

Pu-Xian Gao

List of Publications by Year in descending order

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115
papers

5,559
citations

87888

38
h-index

82547

72
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119
all docs

119
docs citations

119
times ranked

7138
citing authors

#	ARTICLE	IF	CITATIONS
1	Single-Crystal Hexagonal Disks and Rings of ZnO: Low-Temperature, Large-Scale Synthesis and Growth Mechanism. <i>Angewandte Chemie - International Edition</i> , 2004, 43, 5238-5242.	13.8	455
2	ZnO Nanobelt/Nanowire Schottky Diodes Formed by Dielectrophoresis Alignment across Au Electrodes. <i>Nano Letters</i> , 2006, 6, 263-266.	9.1	342
3	Self-Assembled Nanowire~Nanoribbon Junction Arrays of ZnO. <i>Journal of Physical Chemistry B</i> , 2002, 106, 12653-12658.	2.6	327
4	Measuring the Work Function at a Nanobelt Tip and at a Nanoparticle Surface. <i>Nano Letters</i> , 2003, 3, 1147-1150.	9.1	257
5	A review of NO _x storage/reduction catalysts: mechanism, materials and degradation studies. <i>Catalysis Science and Technology</i> , 2011, 1, 552.	4.1	196
6	Ni- and Mn-Promoted Mesoporous Co ₃ O ₄ : A Stable Bifunctional Catalyst with Surface-Structure-Dependent Activity for Oxygen Reduction Reaction and Oxygen Evolution Reaction. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 20802-20813.	8.0	191
7	Low temperature propane oxidation over Co ₃ O ₄ based nano-array catalysts: Ni dopant effect, reaction mechanism and structural stability. <i>Applied Catalysis B: Environmental</i> , 2016, 180, 150-160.	20.2	174
8	Monolithically Integrated Spinel M ₃ Co ₃ O ₄ (M=Co, Ni, Zn) Nanoarray Catalysts: Scalable Synthesis and Cation Manipulation for Tunable Low-Temperature CH ₄ and CO Oxidation. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 7223-7227.	13.8	170
9	Direct synthesis and structure characterization of ultrafine CeO ₂ nanoparticles. <i>Nanotechnology</i> , 2006, 17, 5983-5987.	2.6	159
10	Perfect Orientation Ordered in-Situ One-Dimensional Self-Assembly of Mn-Doped PbSe Nanocrystals. <i>Journal of the American Chemical Society</i> , 2004, 126, 14816-14821.	13.7	132
11	A review of helical nanostructures: growth theories, synthesis strategies and properties. <i>Nanoscale</i> , 2014, 6, 9366.	5.6	123
12	Boosting catalytic propane oxidation over PGM-free Co ₃ O ₄ nanocrystal aggregates through chemical leaching: A comparative study with Pt and Pd based catalysts. <i>Applied Catalysis B: Environmental</i> , 2018, 226, 585-595.	20.2	113
13	Reactive sites rich porous tubular yolk-shell g-C ₃ N ₄ via precursor recrystallization mediated microstructure engineering for photoreduction. <i>Applied Catalysis B: Environmental</i> , 2019, 253, 196-205.	20.2	91
14	Activating low-temperature diesel oxidation by single-atom Pt on TiO ₂ nanowire array. <i>Nature Communications</i> , 2020, 11, 1062.	12.8	90
15	Nanowire Array Structures for Photocatalytic Energy Conversion and Utilization: A Review of Design Concepts, Assembly and Integration, and Function Enabling. <i>Advanced Energy Materials</i> , 2016, 6, 1600683.	19.5	89
16	Quasi free K cations confined in hollandite-type tunnels for catalytic solid (catalyst)-solid (reactant) oxidation reactions. <i>Applied Catalysis B: Environmental</i> , 2018, 232, 108-116.	20.2	85
17	Alkali-metal poisoning effect of total CO and propane oxidation over Co ₃ O ₄ nanocatalysts. <i>Applied Catalysis B: Environmental</i> , 2019, 256, 117859.	20.2	78
18	Multiple strategies to decrease ignition temperature for soot combustion on ultrathin MnO ₂ -nanosheet array. <i>Applied Catalysis B: Environmental</i> , 2019, 246, 312-321.	20.2	77

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19	Robust 3-D configured metal oxide nano-array based monolithic catalysts with ultrahigh materials usage efficiency and catalytic performance tunability. <i>Nano Energy</i> , 2013, 2, 873-881.	16.0	76
20	Synthesis, characterization, and photocatalytic properties of ZnO/(La,Sr)CoO ₃ composite nanorod arrays. <i>Journal of Materials Chemistry</i> , 2009, 19, 970.	6.7	75
21	Spherical CuO synthesized by a simple hydrothermal reaction: Concentration-dependent size and its electrocatalytic application. <i>Materials Research Bulletin</i> , 2009, 44, 1681-1686.	5.2	73
22	Nonprecious catalytic honeycombs structured with three dimensional hierarchical Co ₃ O ₄ nano-arrays for high performance nitric oxide oxidation. <i>Journal of Materials Chemistry A</i> , 2013, 1, 9897.	10.3	73
23	Manganese Oxide Nanoarray-Based Monolithic Catalysts: Tunable Morphology and High Efficiency for CO Oxidation. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 7834-7842.	8.0	73
24	Electronic Transport in Superlattice-Structured ZnO Nanohelix. <i>Nano Letters</i> , 2009, 9, 137-143.	9.1	72
25	Perovskite Nanoparticle-Sensitized Ga ₂ O ₃ Nanorod Arrays for CO Detection at High Temperature. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 8880-8887.	8.0	65
26	Low temperature synthesis and characterization of MgO/ZnO composite nanowire arrays. <i>Nanotechnology</i> , 2009, 20, 125608.	2.6	64
27	Hierarchically nanostructured materials for sustainable environmental applications. <i>Frontiers in Chemistry</i> , 2013, 1, 18.	3.6	62
28	Nanostructured cerium oxide: preparation, characterization, and application in energy and environmental catalysis. <i>MRS Communications</i> , 2016, 6, 311-329.	1.8	59
29	CeO ₂ nanofibers for in situ O ₂ and CO sensing in harsh environments. <i>RSC Advances</i> , 2012, 2, 5193.	3.6	51
30	Elucidating the Nature of the Cu(I) Active Site in CuO/TiO ₂ for Excellent Low-Temperature CO Oxidation. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 7091-7101.	8.0	51
31	Nano-array based monolithic catalysts: Concept, rational materials design and tunable catalytic performance. <i>Catalysis Today</i> , 2015, 258, 441-453.	4.4	48
32	Metal Oxide Nanoarrays for Chemical Sensing: A Review of Fabrication Methods, Sensing Modes, and Their Inter-correlations. <i>Frontiers in Materials</i> , 2019, 6, .	2.4	47
33	Low-Field Magnetoresistance in La _{0.67} Sr _{0.33} MnO ₃ :ZnO Composite Film. <i>Advanced Functional Materials</i> , 2012, 22, 3591-3595.	14.9	45
34	Solar-driven efficient methane catalytic oxidation over epitaxial ZnO/La _{0.8} Sr _{0.2} CoO ₃ heterojunctions. <i>Applied Catalysis B: Environmental</i> , 2020, 265, 118469.	20.2	44
35	Nanowire as pico-gram balance at workplace atmosphere. <i>Solid State Communications</i> , 2006, 139, 222-226.	1.9	42
36	Seedless Synthesis and Thermal Decomposition of Single Crystalline Zinc Hydroxystannate Cubes. <i>Crystal Growth and Design</i> , 2009, 9, 4456-4460.	3.0	42

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37	Template-Guided Programmable Janus Heteronanostructure Arrays for Efficient Plasmonic Photocatalysis. <i>Nano Letters</i> , 2018, 18, 4914-4921.	9.1	42
38	Vertically aligned ZnO nanowire arrays on GaN and SiC substrates. <i>Chemical Physics Letters</i> , 2008, 460, 253-256.	2.6	40
39	Highly efficient visible-light driven photocatalysts: a case of zinc stannate based nanocrystal assemblies. <i>Journal of Materials Chemistry A</i> , 2014, 2, 4157-4167.	10.3	40
40	Toward Long-Term Accurate and Continuous Monitoring of Nitrate in Wastewater Using Poly(tetrafluoroethylene) (PTFE)â€“Solid-State Ion-Selective Electrodes (S-ISEs). <i>ACS Sensors</i> , 2020, 5, 3182-3193.	7.8	39
41	Synergistic catalysis by Mn promoted ceria for molecular oxygen assisted epoxidation. <i>Applied Catalysis B: Environmental</i> , 2021, 282, 119573.	20.2	39
42	SiC-Shell Nanostructures Fabricated by Replicating ZnO Nano-objects: A Technique for Producing Hollow Nanostructures of Desired Shape. <i>Small</i> , 2006, 2, 1344-1347.	10.0	38
43	Hierarchical Assembly of Multifunctional Oxide-based Composite Nanostructures for Energy and Environmental Applications. <i>International Journal of Molecular Sciences</i> , 2012, 13, 7393-7423.	4.1	37
44	UV-enhanced CO sensing using Ga ₂ O ₃ -based nanorod arrays at elevated temperature. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	36
45	Scalable Integration of Highly Uniform Mn ₄ Co ₃ O ₄ Nanosheet Array onto Ceramic Monolithic Substrates for Low-temperature Propane Oxidation. <i>ChemCatChem</i> , 2017, 9, 4112-4119.	3.7	36
46	ZnO/perovskite core-shell nanorod array based monolithic catalysts with enhanced propane oxidation and material utilization efficiency at low temperature. <i>Catalysis Today</i> , 2015, 258, 549-555.	4.4	35
47	Copper manganese oxide enhanced nanoarray-based monolithic catalysts for hydrocarbon oxidation. <i>Journal of Materials Chemistry A</i> , 2018, 6, 19047-19057.	10.3	35
48	Bridged ZnO nanowires across trenched electrodes. <i>Applied Physics Letters</i> , 2007, 91, 142108.	3.3	33
49	Structure and magnetic properties of three-dimensional (La,Sr)MnO ₃ nanofilms on ZnO nanorod arrays. <i>Applied Physics Letters</i> , 2011, 98, 123105.	3.3	32
50	Tunable UV response and high performance of zinc stannate nanoparticle film photodetectors. <i>Journal of Materials Chemistry C</i> , 2016, 4, 6176-6184.	5.5	32
51	Microwave-assisted integration of transition metal oxide nanocoatings on manganese oxide nanoarray monoliths for low temperature CO oxidation. <i>Applied Catalysis B: Environmental</i> , 2019, 255, 117766.	20.2	32
52	Ceria-based nanoflake arrays integrated on 3D cordierite honeycombs for efficient low-temperature diesel oxidation catalyst. <i>Applied Catalysis B: Environmental</i> , 2019, 245, 623-634.	20.2	28
53	High performance diesel oxidation catalysts using ultra-low Pt loading on titania nanowire array integrated cordierite honeycombs. <i>Catalysis Today</i> , 2019, 320, 2-10.	4.4	28
54	Synthesis, characterization and CO oxidation of TiO ₂ /(La,Sr)MnO ₃ composite nanorod array. <i>Catalysis Today</i> , 2012, 184, 178-183.	4.4	27

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55	Mechanical-Agitation-Assisted Growth of Large-Scale and Uniform ZnO Nanorod Arrays within 3D Multichannel Monolithic Substrates. <i>Crystal Growth and Design</i> , 2013, 13, 3657-3664.	3.0	27
56	Solvent effects on the heterogeneous growth of TiO ₂ nanostructure arrays by solvothermal synthesis. <i>Catalysis Today</i> , 2021, 360, 275-283.	4.4	27
57	Pre-surface leached cordierite honeycombs for Mn _x Co _{3-x} O ₄ nano-sheet array integration with enhanced hydrocarbons combustion. <i>Catalysis Today</i> , 2019, 320, 196-203.	4.4	26
58	Controlled synthesis and structure tunability of photocatalytically active mesoporous metal-based stannate nanostructures. <i>Applied Surface Science</i> , 2014, 296, 53-60.	6.1	24
59	Annealing induced nanostructure and photoluminescence property evolution in solution-processed Mg-alloyed ZnO nanowires. <i>Applied Physics Letters</i> , 2010, 97, .	3.3	23
60	Nano-array integrated monolithic devices: toward rational materials design and multi-functional performance by scalable nanostructures assembly. <i>CrystEngComm</i> , 2016, 18, 2980-2993.	2.6	23
61	Three dimensional koosh ball nanoarchitecture with a tunable magnetic core, fluorescent nanowire shell and enhanced photocatalytic property. <i>Journal of Materials Chemistry</i> , 2012, 22, 6862.	6.7	22
62	Rational design, synthesis and evaluation of ZnO nanorod array supported Pt:La _{0.8} Sr _{0.2} MnO ₃ lean NO _x traps. <i>Applied Catalysis B: Environmental</i> , 2018, 236, 348-358.	20.2	22
63	Perovskite-sensitized In ²⁺ -Ga ₂ O ₃ nanorod arrays for highly selective and sensitive NO ₂ detection at high temperature. <i>Journal of Materials Chemistry A</i> , 2020, 8, 10845-10854.	10.3	21
64	Cu-decorated ZnO Nanorod Array Integrated Structured Catalysts for Low-Pressure CO ₂ Hydrogenation to Methanol. <i>Advanced Materials Interfaces</i> , 2018, 5, 1700730.	3.7	20
65	Self-limiting growth of ligand-free ultrasmall bimetallic nanoparticles on carbon through under temperature reduction for highly efficient methanol electrooxidation and selective hydrogenation. <i>Applied Catalysis B: Environmental</i> , 2020, 264, 118553.	20.2	20
66	Morphology and phase selective synthesis of Cu _x O (x=1, 2) nanostructures and their catalytic degradation activity. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2010, 166, 113-117.	3.5	19
67	La _{0.67} Sr _{0.33} MnO ₃ nanofibers for in situ, real-time, and stable high temperature oxygen sensing. <i>RSC Advances</i> , 2012, 2, 3872.	3.6	19
68	Single crystalline brookite titanium dioxide nanorod arrays rooted on ceramic monoliths: a hybrid nanocatalyst support with ultra-high surface area and thermal stability. <i>CrystEngComm</i> , 2013, 15, 8345.	2.6	19
69	Low-Concentration NO _x Gas Analysis Using Single Bimodular ZnO Nanorod Sensor. <i>ACS Sensors</i> , 2021, 6, 2979-2987.	7.8	19
70	Thermal oxidation of Cu nanofilm on three-dimensional ZnO nanorod arrays. <i>Journal of Materials Chemistry</i> , 2011, 21, 9564.	6.7	18
71	Band structure engineering strategies of metal oxide semiconductor nanowires and related nanostructures: A review. <i>Semiconductor Science and Technology</i> , 2017, 32, 073001.	2.0	18
72	Understanding low temperature oxidation activity of nanoarray-based monolithic catalysts: from performance observation to structural and chemical insights. <i>Emission Control Science and Technology</i> , 2017, 3, 18-36.	1.5	18

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73	Nano-Array Integrated Structured Catalysts: A New Paradigm upon Conventional Wash-Coated Monolithic Catalysts?. <i>Catalysts</i> , 2017, 7, 253.	3.5	18
74	Multicolored ZnO Nanowire Architectures on Trenched Silicon Substrates. <i>Journal of Physical Chemistry C</i> , 2007, 111, 13763-13769.	3.1	16
75	Scalable continuous flow synthesis of ZnO nanorod arrays in 3-D ceramic honeycomb substrates for low-temperature desulfurization. <i>CrystEngComm</i> , 2017, 19, 5128-5136.	2.6	16
76	Mass transport in nanoarray monolithic catalysts: An experimental-theory study. <i>Chemical Engineering Journal</i> , 2021, 405, 126906.	12.7	16
77	(La,Sr)CoO ₃ /ZnO nanofilmâ€“nanorod diode arrays for photo-responsive moisture and humidity detection. <i>Journal Physics D: Applied Physics</i> , 2010, 43, 272002.	2.8	15
78	Carbon-assisted lateral self-assembly of amorphous silica nanowires. <i>CrystEngComm</i> , 2010, 12, 2817.	2.6	14
79	In situ TPR removal: a generic method for fabricating tubular array devices with mechanical and structural soundness, and functional robustness on various substrates. <i>Journal of Materials Chemistry</i> , 2012, 22, 23098.	6.7	14
80	Mesoporous Perovskite Nanotubeâ€“Array Enhanced Metallicâ€“State Platinum Dispersion for Low Temperature Propane Oxidation. <i>ChemCatChem</i> , 2018, 10, 2184-2189.	3.7	14
81	Zigzag zinc blende ZnS nanowires: Large scale synthesis and their structure evolution induced by electron irradiation. <i>Nano Research</i> , 2009, 2, 966-974.	10.4	13
82	Hierarchical and scalable integration of nanostructures for energy and environmental applications: a review of processing, devices, and economic analyses. <i>Nano Futures</i> , 2020, 4, 012002.	2.2	12
83	Direct Synthesis of ZnO Nanorod Field Emitters on Metal Electrodes. <i>Crystal Growth and Design</i> , 2012, 12, 5051-5055.	3.0	10
84	Direct Synthesis of Conformal Layered Protonated Titanate Nanoarray Coatings on Various Substrate Surfaces Boosted by Low-Temperature Microwave-Assisted Hydrothermal Synthesis. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 35164-35174.	8.0	10
85	Ion-Exchange Loading Promoted Stability of Platinum Catalysts Supported on Layered Protonated Titanate-Derived Titania Nanoarrays. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 21515-21525.	8.0	10
86	Transition-metal doped titanate nanowire photocatalysts boosted by selective ion-exchange induced defect engineering. <i>Applied Surface Science</i> , 2022, 591, 153116.	6.1	10
87	Oxide-catalyzed growth of Ag ₂ O/Zn ₂ SnO ₄ hybrid nanowires and their reversible catalytic ambient ethanol/oxygen detection. <i>Journal of Materials Chemistry</i> , 2010, 20, 5265.	6.7	9
88	Gas adsorption and high-emission current induced degradation of field emission characteristics in solution-processed ZnO nanoneedles. <i>Journal of Applied Physics</i> , 2010, 108, 124318.	2.5	9
89	Antiferromagnetic and dielectric behavior in polycrystalline GdFe _{0.5} Cr _{0.5} O ₃ thin film. <i>APL Materials</i> , 2020, 8, 031106.	5.1	9
90	Signal Generation, Acquisition, and Processing in Brain Machine Interfaces: A Unified Review. <i>Frontiers in Neuroscience</i> , 2021, 15, 728178.	2.8	9

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91	Synthesis of tin nanodendrites via galvanic replacement reaction and their thermal conversion to nanodendritic tin oxide for ultrasensitive electrochemical sensing. RSC Advances, 2011, 1, 1500.	3.6	8
92	Bimodular high temperature planar oxygen gas sensor. Frontiers in Chemistry, 2014, 2, 57.	3.6	8
93	Polymer-Assisted Co-Assembly towards Synthesis of Mesoporous Titania Encapsulated Monodisperse PdAu for Highly Selective Hydrogenation of Phenylacetylene. ChemCatChem, 2020, 12, 1476-1482.	3.7	8
94	Tailoring two-dimensional nanomaterials by structural engineering for chemical and biological sensing. Sensors and Actuators Reports, 2020, 2, 100024.	4.4	8
95	Stress-Induced Shift of Band Gap in ZnO Nanowires from Finite-Element Modeling. Physical Review Applied, 2017, 8, .	3.8	7
96	Nanostructured TiO ₂ Support Effect on Hydrothermal Stability of Platinum based Catalysts. Microscopy and Microanalysis, 2018, 24, 1642-1643.	0.4	7
97	Enhancing ZnO nanowire gas sensors using Au/Fe ₂ O ₃ hybrid nanoparticle decoration. Nanotechnology, 2020, 31, 325505.	2.6	7
98	Surface Dezincification and Selective Oxidation Induced Heterogeneous Semiconductor Nanowire/Nanofilm Network Junctions. Crystal Growth and Design, 2010, 10, 3942-3948.	3.0	6
99	NiO nanosheet array integrated monoliths for low temperature catalytic propane oxidation: A study on the promotion effect of Ce doping. Catalysis Today, 2021, 360, 194-203.	4.4	6
100	Robust and well-controlled TiO ₂ -Al ₂ O ₃ binary nanoarray-integrated ceramic honeycomb for efficient propane combustion. CrystEngComm, 2019, 21, 2727-2735.	2.6	5
101	Isothermal Gas Flow Separation of Helical ZnS Nanowires and Straight Nanobelts. Science of Advanced Materials, 2010, 2, 421-427.	0.7	5
102	Ion selective nano-mesh electrode for long-term continuous monitoring of wastewater quality fabricated using template-guided membrane immobilization. Environmental Science: Nano, 2022, 9, 2149-2160.	4.3	5
103	Laser sintering method induced c-axis growth of Mg _{0.2} Zn _{0.8} O nano-film for ultraviolet photodetector. Journal of Materials Science: Materials in Electronics, 2020, 31, 505-510.	2.2	4
104	Methanol Production: Cu-Decorated ZnO Nanorod Array Integrated Structured Catalysts for Low-Pressure CO ₂ Hydrogenation to Methanol (Adv. Mater. Interfaces 3/2018). Advanced Materials Interfaces, 2018, 5, 1870011.	3.7	3
105	High resolution air flow velocity monitoring using air flow resistance-type sensor film (AFRSF). Sensors and Actuators A: Physical, 2019, 297, 111562.	4.1	3
106	Nanoarray-Based Monolithic Adsorbers for SO ₂ Removal. Emission Control Science and Technology, 2020, 6, 315-323.	1.5	3
107	Conversion of [0001] Textured ZnO Nanofilm into [011̄..0] Directed Nanowires Driven by CO Adsorption: In Situ Carbothermal Synthesis and Complementary First Principles Thermodynamics Simulations. Journal of Physical Chemistry C, 2011, 115, 7372-7376.	3.1	2
108	Single Bimodular Sensor for Differentiated Detection of Multiple Oxidative Gases. Advanced Materials Technologies, 2020, 5, 1901152.	5.8	2

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109	Synthesis and Thermal Degradation of Fire-Retardant Zinc Hydroxystannate Nanocube Coated Textiles. Science of Advanced Materials, 2012, 4, 819-824.	0.7	2
110	Conversion of Functional Nanofilm Into Nanostructures Using Combination of <I>In-Situ</I> Carbothermal and Stress Induced Recrystallization. Science of Advanced Materials, 2012, 4, 837-842.	0.7	2
111	In Situ Microscopy Study of ZnO Acid Etching Nanostructures. Microscopy and Microanalysis, 2020, 26, 1464-1466.	0.4	0
112	Multi-â€Gas Sensing: Single Bimodular Sensor for Differentiated Detection of Multiple Oxidative Gases (Adv. Mater. Technol. 7/2020). Advanced Materials Technologies, 2020, 5, 2070042.	5.8	0
113	Single Chemical Sensor for Multi-Analyte Mixture Detection and Measurement: A Review. Selected Topics in Electornics and Systems, 2021, , 67-82.	0.2	0
114	<I>A Special Issue</I> on Advanced Nanomaterials: Manufacturing and Processing. Science of Advanced Materials, 2012, 4, 781-783.	0.7	0
115	Single Chemical Sensor for Multi-Analyte Mixture Detection and Measurement: A Review. International Journal of High Speed Electronics and Systems, 2020, 29, 2040008.	0.7	0