

Michael Breedon

List of Publications by Year in descending order

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62
papers

2,262
citations

331259

21
h-index

214527

47
g-index

64
all docs

64
docs citations

64
times ranked

3065
citing authors

#	ARTICLE	IF	CITATIONS
1	Graphene-like nano-sheets for surface acoustic wave gas sensor applications. <i>Chemical Physics Letters</i> , 2009, 467, 344-347.	1.2	354
2	Synthesis of Atomically Thin WO ₃ Sheets from Hydrated Tungsten Trioxide. <i>Chemistry of Materials</i> , 2010, 22, 5660-5666.	3.2	215
3	Synthesis of Nanostructured Tungsten Oxide Thin Films: A Simple, Controllable, Inexpensive, Aqueous Sol-gel Method. <i>Crystal Growth and Design</i> , 2010, 10, 430-439.	1.4	164
4	Absorption spectral response of nanotextured WO ₃ thin films with Pt catalyst towards H ₂ . <i>Sensors and Actuators B: Chemical</i> , 2009, 137, 115-120.	4.0	147
5	Towards chromate-free corrosion inhibitors: structure-property models for organic alternatives. <i>Green Chemistry</i> , 2014, 16, 3349-3357.	4.6	132
6	High-Temperature Anodized WO ₃ Nanoplatelet Films for Photosensitive Devices. <i>Langmuir</i> , 2009, 25, 9545-9551.	1.6	111
7	Using high throughput experimental data and in silico models to discover alternatives to toxic chromate corrosion inhibitors. <i>Corrosion Science</i> , 2016, 106, 229-235.	3.0	101
8	Aqueous synthesis of interconnected ZnO nanowires using spray pyrolysis deposited seed layers. <i>Materials Letters</i> , 2010, 64, 291-294.	1.3	91
9	In situ Raman spectroscopy of H ₂ interaction with WO ₃ films. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 7330.	1.3	77
10	Electrowetting of Superhydrophobic ZnO Nanorods. <i>Langmuir</i> , 2008, 24, 5091-5098.	1.6	75
11	Adsorption of NO ₂ on Oxygen Deficient ZnO(211̄...1̄...0) for Gas Sensing Applications: A DFT Study. <i>Journal of Physical Chemistry C</i> , 2010, 114, 16603-16610.	1.5	67
12	Adsorption of NO and NO ₂ on the ZnO() surface: A DFT study. <i>Surface Science</i> , 2009, 603, 3389-3399.	0.8	49
13	Fast formation of thick and transparent titania nanotubular films from sputtered Ti. <i>Electrochemistry Communications</i> , 2009, 11, 1308-1311.	2.3	40
14	Augmenting H ₂ sensing performance of YSZ-based electrochemical gas sensors via the application of Au mesh and YSZ coating. <i>Sensors and Actuators B: Chemical</i> , 2013, 182, 40-44.	4.0	37
15	Construction of Sensitive and Selective Zirconia-Based CO Sensors Using ZnCr ₂ O ₄ -Based Sensing Electrodes. <i>Langmuir</i> , 2012, 28, 1638-1645.	1.6	36
16	Stabilized zirconia-based planar sensor using coupled oxide(+Au) electrodes for highly selective CO detection. <i>Sensors and Actuators B: Chemical</i> , 2011, 160, 1273-1281.	4.0	34
17	Stabilized zirconia-based sensor utilizing SnO ₂ -based sensing electrode with an integrated Cr ₂ O ₃ catalyst layer for sensitive and selective detection of hydrogen. <i>International Journal of Hydrogen Energy</i> , 2013, 38, 305-312.	3.8	31
18	Correlation between molecular features and electrochemical properties using an artificial neural network. <i>Materials and Design</i> , 2016, 112, 410-418.	3.3	29

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19	Sensing behavior of YSZ-based amperometric NO ₂ sensors consisting of Mn-based reference-electrode and In ₂ O ₃ sensing-electrode. <i>Talanta</i> , 2012, 88, 318-323.	2.9	27
20	Influence of thickness of sub-micron Cu ₂ O-doped RuO ₂ electrode on sensing performance of planar electrochemical pH sensors. <i>Materials Letters</i> , 2012, 75, 165-168.	1.3	26
21	Surface Reactions of Ethylene Carbonate and Propylene Carbonate on the Li(001) Surface. <i>Electrochimica Acta</i> , 2017, 243, 320-330.	2.6	26
22	Stability of Boronium Cation-Based Ionic Liquid Electrolytes on the Li Metal Anode Surface. <i>ACS Applied Energy Materials</i> , 2020, 3, 5497-5509.	2.5	24
23	Selective hydrogen detection at high temperature by using yttria-stabilized zirconia-based sensor with coupled metal-oxide-based sensing electrodes. <i>Electrochimica Acta</i> , 2012, 76, 152-158.	2.6	21
24	Insight into the Aging Effect on Enhancement of Hydrogen-Sensing Characteristics of a Zirconia-Based Sensor Utilizing a Zn ²⁺ -Ta ⁵⁺ -O-Based Sensing Electrode. <i>ACS Applied Materials & Interfaces</i> , 2013, 5, 12099-12106.	4.0	20
25	The interaction of ethylammonium tetrafluoroborate [EtNH ₃ ⁺][BF ₄ ⁻] ionic liquid on the Li(001) surface: towards understanding early SEI formation on Li metal. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 10028-10037.	1.3	20
26	A Hydrogen Gas Sensor Based on Pt/Nanostructured WO ₃ /SiC Schottky Diode. <i>Sensor Letters</i> , 2011, 9, 11-15.	0.4	19
27	C ₃ H ₆ sensing characteristics of rod-type yttria-stabilized zirconia-based sensor for ppb level environmental monitoring applications. <i>Electrochimica Acta</i> , 2012, 73, 118-122.	2.6	18
28	Sensing characteristics of aged zirconia-based hydrogen sensor utilizing Zn ²⁺ -Ta ⁵⁺ -based oxide sensing-electrode. <i>Electrochemistry Communications</i> , 2013, 31, 133-136.	2.3	18
29	Molecular ionization and deprotonation energies as indicators of functional coating performance. <i>Journal of Materials Chemistry A</i> , 2014, 2, 16660-16668.	5.2	18
30	Improvement of Toluene Selectivity via the Application of an Ethanol Oxidizing Catalytic Cell Upstream of a YSZ-Based Sensor for Air Monitoring Applications. <i>Sensors</i> , 2012, 12, 4706-4714.	2.1	17
31	Seeded growth of ZnO nanorods from NaOH solutions. <i>Materials Letters</i> , 2009, 63, 249-251.	1.3	15
32	The synthesis and gas sensitivity of CuO micro-dimensional structures featuring a stepped morphology. <i>Materials Letters</i> , 2012, 82, 51-53.	1.3	14
33	Zn ²⁺ -Ta ⁵⁺ -based oxide as a hydrogen sensitive electrode material for zirconia-based electrochemical gas sensors. <i>Sensors and Actuators B: Chemical</i> , 2013, 187, 58-64.	4.0	14
34	Modeling corrosion inhibition efficacy of small organic molecules as non-toxic chromate alternatives using comparative molecular surface analysis (CoMSA). <i>Chemosphere</i> , 2016, 160, 80-88.	4.2	14
35	Towards materials discovery: assays for screening and study of chemical interactions of novel corrosion inhibitors in solution and coatings. <i>New Journal of Chemistry</i> , 2020, 44, 7647-7658.	1.4	14
36	A comparison of forward and reverse bias operation in a Pt/nanostructured ZnO Schottky diode based hydrogen sensor. <i>Procedia Chemistry</i> , 2009, 1, 979-982.	0.7	13

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37	Adsorption of atomic nitrogen and oxygen on $\text{ZnO}(2 \times 1 \text{ or } 1 \times 1)0$ surface: a density functional theory study. <i>Journal of Physics Condensed Matter</i> , 2009, 21, 144208.	0.7	13
38	Compact YSZ-Rod-Based Hydrocarbon Sensor Utilizing Metal-Oxide Sensing-Electrode and Mn-Based Reference-Electrode Combination. <i>Electrochemical and Solid-State Letters</i> , 2011, 14, J23.	2.2	12
39	Effect of Sintering Temperature on Hydrogen Sensing Characteristics of Zirconia Sensor Utilizing Zn-Ta-O-Based Sensing Electrode. <i>Journal of the Electrochemical Society</i> , 2013, 160, B164-B169.	1.3	11
40	Evaluation of novel Griess-reagent candidates for nitrite sensing in aqueous media identified via molecular fingerprint searching. <i>RSC Advances</i> , 2019, 9, 3994-4000.	1.7	11
41	A microclimate model to simulate neutral salt spray testing for corrosion inhibitor evaluation and functional coating development. <i>Progress in Organic Coatings</i> , 2017, 111, 327-335.	1.9	10
42	Gas Sensing Properties of Interconnected ZnO Nanowires. <i>Sensor Letters</i> , 2011, 9, 929-935.	0.4	10
43	Reduction in Ethanol Interference of Zirconia-Based Sensor for Selective Detection of Volatile Organic Compounds. <i>Journal of the Electrochemical Society</i> , 2013, 160, B146-B151.	1.3	9
44	Adsorption of NO_2 on YSZ(111) and Oxygen-Enriched YSZ(111) Surfaces. <i>Journal of Physical Chemistry C</i> , 2013, 117, 12472-12482.	1.5	9
45	The correlation between electric field emission phenomenon and Schottky contact reverse bias characteristics in nanostructured systems. <i>Journal of Applied Physics</i> , 2011, 109, 114316.	1.1	7
46	Spectroscopic and Computational Study of Boronium Ionic Liquids and Electrolytes. <i>Chemistry - A European Journal</i> , 2021, 27, 12826-12834.	1.7	7
47	Working Mechanism of Novel Mn-Based Reference Electrode for Solid-State Electrochemical Gas Sensors. <i>Journal of the Electrochemical Society</i> , 2012, 159, B801-B810.	1.3	5
48	The (In)Stability of the Ionic Liquids [(TMEDA) BH_2][TFSI] and [FSI] on the Li(001) Surface. <i>Batteries and Supercaps</i> , 2021, 4, 1126-1134.	2.4	5
49	Fluorinated Boron-Based Anions for Higher Voltage Li Metal Battery Electrolytes. <i>Nanomaterials</i> , 2021, 11, 2391.	1.9	4
50	Towards higher electrochemical stability of electrolytes: lithium salt design through <i>in silico</i> screening. <i>Journal of Materials Chemistry A</i> , 2022, 10, 13254-13265.	5.2	4
51	ZnO nanostructured arrays grown from aqueous solutions on different substrates. , 2008, , .		3
52	ZnO nanostructures grown on epitaxial GaN. <i>Thin Solid Films</i> , 2009, 518, 1053-1056.	0.8	3
53	Fe-based Solid Reference Electrode Utilized in YSZ-Based Oxygen Sensor. <i>ECS Electrochemistry Letters</i> , 2012, 2, B1-B3.	1.9	3
54	The adsorption of NO on YSZ(111) and oxygen-enriched YSZ(111) surfaces. <i>Chemical Physics Letters</i> , 2014, 593, 61-68.	1.2	3

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55	The interaction of several fluorinated ionic liquids on the LiF(001) surface. Surfaces and Interfaces, 2021, 22, 100836.	1.5	3
56	Potentiometric YSZ-Based Sensors Using Zn-Ta-O-Based Sensing Electrode for Selective H ₂ Detection. ECS Transactions, 2013, 50, 179-187.	0.3	2
57	Superhydrophobic and superhydrophilic surfaces with MoO _x sub micron structures. , 2007, , .		0
58	UV-induced wettability change of teflon-modified ZnO nanorod arrays on LiNbO ₃ substrate. , 2008, , .		0
59	Developing High-Throughput Assays for Screening and Studying Chemical Interactions of Novel Corrosion Inhibitors in Solution and Coatings. ECS Meeting Abstracts, 2019, , .	0.0	0
60	Developing High-Throughput Assays for Screening and Studying Chemical Interactions of Novel Corrosion Inhibitors in Solution and Coatings. ECS Meeting Abstracts, 2019, , .	0.0	0
61	Faster High Throughput Electrochemical Testing for Batteries. ECS Meeting Abstracts, 2019, , .	0.0	0
62	Understanding the Link between Anion Structure and Lithium Coordination. ECS Meeting Abstracts, 2019, , .	0.0	0