

Lawrence F Allard

List of Publications by Year in descending order

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58
papers

11,247
citations

126907

33
h-index

161849

54
g-index

59
all docs

59
docs citations

59
times ranked

11553
citing authors

#	ARTICLE	IF	CITATIONS
1	Single-atom catalysis of CO oxidation using Pt ₁ /FeO _x . Nature Chemistry, 2011, 3, 634-641.	13.6	5,149
2	Mild oxidation of methane to methanol or acetic acid on supported isolated rhodium catalysts. Nature, 2017, 551, 605-608.	27.8	550
3	Catalytically active Au-O(OH) <i>x</i> - species stabilized by alkali ions on zeolites and mesoporous oxides. Science, 2014, 346, 1498-1501.	12.6	544
4	CO Oxidation on Supported Single Pt Atoms: Experimental and ab Initio Density Functional Studies of CO Interaction with Pt Atom on Ir-Al ₂ O ₃ (010) Surface. Journal of the American Chemical Society, 2013, 135, 12634-12645.	13.7	535
5	Low-temperature carbon monoxide oxidation catalysed by regenerable atomically dispersed palladium on alumina. Nature Communications, 2014, 5, 4885.	12.8	498
6	Selective hydrogenation of 1,3-butadiene on platinum-copper alloys at the single-atom limit. Nature Communications, 2015, 6, 8550.	12.8	484
7	Atomic Structure of a Lithium-Rich Layered Oxide Material for Lithium-Ion Batteries: Evidence of a Solid Solution. Chemistry of Materials, 2011, 23, 3614-3621.	6.7	441
8	Atomically Dispersed Au(OH) <i>x</i> Species Bound on Titania Catalyze the Low-Temperature Water-Gas Shift Reaction. Journal of the American Chemical Society, 2013, 135, 3768-3771.	13.7	348
9	A Common Single-Site Pt(II)O(OH) <i>x</i> Species Stabilized by Sodium on "Active" and "Inert" Supports Catalyzes the Water-Gas Shift Reaction. Journal of the American Chemical Society, 2015, 137, 3470-3473.	13.7	347
10	Thiolate Ligands as a Double-Edged Sword for CO Oxidation on CeO ₂ Supported Au ₂₅ (SCH ₂ CH ₂ Ph) ₁₈ Nanoclusters. Journal of the American Chemical Society, 2014, 136, 6111-6122.	13.7	245
11	Surpassing the single-atom catalytic activity limit through paired Pt-O-Pt ensemble built from isolated Pt ₁ atoms. Nature Communications, 2019, 10, 3808.	12.8	225
12	Surface faceting and elemental diffusion behaviour at atomic scale for alloy nanoparticles during in situ annealing. Nature Communications, 2015, 6, 8925.	12.8	159
13	A new MEMS-based system for ultra-high-resolution imaging at elevated temperatures. Microscopy Research and Technique, 2009, 72, 208-215.	2.2	135
14	Unique Role of Anchoring Penta-Coordinated Al ³⁺ Sites in the Sintering of Ir ₃ -Al ₂ O ₃ -Supported Pt Catalysts. Journal of Physical Chemistry Letters, 2010, 1, 2688-2691.	4.6	101
15	New insights into the growth mechanism and surface structure of palladium nanocrystals. Nano Research, 2010, 3, 180-188.	10.4	98
16	Diphosphine-Protected Au ₂₂ Nanoclusters on Oxide Supports Are Active for Gas-Phase Catalysis without Ligand Removal. Nano Letters, 2016, 16, 6560-6567.	9.1	88
17	Single-atom gold oxo-clusters prepared in alkaline solutions catalyse the heterogeneous methanol self-coupling reactions. Nature Chemistry, 2019, 11, 1098-1105.	13.6	82
18	Evaluation of Al ₃ Mg ₂ Precipitates and Mn-Rich Phase in Aluminum-Magnesium Alloy Based on Scanning Transmission Electron Microscopy Imaging. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 4933-4939.	2.2	79

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19	Remarkable NO oxidation on single supported platinum atoms. <i>Scientific Reports</i> , 2014, 4, 7238.	3.3	78
20	Fabrication of Fe_{16}N_2 Films by Sputtering Process and Experimental Investigation of Origin of Giant Saturation Magnetization in Fe_{16}N_2 . <i>IEEE Transactions on Magnetics</i> , 2012, 48, 1710-1717.	2.1	75
21	Perpendicular magnetic anisotropy and high spin-polarization ratio in epitaxial Fe-N thin films. <i>Physical Review B</i> , 2011, 84, .	3.2	72
22	Comparative Evaluation of Cast Aluminum Alloys for Automotive Cylinder Heads: Part II—Mechanical and Thermal Properties. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2017, 48, 2543-2562.	2.2	71
23	Atomic structure of three-layer Au/Pd nanoparticles revealed by aberration-corrected scanning transmission electron microscopy. <i>Journal of Materials Chemistry</i> , 2008, 18, 2442.	6.7	70
24	Evolution of gold structure during thermal treatment of Au/FeOx catalysts revealed by aberration-corrected electron microscopy. <i>Journal of Electron Microscopy</i> , 2009, 58, 199-212.	0.9	70
25	Understanding structural defects in lithium-rich layered oxide cathodes. <i>Journal of Materials Chemistry</i> , 2012, 22, 11550.	6.7	68
26	N site ordering effect on partially ordered Fe_{16}N_2 . <i>Applied Physics Letters</i> , 2011, 98, .	3.3	61
27	Synthesis of Fe_{16}N_2 compound Free-Standing Foils with 20 MGOe Magnetic Energy Product by Nitrogen Ion-Implantation. <i>Scientific Reports</i> , 2016, 6, 25436.	3.3	50
28	Comparative Evaluation of Cast Aluminum Alloys for Automotive Cylinder Heads: Part I—Microstructure Evolution. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2017, 48, 2529-2542.	2.2	50
29	Metastable Pd \rightarrow PdO Structures During High Temperature Methane Oxidation. <i>Catalysis Letters</i> , 2017, 147, 1095-1103.	2.6	44
30	Single-site Pt/La-Al ₂ O ₃ stabilized by barium as an active and stable catalyst in purifying CO and C ₃ H ₆ emissions. <i>Applied Catalysis B: Environmental</i> , 2019, 244, 327-339.	20.2	44
31	Direct Colloidal Route for Pt-Covered AuPt Bimetallic Nanoparticles. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 2514-2518.	4.6	41
32	Atomic Structure and Composition of Pt_3Co Nanocatalysts in Fuel Cells: An Aberration-Corrected STEM HAADF Study. <i>Chemistry of Materials</i> , 2013, 25, 530-535.	6.7	39
33	On the behavior of Ag nanowires under high temperature: in situ characterization by aberration-corrected STEM. <i>Journal of Materials Chemistry</i> , 2011, 21, 893-898.	6.7	34
34	Titanium Oxide Nanoparticles Precipitated from Low-Temperature Aqueous Solutions: I. Nucleation, Growth, and Aggregation. <i>Journal of the American Ceramic Society</i> , 2008, 91, 3875-3882.	3.8	28
35	Synthesis and structure of synthetically pure and deuterated amorphous (basic) calcium carbonates. <i>Chemical Communications</i> , 2017, 53, 2942-2945.	4.1	28
36	Early Results from an Aberration-Corrected JEOL 2200FS STEM/TEM at Oak Ridge National Laboratory. <i>Microscopy and Microanalysis</i> , 2006, 12, 483-491.	0.4	26

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37	Synthesis of N^{\pm} Anisotropic Magnet by t. Physical Review Applied, 2016, 6, .	3.8	20
38	In situ investigation of ordering phase transformations in FePt magnetic nanoparticles. Ultramicroscopy, 2017, 176, 218-232.	1.9	20
39	Single Pd Atoms on γ -Al ₂ O ₃ (010) Surface do not Catalyze NO Oxidation. Scientific Reports, 2017, 7, 560.	3.3	19
40	NiAl Oxidation Reaction Processes Studied In Situ Using MEMS-Based Closed-Cell Gas Reaction Transmission Electron Microscopy. Oxidation of Metals, 2017, 88, 495-508.	2.1	17
41	The effect of strain induced by Ag underlayer on saturation magnetization of partially ordered Fe ₁₆ N ₂ thin films. Applied Physics Letters, 2013, 103, .	3.3	16
42	Structure and morphology of polar and semi-polar pyramidal surfaces coating wurtzite ZnO micro-wires. Journal of Materials Science, 2013, 48, 3857-3862.	3.7	10
43	Thermal stability of partially ordered Fe ₁₆ N ₂ film on non-magnetic Ag under layer. Journal of Applied Physics, 2014, 115, .	2.5	10
44	Titanium Oxide Nanoparticles Precipitated from Low-Temperature Aqueous Solutions: II. Thin Film Formation and Microstructure Developments. Journal of the American Ceramic Society, 2010, 93, 1909-1915.	3.8	9
45	Ab Initio Density Functional Calculations and Infra-Red Study of CO Interaction with Pd Atoms on γ -Al ₂ O ₃ (010) Surface. Scientific Reports, 2017, 7, 6231.	3.3	9
46	A Novel Heating Technology for Ultra-High Resolution Imaging in Electron Microscopes. Microscopy Today, 2009, 17, 50-55.	0.3	7
47	Long-Term ¹³ C Uptake by ¹² C-Enriched Calcite. ACS Earth and Space Chemistry, 2021, 5, 998-1005.	2.7	7
48	Oxidation-Induced Structural Changes in Sub-Nanometer Platinum Supported on Alumina. ChemCatChem, 2015, 7, 2391-2396.	3.7	4
49	Imaging at the Single-Atom Level in Closed-Cell In Situ Gas Reactions. Microscopy and Microanalysis, 2016, 22, 876-877.	0.4	3
50	Water Vapor in Closed-Cell In Situ Gas Reactions: Initial Experiments. Microscopy and Microanalysis, 2017, 23, 940-941.	0.4	2
51	Sol-gel synthesis of nano-scale, end-member albite feldspar (NaAlSi ₃ O ₈). Journal of Colloid and Interface Science, 2021, 603, 459-467.	9.4	2
52	In Situ Investigation of the Carbothermal Reduction of ZnO Nanowires. Microscopy and Microanalysis, 2014, 20, 1554-1555.	0.4	1
53	Novel Method for Precision Controlled Heating of TEM Thin Sections to Study Reaction Processes. Microscopy and Microanalysis, 2014, 20, 1628-1629.	0.4	1
54	High Ms Fe ₁₆ N ₂ thin film with Ag under layer on GaAs substrate. AIP Advances, 2016, 6, .	1.3	1

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55	N site ordering effect on partially ordered Fe ₁₆ N ₂ . , 0, .		1
56	Atomically Dispersed Precious Metal Species on Various Oxide Supports for Catalytic Hydrogen Upgrading and Emission Control. <i>Microscopy and Microanalysis</i> , 2016, 22, 858-859.	0.4	0
57	Model "Alloy" Specimens for MEMS-Based Closed-Cell Gas-Reactions. <i>Microscopy and Microanalysis</i> , 2017, 23, 908-909.	0.4	0
58	Performing <i>In Situ</i> Closed-Cell Gas Reactions in the Transmission Electron Microscope. <i>Journal of Visualized Experiments</i> , 2021, , .	0.3	0