Mauro Epifani

List of Publications by Year
in descending order

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94 papers	3,129 citations	117625 34 h-index	168389 53 g-index
95 all docs	95 docs citations	95 times ranked	4269 citing authors

#	Article	IF	Citations
1	Solâ€“Gel Synthesis and Characterization of Ag and Au Nanoparticles in SiO₂, TiO₂, and ZrO₂ Thin Films. Journal of the American Ceramic Society, 2000, 83, 2385-2393.	3.8	206
2	The Role of Surface Oxygen Vacancies in the NO₂ Sensing Properties of SnO₂ Nanocrystals. Journal of Physical Chemistry C, 2008, 112, 19540-19546.	3.1	181
3	Nanostructured In2O3â€“SnO2 solâ€“gel thin film as material for NO2 detection. Sensors and Actuators B: Chemical, 2006, 114, 646-655.	7.8	126
4	Ambient Pressure Synthesis of Corundum-Type In2O3. Journal of the American Chemical Society, 2004, 126, 4078-4079.	13.7	108
5	Nanocrystalline Metal Oxides from the Injection of Metal Oxide Sols in Coordinating Solutions: Synthesis, Characterization, Thermal Stabilization, Device Processing, and Gas-Sensing Properties. Advanced Functional Materials, 2006, 16, 1488-1498.	14.9	97
6	Monitoring of rancidity of milk by means of an electronic nose and a dynamic PCA analysis. Sensors and Actuators B: Chemical, 2001, 78, 174-179.	7.8	93
7	WO₃-Based Gas Sensors: Identifying Inherent Qualities and Understanding the Sensing Mechanism. ACS Sensors, 2020, 5, 1624-1633.	7.8	82
8	Solvothermal, Chloroalkoxide-based Synthesis of Monoclinic WO₃ Quantum Dots and Gas-Sensing Enhancement by Surface Oxygen Vacancies. ACS Applied Materials & Interfaces, 2014, 6, 16808-16816.	8.0	78
9	A novel gas sensor based on SnO2/Os thin film for the detection of methane at low temperature. Sensors and Actuators B: Chemical, 1999, 58, 350-355.	7.8	76
10	Moisture influence and geometry effect of Au and Pt electrodes on CO sensing response of SnO2 microsensors based on solâ€“gel thin film. Sensors and Actuators B: Chemical, 2001, 77, 503-511.	7.8	73
11	Analysis of vapours and foods by means of an electronic nose based on a solâ€“gel metal oxide sensors array. Sensors and Actuators B: Chemical, 2000, 69, 230-235.	7.8	72
12	Improvement of oxygen storage capacity using mesoporous ceriaâ€“zirconia solid solutions. Applied Catalysis B: Environmental, 2011, 108-109, 32-38.	20.2	72
13	Synthesis and Gas-Sensing Properties of Pd-Doped SnO₂ Nanocrystals. A Case Study of a General Methodology for Doping Metal Oxide Nanocrystals. Crystal Growth and Design, 2008, 8, 1774-1778.	3.0	69
14	Preparation and characterization of cobalt porphyrin modified tin dioxide films for sensor applications. Sensors and Actuators B: Chemical, 2004, 103, 339-343.	7.8	67
15	Synthesis of SnO2 and ZnO Colloidal Nanocrystals from the Decomposition of Tin(II) 2-Ethylhexanoate and Zinc(II) 2-Ethylhexanoate. Chemistry of Materials, 2005, 17, 6468-6472.	6.7	65
16	A dual band electrochromic device switchable across four distinct optical modes. Journal of Materials Chemistry A, 2018, 6, 10201-10205.	10.3	65
17	TiO2 thin films from titanium butoxide: Synthesis, Pt addition, structural stability, microelectronic processing and gas-sensing properties. Sensors and Actuators B: Chemical, 2008, 130, 599-608.	7.8	61
18	Solâ€“Gel Processing and Characterization of Pure and Metalâ€Doped SnO₂ Thin Films. Journal of the American Ceramic Society, 2001, 84, 48-54.	3.8	57

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19	ZnO@SnO2 engineered composite photoanodes for dye sensitized solar cells. Scientific Reports, 2015, 5, 14523.	3.3	54
20	NO2-gas-sensing properties of mixed In2O3â€“SnO2 thin films. Thin Solid Films, 2005, 490, 68-73.	1.8	51
21	Air quality monitoring by means of solâ€gel integrated tin oxide thin films. Sensors and Actuators B: Chemical, 1999, 58, 283-288.	7.8	50
22	Synthesis and Characterization of MoO3 Thin Films and Powders from a Molybdenum Chloromethoxide. Chemistry of Materials, 2004, 16, 5495-5501.	6.7	50
23	Precursors for the combustion synthesis of metal oxides from the solâ€gel processing of metal complexes. Journal of the European Ceramic Society, 2007, 27, 115-123.	5.7	47
24	Analysis of single-cultivar extra virgin olive oils by means of an Electronic Nose and HS-SPME/GC/MS methods. Sensors and Actuators B: Chemical, 2006, 114, 674-680.	7.8	44
25	The acetone sensing properties of ZnFe2O4-graphene quantum dots (GQDs) nanocomposites at room temperature. Physica E: Low-Dimensional Systems and Nanostructures, 2019, 106, 326-333.	2.7	42
26	In situ Raman spectroscopy study of NO2 adsorption onto nanocrystalline tin(IV) oxide. Journal of Raman Spectroscopy, 2006, 37, 1272-1277.	2.5	41
27	Preparation of uniformly dispersed copper nanocluster doped silica glasses by the solâ€gel process. Journal of Materials Chemistry, 2001, 11, 3326-3332.	6.7	40
28	Title is missing!. Journal of Sol-Gel Science and Technology, 2003, 26, 741-744.	2.4	40
29	Solution Synthesis of Thin Films in the SnO2â^'In2O3System: A Case Study of the Mixing of Solâ^'Gel and Metal-Organic Solution Processes. Chemistry of Materials, 2006, 18, 840-846.	6.7	40
30	Chloro-Alkoxide Route to Transition Metal Oxides. Synthesis of WO₃ Thin Films and Powders from a Tungsten Chloro-Methoxide. Chemistry of Materials, 2009, 21, 5215-5221.	6.7	39
31	Nanocrystals as Very Active Interfaces:â€‰Ultrasensitive Room-Temperature Ozone Sensors with In₂O₃ Nanocrystals Prepared by a Low-Temperature Solâ^'Gel Process in a Coordinating Environment. Journal of Physical Chemistry C, 2007, 111, 13967-13971.	3.1	38
32	Capping Ligand Effects on the Amorphous-to-Crystalline Transition of CdSe Nanoparticles. Langmuir, 2008, 24, 11182-11188.	3.5	36
33	Innovative aspects in thin film technologies for nanostructured materials in gas sensor devices. Thin Solid Films, 2003, 436, 52-63.	1.8	34
34	Interactions of nanocrystalline tin oxide powder with NO2: A Raman spectroscopic study. Sensors and Actuators B: Chemical, 2007, 126, 1-5.	7.8	34
35	Chemical synthesis of In2O3 nanocrystals and their application in highly performing ozone-sensing devices. Sensors and Actuators B: Chemical, 2008, 130, 483-487.	7.8	34
36	Colloidal Counterpart of the TiO₂-Supported V₂O₅ System: A Case Study of Oxide-on-Oxide Deposition by Wet Chemical Techniques. Synthesis, Vanadium Speciation, and Gas-Sensing Enhancement. Journal of Physical Chemistry C, 2013, 117, 20697-20705.	3.1	34

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37	Copper-ruby monoliths by the sol-gel process. Journal of Non-Crystalline Solids, 1996, 201, 250-255.	3.1	33
38	Surface modification of metal oxide nanocrystals for improved supercapacitors. Energy and Environmental Science, 2012, 5, 7555.	30.8	33
39	Recognition of olive oils by means of an integrated solâ€“gel SnO2 Electronic Nose. Thin Solid Films, 2002, 418, 59-65.	1.8	32
40	Acetone sensors based on TiO2 nanocrystals modified with tungsten oxide species. Journal of Alloys and Compounds, 2016, 665, 345-351.	5.5	32
41	Response evaluation of TiO2 sensor to flue gas on spark ignition engine and in controlled environment. Sensors and Actuators B: Chemical, 2005, 107, 563-571.	7.8	26
42	Oxide nanopowders from the low-temperature processing of metal oxide sols and their application as gas-sensing materials. Sensors and Actuators B: Chemical, 2006, 118, 105-109.	7.8	26
43	Pt doping triggers growth of TiO2 nanorods: nanocomposite synthesis and gas-sensing properties. CrystEngComm, 2012, 14, 3882.	2.6	26
44	Synthesis of Ceriaâ€“Zirconia Nanocrystals with Improved Microstructural Homogeneity and Oxygen Storage Capacity by Hydrolytic Solâ€“Gel Process in Coordinating Environment. Advanced Functional Materials, 2012, 22, 2867-2875.	14.9	25
45	Analysis of dry salami by means of an electronic nose and correlation with microbiological methods. Sensors and Actuators B: Chemical, 2003, 95, 123-131.	7.8	23
46	Role of osmium in the electrical transport mechanism of polycrystalline tin oxide thin films. Applied Physics Letters, 2004, 84, 744-746.	3.3	21
47	Surface Modification of TiO₂ Nanocrystals by WO_x Coating or Wrapping: Solvothermal Synthesis and Enhanced Surface Chemistry. ACS Applied Materials & Interfaces, 2015, 7, 6898-6908.	8.0	21
48	Evidence of catalytic activation of anatase nanocrystals by vanadium oxide surface layer: Acetone and ethanol sensing properties. Sensors and Actuators B: Chemical, 2015, 217, 193-197.	7.8	21
49	Influence of electrodes ageing on the properties of the gas sensors based on SnO2. Sensors and Actuators B: Chemical, 2006, 115, 396-402.	7.8	20
50	SnO2 thin films from metalorganic precursors: Synthesis, characterization, microelectronic processing and gas-sensing properties. Sensors and Actuators B: Chemical, 2007, 124, 217-226.	7.8	19
51	TiO2 colloidal nanocrystals surface modification by V2O5 species: Investigation by 47,49Ti MAS-NMR and H2, CO and NO2 sensing properties. Applied Surface Science, 2015, 351, 1169-1173.	6.1	18
52	Application of a semiconductor solâ€“gel sensor array to the discrimination of pollutants in air. Thin Solid Films, 2001, 391, 314-319.	1.8	17
53	Inorganic Photocatalytic Enhancement: Activated RhB Photodegradation by Surface Modification of SnO2 Nanocrystals with V2O5-like species. Scientific Reports, 2017, 7, 44763.	3.3	17
54	Preparation and characterization of nanostructured materials for an artificial olfactory sensing system. Sensors and Actuators B: Chemical, 2002, 84, 55-59.	7.8	16

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55	Metal Oxide Nanocrystals from the Injection of Metal Oxide Sols in a Coordinating Environment: Principles, Applicability, and Investigation of the Synthesis Variables in the Case Study of CeO₂ and SnO₂. Chemistry of Materials, 2009, 21, 862-870.	6.7	16
56	High selectivity trimethylamine sensors based on graphene-NiGa2O4 nanocomposites prepared by hydrothermal method. Physica E: Low-Dimensional Systems and Nanostructures, 2020, 118, 113788.	2.7	16
57	Synthesis and structural properties of ultra-small oxide (TiO2, ZrO2, SnO2) nanoparticles prepared by decomposition of metal alkoxides. Materials Chemistry and Physics, 2010, 124, 809-815.	4.0	15
58	Facile Preparation of g-C₃N₄-WO₃ Composite Gas Sensing Materials with Enhanced Gas Sensing Selectivity to Acetone. Journal of Sensors, 2019, 2019, 1-8.	1.1	14
59	Hall effect measurements in gas sensors based on nanosized os-doped sol-gel derived SnO/sub 2/ thin films. IEEE Sensors Journal, 2003, 3, 827-834.	4.7	13
60	From doping to phase transformation: Ammonia sensing performances of chloroalkoxide-derived WO3 powders modified with chromium. Sensors and Actuators B: Chemical, 2010, 148, 200-206.	7.8	13
61	Surface modification by vanadium pentoxide turns oxide nanocrystals into powerful adsorbents of methylene blue. Journal of Colloid and Interface Science, 2019, 533, 369-374.	9.4	13
62	Nanogap Sensors Decorated with SnO₂ Nanoparticles Enable Low-Temperature Detection of Volatile Organic Compounds. ACS Applied Nano Materials, 2020, 3, 3337-3346.	5.0	13
63	Synthesis of Soluble and Size-Controlled SnO2 and CeO2 Nanocrystals: Application of a General Concept for the Low-Temperature, Hydrolytic Synthesis of Organically Capped Oxide Nanoparticles. European Journal of Inorganic Chemistry, 2008, 2008, 859-862.	2.0	12
64	The Chloroalkoxide Route to Transition Metal Oxides. Synthesis of V₂O₅ Thin Films and Powders from a Vanadium Chloromethoxide. Chemistry of Materials, 2009, 21, 1618-1626.	6.7	12
65	Visible light photodegradation of dyes and paracetamol by direct sensitization mechanism onto metallic MoO2 nanocrystals. Journal of Photochemistry and Photobiology A: Chemistry, 2021, 413, 113258.	3.9	12
66	Acetone Sensing with TiO2-WO3 Nanocomposites: An Example of Response Enhancement by Inter-oxide Cooperative Effects. Procedia Engineering, 2014, 87, 803-806.	1.2	11
67	Mechanistic Insights into WO3 Sensing and Related Perspectives. Sensors, 2022, 22, 2247.	3.8	11
68	Core-shell Pd nanoparticles embedded in SnOx films. Synthesis, analytical characterisation and perspective application in chemiresistor-type sensing devices. Microelectronics Journal, 2006, 37, 1620-1628.	2.0	10
69	Growth of CdSe Nanocrystals by a Catalytic Redox Activation of Ostwald Ripening:â€‰ A Case Study of the Concept of Traveling Solubility Perturbation. Chemistry of Materials, 2007, 19, 4919-4924.	6.7	10
70	Chemoresistive sensing of light alkanes with SnO2 nanocrystals: a DFT-based insight. Physical Chemistry Chemical Physics, 2009, 11, 3634.	2.8	10
71	Soft chemistry routes to transparent metal oxide thin films. The case of solâ€“gel synthesis and structural characterization of Ta2O5 thin films from tantalum chloromethoxide. Thin Solid Films, 2014, 555, 39-41.	1.8	10
72	The hydrolytic route to Co-porphyrin-doped SnO2 gas-sensing materials. Inorganica Chimica Acta, 2008, 361, 79-85.	2.4	9

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73	Crystallization Pathways of Multicomponent Oxide Nanocrystals: Critical Role of the Metal Cations Distribution in the Case Study of Metal Ferrites. Crystal Growth and Design, 2010, 10, 5176-5181.	3.0	9
74	Two step, hydrolytic-solvothermal synthesis of redispersible titania nanocrystals and their gas-sensing properties. Journal of Sol-Gel Science and Technology, 2011, 60, 254-259.	2.4	9
75	WO3 Based Gas Sensors. Proceedings (mdpi), 2019, 2, .	0.2	9
76	A novel synthesis of CdSe nanocrystals. Materials Letters, 2004, 58, 2429-2432.	2.6	8
77	Oxide nanocrystals from a low-temperature, self-limiting solâ€“gel transition in a coordinating environment: Nanocrystal synthesis, processing of gas-sensing devices and application to organic compounds. Sensors and Actuators B: Chemical, 2007, 126, 163-167.	7.8	7
78	Suppression of the NO2 interference by chromium addition in WO3-based ammonia sensors. Investigation of the structural properties and of the related sensing pathways. Sensors and Actuators B: Chemical, 2013, 187, 308-312.	7.8	7
79	Rhodium as efficient additive for boosting acetone sensing by TiO2 nanocrystals. Beyond the classical view of noble metal additives. Sensors and Actuators B: Chemical, 2020, 319, 128338.	7.8	6
80	How Chemoresistive Sensors Can Learn from Heterogeneous Catalysis. Hints, Issues, and Perspectives. Chemosensors, 2021, 9, 193.	3.6	6
81	The Ethylhexanoate Route to Metal Oxide Nanocrystals: Synthesis of CoO Nanooctahedra from CoII 2-Ethylhexanoate. European Journal of Inorganic Chemistry, 2016, 2016, 3963-3968.	2.0	5
82	Design of an Electronic Nose for Selective Phosphine Detection in Cereals. Sensor Letters, 2006, 4, 229-234.	0.4	5
83	Synthesis of nanocrystalline ZnO at low temperatures using inorganic sols as precursors. Materials Letters, 2007, 61, 3100-3102.	2.6	4
84	Morphological and structural characterization of WO3 and Crâ€“WO3 thin films synthesized by solâ€“gel process. Thin Solid Films, 2010, 518, 4512-4514.	1.8	4
85	Solvothermal Synthesis, Gasâ€Sensing Properties, and Solar Cellâ€Aided Investigation of TiO₂â€“MoO_x Nanocrystals. ChemNanoMat, 2017, 3, 798-807.	2.8	2
86	Chemical Synthesis, Characterization and Gas-Sensing Properties of Thin Films in the In2O3-SnO2 System. Materials Research Society Symposia Proceedings, 2004, 828, 209.	0.1	1
87	Synthesis of gold nanocrystals in concurrently polymerizing organicâ€“inorganic hybrid films. Journal of Materials Research, 2005, 20, 1287-1294.	2.6	1
88	The role of oxygen vacancies in the sensing properties of SnO<inf>2</inf> nanocrystals. , 2008, , .		1
89	Tailor-made ZnO@SnO2networks for high efficiency photovoltaic devices. , 2014, , .		1
90	Ambient Pressure Synthesis of Corundum-Type In2O3.. ChemInform, 2004, 35, no.	0.0	0

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91	<title>Cheap silicon technology integrated sol-gel combustion sensor</title>. , 2005, 5836, 255.		0
92	A novel method based on gas microsensors to analyze diesel engine oil contaminated by diluent unburned diesel fuel. , 2006, , .		0
93	Detection of unburned fuel as contaminant in engine oil by a gas microsensor array. , 2007, , .		0
94	Surface modification, heterojunctions, and other structures: composing metal oxide nanocrystals for chemical sensors. Proceedings of SPIE, 2015, , .	0.8	0