors, 2015, 15, 9427-9437.	3.8	9
69	Trial of an All-Ceramic SnO2 Gas Sensor Equipped with CaCu3Ru4O12 Heater and Electrode. Materials, 2018, 11, 981.	2.9	9
70	Thermoelectric Array Sensors with Selective Combustion Catalysts for Breath Gas Monitoring. Sensors, 2018, 18, 1579.	3.8	9
71	Tin Oxide Nanosheets on Microelectromechanical System Devices for Improved Gas Discrimination. ACS Applied Nano Materials, 2021, 4, 14285-14291.	5.0	9
72	Characterizations of interlayer organicâ€“inorganic nanohybrid of molybdenum trioxide with polyaniline and poly(o-anisidine). Materials Chemistry and Physics, 2008, 110, 115-119.	4.0	8

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73	XPS study of organic/MoO3 hybrid thin films for aldehyde gas sensors: correlation between average Mo valence and sensitivity. Journal of the Ceramic Society of Japan, 2010, 118, 171-174.	1.1	8
74	Relationship between the CO sensing performance of micro-thermoelectric gas sensors and characteristics of PtPd/Co3O4 and PtPd/SnO2 catalysts. Sensors and Actuators B: Chemical, 2017, 243, 847-855.	7.8	8
75	Preparation of Phosphorus-Doped Si0.8Ge0.2 Thermoelectric Thin Film Using RF Sputtering with Induction Coil. Journal of the Ceramic Society of Japan, 2005, 113, 558-561.	1.3	7
76	Output Evaluation of Resistive Oxygen Sensor having Ce0.9Zr0.1O2 Sensing Material and Zr0.8Y0.2O2-.DELTA. Temperature Compensating Material in Model Exhaust Gas. Journal of the Ceramic Society of Japan, 2007, 115, 688-691.	1.1	7
77	Boron-Doped Si[sub 0.8]Ge[sub 0.2] Thin Film Deposited by Helicon Sputtering for Microthermoelectric Hydrogen Sensor. Journal of the Electrochemical Society, 2007, 154, J53.	2.9	7
78	Monitoring of dispensed fluid with the quartz crystal microbalance (QCM) for the better control of inkjet or dispenser machine. Journal of the Ceramic Society of Japan, 2008, 116, 459-461.	1.1	7
79	Ceramic catalyst combustors of Pt-loaded-alumina on microdevices. Journal of the Ceramic Society of Japan, 2009, 117, 659-665.	1.1	7
80	Thermoelectric gas sensors with selective combustion catalysts. Journal of the Ceramic Society of Japan, 2019, 127, 57-66.	1.1	7
81	Effect of Pt electrodes in cerium oxide semiconductor-type oxygen sensors evaluated using alternating current. Sensors and Actuators B: Chemical, 2021, 345, 130396.	7.8	7
82	B- and P-Doped Si_{0.8}Ge_{0.2} Thin Film Deposited by Helicon Sputtering for the Micro-Thermoelectric Gas Sensor. Key Engineering Materials, 2006, 320, 99-102.	0.4	6
83	Highly Aldehyde Gas-Sensing Responsiveness and Selectivity of Layered Organic-Guest/MoO3-Host Hybrid Sensor. Journal of the Ceramic Society of Japan, 2007, 115, 742-744.	1.1	6
84	Microgenerator Using BiSbTe-Pt Thermopile and Pt-Al2O3 Ceramic Combustor. Journal of Electronic Materials, 2011, 40, 817-822.	2.2	6
85	Health care application of gas sensors. Synthesiology, 2015, 8, 211-219.	0.2	6
86	Effect of Core-shell Ceria/Poly(Vinylpyrrolidone) (PVP) Nanoparticles Incorporated in Polymer Films and Their Optical Properties (2): Increasing the Refractive Index. Materials, 2017, 10, 710.	2.9	6
87	Decreasing the shell ratio of core-shell type nanoparticles with a ceria core and polymer shell by acid treatment. Solid State Sciences, 2018, 85, 32-37.	3.2	6
88	Calibration Gas Preparation for Non-Disposable Portable MOx, PID, and IER VOC Detectors. Sensor Letters, 2012, 10, 985-992.	0.4	6
89	Preparation of Micro-Thermoelectric Hydrogen Sensor Loading Two Kinds of Catalysts to Enhance Gas Selectivity. Journal of the Ceramic Society of Japan, 2007, 115, 748-750.	1.1	5
90	Evaluation of response characteristics of resistive oxygen sensors using Ce0.9Zr0.1O2 thick film by pressure modulation method. Sensors and Actuators B: Chemical, 2008, 130, 466-469.	7.8	5

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91	Development of Oxide Semiconductor Thick Film Gas Sensor for the Detection of Total Volatile Organic Compounds. IEEJ Transactions on Sensors and Micromachines, 2008, 128, 125-130.	0.1	5
92	Alternating Current Impedance Analysis of CeO₂ Thick Films as Odor Sensors. Sensor Letters, 2011, 9, 703-705.	0.4	5
93	Direct scanning electron microscopy-based observation of dispersed coreâ€“shell-type nanoparticles in a wet state. Ceramics International, 2014, 40, 16361-16364.	4.8	4
94	Rapid Synthesis and Formation Mechanism of Core-Shell-Structured La-Doped SrTiO3 with a Nb-Doped Shell. Materials, 2015, 8, 3992-4003.	2.9	4
95	Performance of a carbon monoxide sensor based on zirconia-doped ceria. Journal of Asian Ceramic Societies, 2016, 4, 205-208.	2.3	4
96	Mixed-Potential Gas Sensors Using an Electrolyte Consisting of Zinc Phosphate Glass and Benzimidazole. Sensors, 2017, 17, 97.	3.8	4
97	Characterization of Intercalation Type Organic/MoO₃ Nanohybrids and their VOC Sensing Properties. Advanced Materials Research, 0, 47-50, 1514-1517.	0.3	3
98	Monitoring of disease-related volatile organic compounds in simulated room air. , 2014, , .		3
99	Preparation of WO₃ nanoplatelet-based microspheres and their NO₂ gas-sensing properties. Journal of the Ceramic Society of Japan, 2014, 122, 674-678.	1.1	3
100	Electrode contact study for SiGe thin film operated at high temperature. Applied Surface Science, 2008, 254, 4999-5006.	6.1	2
101	Conductive glass sealants with Ag nanoparticles prepared by a heat reduction process. Journal of Non-Crystalline Solids, 2014, 394-395, 22-28.	3.1	2
102	Breath analysis using a spirometer and volatile organic compound sensor on driving simulator. Journal of Breath Research, 2020, 14, 016003.	3.0	2
103	Microheater Meander Configurations for Combustion Catalysts in Thermoelectric Gas Sensor. Sensor Letters, 2010, 8, 792-800.	0.4	2
104	Thermoelectric Micro-Multi-Gas Sensor for the Detection of Hydrogen, Carbon Monoxide and Methane. Sensor Letters, 2011, 9, 773-777.	0.4	2
105	Health care application of gas sensors. Synthesiology, 2015, 8, 214-122.	0.2	2
106	Examination of VOC Concentration of Aroma Essential Oils and Their Major VOCs Diffused in Room Air. International Journal of Environmental Research and Public Health, 2022, 19, 2904.	2.6	2
107	Self-Adaptive Gas Sensor System Based on Operating Conditions Using Data Prediction. ACS Sensors, 2022, 7, 142-150.	7.8	2
108	Pt Loaded Alumina Ceramic Catalysts for Micro Thermoelectric Hydrogen Sensors. Journal of the Ceramic Society of Japan, 2006, 114, 686-691.	1.3	1

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109	Resistive Type Sensor Using Ceria Thick Film with Nano Particles. Advanced Materials Research, 2008, 47-50, 1522-1525.	0.3	1
110	Pt catalytic effects on a resistive oxygen sensor using Ce0.9Zr0.1O2 thick film in rich conditions. Journal of the Ceramic Society of Japan, 2010, 118, 175-179.	1.1	1
111	Development of Easy-Handling Ceramic Nanoparticles. , 2013, , 991-1000.		1
112	Detection of Human Breath Gas by Ceramic Sensors. Journal of the Mass Spectrometry Society of Japan, 2018, 66, 82-86.	0.1	1
113	Surface Organic Modification of In₂O₃ Nanoparticle Assemblies and Their Flammable Gas Sensing Properties. Science of Advanced Materials, 2011, 3, 853-858.	0.7	1
114	Micro-Thermoelectric Hydrogen Sensor of Three Different Membrane Structures. Japanese Journal of Applied Physics, 2006, 45, 6186-6191.	1.5	0
115	Safe membrane-releasing process for thermoelectric hydrogen gas sensor. , 2007, , .		0
116	12P Volatolomic signatures of anaplastic lymphoma kinase gene rearrangement in adenocarcinoma. Journal of Thoracic Oncology, 2016, 11, S61.	1.1	0
117	High Temperature Electrical Properties of Co-Substituted La4BaCu5O13+Î´ Thin Films Fabricated by Sputtering Method. Materials, 2021, 14, 2685.	2.9	0
118	Sensor Application of Organic-Inorganic Hybrid Materials. Seikei-Kakou, 2008, 20, 217-222.	0.0	0