Perumal Elumalai

List of Publications by Year in descending order

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83 papers	2,527 citations	147801 31 h-index	214800 47 g-index
85 all docs	85 docs citations	85 times ranked	2072 citing authors

#	Article	IF	Citations
1	Electrochemical studies of cobalt hydroxide â€" an additive for nickel electrodes. Journal of Power Sources, 2001, 93, 201-208.	7.8	139
2	Sensing Characteristics of YSZ-Based Mixed-Potential-Type Planar NO[sub x] Sensors Using NiO Sensing Electrodes Sintered at Different Temperatures. Journal of the Electrochemical Society, 2005, 152, H95.	2.9	113
3	High-temperature operating characteristics of mixed-potential-type NO2 sensor based on stabilized-zirconia tube and NiO sensing electrode. Sensors and Actuators B: Chemical, 2006, 114, 903-909.	7.8	109
4	A review of the advanced developments of electrochemical sensors for the detection of toxic and bioactive molecules. Inorganic Chemistry Frontiers, 2019, 6, 3418-3439.	6.0	91
5	Carbon Quantum Dot-Anchored Bismuth Oxide Composites as Potential Electrode for Lithium-Ion Battery and Supercapacitor Applications. ACS Omega, 2019, 4, 4943-4954.	3.5	85
6	Zirconia-based electrochemical gas sensors using nano-structured sensing materials aiming at detection of automotive exhausts. Electrochimica Acta, 2009, 54, 6099-6106.	5.2	82
7	Supercapacitor and photocatalytic performances of hydrothermally-derived Co₃O₄/CoO@carbon nanocomposite. New Journal of Chemistry, 2018, 42, 6114-6124.	2.8	76
8	Performance of Solid-state Hybrid Energy-storage Device using Reduced Graphene-oxide Anchored Sol-gel Derived Ni/NiO Nanocomposite. Scientific Reports, 2017, 7, 15342.	3.3	71
9	Carbon-quantum dots derived from denatured milk for efficient chromium-ion sensing and supercapacitor applications. Materials Letters, 2019, 241, 156-159.	2.6	66
10	Title is missing!. Journal of Applied Electrochemistry, 2002, 32, 1005-1010.	2.9	65
11	Performances of planar NO2 sensor using stabilized zirconia and NiO sensing electrode at high temperature. Solid State Ionics, 2005, 176, 2517-2522.	2.7	64
12	NO2 sensing performances of planar sensor using stabilized zirconia and thin-NiO sensing electrode. Sensors and Actuators B: Chemical, 2008, 130, 231-239.	7.8	64
13	NO[sub x] Sensing Characteristics of Mixed-Potential-Type Zirconia Sensor Using NiO Sensing Electrode at High Temperatures. Electrochemical and Solid-State Letters, 2005, 8, H9.	2.2	63
14	Stabilized Zirconia-Based Sensor Attached with NiOâˆ•Au Sensing Electrode Aiming for Highly Selective Detection of Ammonia in Automobile Exhausts. Electrochemical and Solid-State Letters, 2008, 11, J79.	2.2	62
15	Mixed-potential-type zirconia-based NOx sensor using Rh-loaded NiO sensing electrode operating at high temperatures. Solid State Ionics, 2006, 177, 2305-2311.	2.7	59
16	High-performance Solid-state Hybrid Energy-storage Device Consisting of Reduced Graphene-Oxide Anchored with NiMn-Layered Double Hydroxide. Electrochimica Acta, 2017, 236, 359-370.	5.2	53
17	Novel solid-state manganese oxide-based reference electrode for YSZ-based oxygen sensors. Sensors and Actuators B: Chemical, 2011, 152, 261-266.	7.8	47
18	[Co(salen)] derived Co/Co3O4 nanoparticle@carbon matrix as high-performance electrode for energy storage applications. Journal of Power Sources, 2017, 344, 103-110.	7.8	46

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19	Synthesis and characterization of sub-micron size Coâ€“Ni alloys using malonate as precursor. Materials Research Bulletin, 2002, 37, 353-363.	5.2	42
20	Improving NO[sub 2] Sensitivity by Adding WO[sub 3] during Processing of NiO Sensing-Electrode of Mixed-Potential-Type Zirconia-Based Sensor. Journal of the Electrochemical Society, 2007, 154, J246.	2.9	42
21	Highly sensitive and selective stabilized zirconia-based mixed-potential-type propene sensor using NiO/Au composite sensing-electrode. Sensors and Actuators B: Chemical, 2010, 144, 215-219.	7.8	40
22	Stabilization of sensing performance for mixed-potential-type zirconia-based hydrocarbon sensor. Talanta, 2011, 85, 575-581.	5.5	38
23	Supercapattery performances of nanostructured cerium oxide synthesized using polymer soft-template. Journal of Energy Storage, 2020, 28, 101241.	8.1	38
24	Performance of asymmetric supercapacitor using CoCr-layered double hydroxide and reduced graphene-oxide. Journal of Solid State Electrochemistry, 2017, 21, 927-938.	2.5	37
25	Influence of designed electrode surfaces on double layer capacitance in aqueous electrolyte: Insights from standard models. Applied Surface Science, 2018, 449, 445-453.	6.1	36
26	Carbonâ€Quantumâ€Dotâ€Derived Nanostructured MnO‹sub›2‹/sub› and Its Symmetrical Supercapacitor Performances. ChemistrySelect, 2018, 3, 8713-8723.	1.5	36
27	Electrochemical NOx sensors based on stabilized zirconia: comparison of sensing performances of mixed-potential-type and impedancemetric NOx sensors. Journal of Electroceramics, 2006, 17, 979-986.	2.0	35
28	Facile sol-gel derived nanostructured spinel Co3O4 as electrode material for high-performance supercapattery and lithium-ion storage. Journal of Energy Storage, 2019, 25, 100815.	8.1	35
29	Stabilized zirconia-based planar sensor using coupled oxide(+Au) electrodes for highly selective CO detection. Sensors and Actuators B: Chemical, 2011, 160, 1273-1281.	7.8	34
30	Microwave synthesis and electrochemical properties of LiCo1â^'xMxO2 (M = Al and Mg) cathodes for Li-ion rechargeable batteries. Journal of Power Sources, 2004, 125, 77-84.	7.8	32
31	Dependence of NO2 sensitivity on thickness of oxide-sensing electrodes for mixed-potential-type sensor using stabilized zirconia. Ionics, 2007, 12, 331-337.	2.4	32
32	Stabilized zirconia-based selective NO2 sensor using sol-gel derived Nb2O5 sensing-electrode. Sensors and Actuators B: Chemical, 2017, 238, 105-110.	7.8	31
33	NO2 sensing properties of YSZ-based sensor using NiO and Cr-doped NiO sensing electrodes at high temperature. Ionics, 2009, 15, 405-411.	2.4	29
34	CO sensing performances of YSZ-based sensor attached with sol-gel derived ZnO nanospheres. Sensors and Actuators B: Chemical, 2019, 283, 842-847.	7.8	29
35	Symmetric supercapacitor performances of CaCu3Ti4O12 decorated polyaniline nanocomposite. Electrochimica Acta, 2018, 292, 558-567.	5.2	28
36	Spontaneous gradual accumulation of hexagonally-aligned nano-silica on gold nanoparticles embedded in stabilized zirconia: a pathway from catalytic to NH3-sensing performance. Nanoscale, 2011, 3, 2286.	5.6	27

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37	Influence of citric acid on formation of Ni/NiO nanocomposite by solâ€“gel synthesis. Journal of Sol-Gel Science and Technology, 2015, 73, 428-433.	2.4	25
38	Zirconia-based planar NO2 sensor using ultrathin NiO or laminated NiOâ€“Au sensing electrode. Ionics, 2008, 14, 15-25.	2.4	24
39	Disposed Dry Cells as Sustainable Source for Generation of Few Layers of Graphene and Manganese Oxide for Solidâ€€State Symmetric and Asymmetric Supercapacitor Applications. ChemistrySelect, 2018, 3, 13275-13283.	1.5	24
40	Sensing characteristics of mixed-potential-type zirconia-based sensor using laminated-oxide sensing electrode. Electrochemistry Communications, 2008, 10, 745-748.	4.7	21
41	Tunable supercapacitor performance of potentiodynamically deposited urea-doped cobalt hydroxide. RSC Advances, 2014, 4, 31219-31225.	3.6	20
42	Impedancemetric zirconia-based sensor attached with laminated-oxide sensing-electrode aiming at highly sensitive and selective detection of propene in atmospheric air. Solid State Ionics, 2010, 181, 359-363.	2.7	19
43	Ni/NiFe₂O₄@carbon nanocomposite involving synergistic effect for high-energy density and high-power density supercapattery. Materials Research Express, 2019, 6, 095503.	1.6	19
44	Tunable NO[sub 2]-Sensing Characteristics of YSZ-Based Mixed-Potential-Type Sensor Using Ni[sub 1â^'x]Co[sub x]O-Sensing Electrode. Journal of the Electrochemical Society, 2009, 156, J288.	2.9	18
45	Mixed-potential-type Zirconia-based Sensor Using In2O3 Sensing-Electrode for Selective Detection of Methane at High Temperature. Chemistry Letters, 2008, 37, 120-121.	1.3	17
46	Improvement in Propene Sensing Characteristics by the Use of Additives to In[sub 2]O[sub 3] Sensing Electrode of Mixed-Potential-Type Zirconia Sensor. Journal of the Electrochemical Society, 2009, 156, J102.	2.9	17
47	Supercapattery and full-cell lithium-ion battery performances of a [Ni(Schiff base)]-derived Ni/NiO/nitrogen-doped carbon heterostructure. New Journal of Chemistry, 2020, 44, 12452-12464.	2.8	17
48	Building information modeling (BIM) incorporated green building analysis: an application of local construction materials and sustainable practice in the built environment. Journal of Building Pathology and Rehabilitation, 2021, 6, 1.	1.5	17
49	A note on overpotential dependence of AC impedance data. Journal of Solid State Electrochemistry, 1999, 3, 470-473.	2.5	16
50	Zirconia-Based Sensor Using ZnCr[sub 2]O[sub 4] Sensing Electrode for Measurement of Total Concentration of Various Hydrocarbons. Electrochemical and Solid-State Letters, 2008, 11, J73.	2.2	16
51	Temperature dependence of NO2 sensitivity of YSZ-based mixed potential type sensor attached with NiO sensing electrode. Ionics, 2013, 19, 1681-1686.	2.4	16
52	Sensitive and Selective Zirconia-Based NO[sub 2] Sensor Using Gold Nanoparticle Coatings as Sensing Electrodes. Journal of the Electrochemical Society, 2008, 155, J301.	2.9	15
53	Highly Sensitive and Selective Zirconia-Based Propene Sensor using Nanostructured Gold Sensing Electrodes Fabricated from Colloidal Solutions. Journal of Physical Chemistry C, 2009, 113, 7857-7862.	3.1	15
54	Antiwetting and low-surface-energy behavior of cardanol-based polybenzoxazine-coated cotton fabrics for oilâ€“water separation. Journal of Coatings Technology Research, 2020, 17, 1455-1469.	2.5	15

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55	Tunable compositions of Pd100â^'xCux catalysts towards the electrooxidation of ethanol and ethylene glycol. New Journal of Chemistry, 2017, 41, 13812-13822.	2.8	14
56	Pyrrolic-Nitrogen-Containing Hierarchical Porous Biocarbon for Enhanced Sodium-Ion Energy Storage. Energy & Fuels, 2021, 35, 5320-5332.	5.1	14
57	Facile metal complex-derived Ni/NiO/Carbon composite as anode material for Lithium-ion battery. Journal of Electroanalytical Chemistry, 2021, 887, 115168.	3.8	13
58	Supercapacitor performances of polyethylene glycol-intercalated Co(OH)2 nanoflakes by potentiodynamic deposition. Journal of Solid State Electrochemistry, 2015, 19, 813-820.	2.5	12
59	Sol-gel-assisted preparation of SiO2@Co3O4 heterostructure from laboratory glass waste as a potential anode for lithium-ion battery. Journal of Sol-Gel Science and Technology, 2019, 90, 676-684.	2.4	12
60	High capacity and high stability lithium-ion battery using nano Sn/SnS-decorated carbon leaf anode and LiCoO2 cathode for consumer electronics. Electrochimica Acta, 2020, 338, 135863.	5.2	12
61	Influence of Thickness of Cr2O3 Sensing-electrode on Sensing Characteristics of Mixed-potential-type NO2 Sensor Based on Stabilized Zirconia. Electrochemistry, 2006, 74, 197-201.	1.4	11
62	Mixed-Potential-Type YSZ-Based Sensor Capable of Detecting Propene at Several Tens ppb Level. Electrochemical and Solid-State Letters, 2008, 11, J69.	2.2	11
63	Sustainablyâ€derived hierarchical porous carbon from spent honeycomb for highâ€performance lithiumâ€ion battery and ultracapacitors. Energy Storage, 2020, 2, e136.	4.3	11
64	High-Performance-Based Perovskite-Supported Nanocomposite for the Development of Green Energy Device Applications: An Overview. Nanomaterials, 2021, 11, 1006.	4.1	11
65	Effect of citric acid on formation of oxides of Cu and Zn in modified sol-gel process: A comparative study. Journal of Chemical Sciences, 2016, 128, 831-837.	1.5	10
66	Extraction of Nanostructured SiO2from Glass Waste: A Potential Anode Source for Lithium-ion Batteries. ChemistrySelect, 2016, 1, 3363-3366.	1.5	10
67	Cauliflowerâ€Like Hierarchical Porous Nickel/Nickel Ferrite/Carbon Composite as Superior Bifunctional Catalyst for Lithiumâ€Air Battery. ChemistrySelect, 2020, 5, 3529-3538.	1.5	10
68	[Zn(Salen)] metal complex-derived ZnO-implanted carbon slabs as anode material for lithium-ion and sodium-ion batteries. Materials Chemistry Frontiers, 2021, 5, 3886-3896.	5.9	9
69	Ethanol electrooxidation in alkaline medium on electrochemically synthesized Co(OH)2/Au composite. Materials Research Express, 2017, 4, 016408.	1.6	8
70	Electrochemical tuning of Pd_{100â^'x}Au_x bimetallics towards ethanol oxidation: effect of an induced d-band center shift and oxophilicity. Physical Chemistry Chemical Physics, 2019, 21, 8246-8256.	2.8	7
71	Zirconia-Based Gas Sensors Using Oxide Sensing Electrode for Monitoring Nox in Car Exhaust. , 0, , 3-13.		7
72	Synthesis of LiCo1â^'xNixO2 by microwave dielectric heating and its physical and electrochemical characterization. Materials Research Bulletin, 2004, 39, 1895-1907.	5.2	6

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73	Nanostructured SiO2@NiO heterostructure derived from laboratory glass waste as anode material for lithium-ion battery. Ionics, 2019, 25, 1015-1023.	2.4	5
74	Porous Carbon Networks Decorated with Cobalt on CoFe₂O₄ as an Airâ€Breathing Electrode for Highâ€Capacity Rechargeable Lithiumâ€Air Batteries: Role of Metallic Cobalt Nanoparticles. ChemElectroChem, 2020, 7, 4188-4200.	3.4	5
75	Aqueous Na-ion capacitor with CuS graphene composite in symmetric and asymmetric configurations. New Journal of Chemistry, 2021, 45, 17592-17602.	2.8	5
76	Solid-State Electrochemical Gas Sensing. , 2009, , 1-27.		5
77	Highly selective zirconia-based propene sensor attached with solâ€“gel derived NiO nanospheres. RSC Advances, 2015, 5, 24126-24131.	3.6	4
78	Gas sensing characteristics of Au sensing electrode fabricated on YSZ single-crystals. , 2009, , .		1
79	High Temperature Mixed-potential-type Ammonia Sensor Using Stabilized Zirconia and Oxide-based Sensing Electrode. ECS Transactions, 2009, 16, 247-255.	0.5	1
80	Highly Sensitive and Selective Innumerable Electrode Catalysts for Bio-Sensing Molecules: An Overview. International Journal of Electrochemical Science, 2017, , 6990-7003.	1.3	1
81	Mixed-potential-type zirconia-based sensor using Ni-Ti-O sensing electrode for detection of propylene. , 2009, , .		0
82	Dependence of NO2 sensitivity on thickness of oxide-sensing electrodes for mixed-potential-type sensor using stabilized zirconia. Ionics, 0, , .	2.4	0
83	Electrochemical study on Activated Carbon Electrode from Kenaf biowaste for Supercapacitor Application. , 2020, , .		0