

Jason F Weaver

List of Publications by Year in descending order

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102
all docs

102
docs citations

102
times ranked

3549
citing authors

#	ARTICLE	IF	CITATIONS
1	Surface Characterization Study of the Thermal Decomposition of AgO. The Journal of Physical Chemistry, 1994, 98, 8519-8524.	2.9	270
2	Low-temperature activation of methane on the IrO ₂ (110) surface. Science, 2017, 356, 299-303.	12.6	244
3	The adsorption and reaction of low molecular weight alkanes on metallic single crystal surfaces. Surface Science Reports, 2003, 50, 107-199.	7.2	184
4	Surface Chemistry of Late Transition Metal Oxides. Chemical Reviews, 2013, 113, 4164-4215.	47.7	181
5	Surface Characterization Study of the Thermal Decomposition of Ag ₂ O. Chemistry of Materials, 1994, 6, 1693-1699.	6.7	159
6	Oxidation of Pt(111) by gas-phase oxygen atoms. Surface Science, 2005, 592, 83-103.	1.9	149
7	STM study of high-coverage structures of atomic oxygen on Pt(111): p(2 $\sqrt{3}$ ×1) and Pt oxide chain structures. Surface Science, 2008, 602, 3116-3124.	1.9	137
8	Alkane activation on crystalline metal oxide surfaces. Chemical Society Reviews, 2014, 43, 7536-7547.	38.1	133
9	Density functional theory study of the initial oxidation of the Pt(111) surface. Physical Review B, 2009, 79, .	3.2	96
10	ELS and XPS study of Pd/PdO methane oxidation catalysts. Applied Surface Science, 2003, 205, 102-112.	6.1	83
11	Mechanism of PdO thin film formation during the oxidation of Pd(111). Surface Science, 2009, 603, 2671-2682.	1.9	80
12	Intrinsic Ligand Effect Governing the Catalytic Activity of Pd Oxide Thin Films. ACS Catalysis, 2014, 4, 3330-3334.	11.2	79
13	Molecular adsorption of small alkanes on a PdO(101) thin film: Evidence of σ -complex formation. Journal of Chemical Physics, 2010, 132, 024709.	3.0	71
14	CO Adsorption on Clean and Oxidized Pd(111). Journal of Physical Chemistry C, 2014, 118, 1118-1128.	3.1	69
15	A PdO(101) thin film grown on Pd(111) in ultrahigh vacuum. Surface Science, 2008, 602, L53-L57.	1.9	68
16	Low Temperature Activation of Methane on Metal-Oxides and Complex Interfaces: Insights from Surface Science. Accounts of Chemical Research, 2020, 53, 1488-1497.	15.6	66
17	Dispersion-corrected density functional theory calculations of the molecular binding of <i>n</i> -alkanes on Pd(111) and PdO(101). Journal of Chemical Physics, 2012, 136, 054702.	3.0	65
18	Adsorption and abstraction of oxygen atoms on Pd(111): Characterization of the precursor to PdO formation. Surface Science, 2008, 602, 1337-1346.	1.9	64

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19	Molecular Chemisorption of O ₂ on a PdO(101) Thin Film on Pd(111). <i>Journal of Physical Chemistry C</i> , 2008, 112, 8324-8331.	3.1	61
20	Adsorption of Water on a PdO(101) Thin Film: Evidence of an Adsorbed HO ⁺ H ₂ O Complex. <i>Journal of Physical Chemistry C</i> , 2009, 113, 1495-1506.	3.1	59
21	Precursor-mediated dissociation of n-butane on a PdO(101) thin film. <i>Catalysis Today</i> , 2011, 160, 213-227.	4.4	55
22	Facile Dehydrogenation of Ethane on the IrO ₂ (110) Surface. <i>Journal of the American Chemical Society</i> , 2018, 140, 2665-2672.	13.7	55
23	Ag ₂ O XPS Spectra. <i>Surface Science Spectra</i> , 1994, 3, 157-162.	1.3	53
24	Measurement of Zn _{0.95} Cd _{0.05} O ⁺ ZnO (0001) heterojunction band offsets by x-ray photoelectron spectroscopy. <i>Applied Physics Letters</i> , 2005, 87, 192106.	3.3	52
25	Ag Foil by XPS. <i>Surface Science Spectra</i> , 1994, 3, 151-156.	1.3	50
26	Dilute Alloys Based on Au, Ag, or Cu for Efficient Catalysis: From Synthesis to Active Sites. <i>Chemical Reviews</i> , 2022, 122, 8758-8808.	47.7	50
27	Pathways and kinetics of methane and ethane C-H bond cleavage on PdO(101). <i>Journal of Chemical Physics</i> , 2013, 139, 104702.	3.0	49
28	Strong Kinetic Isotope Effect in the Dissociative Chemisorption of H ₂ on a PdO(101) Thin Film. <i>Journal of Physical Chemistry C</i> , 2010, 114, 11485-11497.	3.1	47
29	Alkane Activation and Oxidation on Late-Transition-Metal Oxides: Challenges and Opportunities. <i>ACS Catalysis</i> , 2021, 11, 4682-4703.	11.2	47
30	Facile C-H Bond Cleavage and Deep Oxidation of Propane on a PdO(101) Thin Film. <i>Journal of Physical Chemistry C</i> , 2009, 113, 9773-9782.	3.1	46
31	Kinetics of CO oxidation on high-concentration phases of atomic oxygen on Pt(111). <i>Journal of Chemical Physics</i> , 2005, 123, 224703.	3.0	43
32	Ag ₂ O XPS Spectra. <i>Surface Science Spectra</i> , 1994, 3, 163-168.	1.3	42
33	Oxidation of Nitrided Si(100) by Gaseous Atomic and Molecular Oxygen. <i>Journal of Physical Chemistry B</i> , 2005, 109, 8017-8028.	2.6	42
34	Molecular adsorption and growth of n-butane adlayers on Pt(111). <i>Surface Science</i> , 2001, 470, 226-242.	1.9	40
35	CO Oxidation on PdO(101) during Temperature-Programmed Reaction Spectroscopy: Role of Oxygen Vacancies. <i>Journal of Physical Chemistry C</i> , 2014, 118, 28647-28661.	3.1	40
36	Oxidation of Pt(100)-hex-R ₀ 7Å° by gas-phase oxygen atoms. <i>Surface Science</i> , 2007, 601, 235-246.	1.9	39

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37	Vacancy-Mediated Processes in the Oxidation of CO on PdO(101). <i>Accounts of Chemical Research</i> , 2015, 48, 1515-1523.	15.6	39
38	Understanding the Intrinsic Surface Reactivity of Single-Layer and Multilayer PdO(101) on Pd(100). <i>ACS Catalysis</i> , 2018, 8, 8553-8567.	11.2	38
39	Inhibition of methane adsorption on PdO(101) by water and molecular oxygen. <i>Surface Science</i> , 2013, 617, 249-255.	1.9	35
40	Decoding reactive structures in dilute alloy catalysts. <i>Nature Communications</i> , 2022, 13, 832.	12.8	35
41	Pathways for C-H bond cleavage of propane η^1 -complexes on PdO(101). <i>Physical Chemistry Chemical Physics</i> , 2012, 14, 12202.	2.8	34
42	Adsorption of alkanes on stoichiometric and oxygen-rich RuO ₂ (110). <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 22647-22660.	2.8	33
43	Growth and properties of high-concentration phases of atomic oxygen on platinum single-crystal surfaces. <i>Journal of Physics Condensed Matter</i> , 2008, 20, 184015.	1.8	30
44	Hot precursor reactions during the collisions of gas-phase oxygen atoms with deuterium chemisorbed on Pt(100). <i>Journal of Chemical Physics</i> , 2007, 126, 134704.	3.0	29
45	Effects of non-local exchange on core level shifts for gas-phase and adsorbed molecules. <i>Journal of Chemical Physics</i> , 2014, 141, 034706.	3.0	29
46	CO oxidation on single and multilayer Pd oxides on Pd(111): mechanistic insights from RAIRS. <i>Catalysis Science and Technology</i> , 2014, 4, 3826-3834.	4.1	29
47	Kinetic Coupling among Metal and Oxide Phases during CO Oxidation on Partially Reduced PdO(101): Influence of Gas-Phase Composition. <i>ACS Catalysis</i> , 2017, 7, 7319-7331.	11.2	29
48	Kinetics of low-temperature methane activation on IrO ₂ (110): Role of local surface hydroxide species. <i>Journal of Catalysis</i> , 2020, 383, 181-192.	6.2	29
49	High Selectivity for Primary C-H Bond Cleavage of Propane η^1 -Complexes on the PdO(101) Surface. <i>Journal of the American Chemical Society</i> , 2011, 133, 16196-16200.	13.7	28
50	Dissociative Chemisorption and Oxidation of H ₂ on the Stoichiometric IrO ₂ (110) Surface. <i>Topics in Catalysis</i> , 2018, 61, 397-411.	2.8	27
51	Adsorption and Oxidation of CH ₄ on Oxygen-Rich IrO ₂ (110). <i>Journal of Physical Chemistry C</i> , 2019, 123, 27603-27614.	3.1	27
52	Growth and Partial Reduction of Sm ₂ O ₃ (111) Thin Films on Pt(111): Evidence for the Formation of SmO(100). <i>Journal of Physical Chemistry C</i> , 2013, 117, 21396-21406.	3.1	26
53	Dissociative Adsorption of Hydrogen on PdO(101) Studied by HRCLS and DFT. <i>Journal of Physical Chemistry C</i> , 2013, 117, 13510-13519.	3.1	25
54	Oxidation of a Tb ₂ O ₃ (111) Thin Film on Pt(111) by Gas-Phase Oxygen Atoms. <i>Journal of Physical Chemistry C</i> , 2014, 118, 20916-20926.	3.1	25

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55	Adsorption and oxidation of propane and cyclopropane on IrO ₂ (110). Physical Chemistry Chemical Physics, 2018, 20, 29264-29273.	2.8	24
56	Entropies of Adsorbed Molecules Exceed Expectations. Science, 2013, 339, 39-40.	12.6	23
57	The transition from surface to bulk oxide growth on Pt(100): Precursor-mediated kinetics. Surface Science, 2007, 601, 4809-4816.	1.9	22
58	Surface structural evolution during the thermal decomposition of a PdO(101) thin film. Surface Science, 2011, 605, 1797-1806.	1.9	22
59	Direct collisionally activated and trapping-mediated dissociative chemisorption of neopentane on clean Pt(111): the activity of surface defect sites. Surface Science, 1997, 393, 150-161.	1.9	21
60	Propane σ -Complexes on PdO(101): Spectroscopic Evidence of the Selective Coordination and Activation of Primary C-H Bonds. Angewandte Chemie - International Edition, 2015, 54, 13907-13911.	13.8	21
61	Adsorption and Oxidation of <i>n</i> -Butane on the Stoichiometric RuO ₂ (110) Surface. Journal of Physical Chemistry C, 2016, 120, 9863-9873.	3.1	21
62	Growth and termination of a rutile IrO ₂ (100) layer on Ir(111). Surface Science, 2016, 652, 213-221.	1.9	21
63	Adsorption of CO ₂ on a PdO(101) Thin Film. Journal of Physical Chemistry C, 2012, 116, 3007-3016.	3.1	20
64	Adsorption and Oxidation of Ethylene on the Stoichiometric and O-Rich RuO ₂ (110) Surfaces. Journal of Physical Chemistry C, 2017, 121, 20375-20386.	3.1	18
65	Selective and nonselective wet etching of Zn _{0.9} Mg _{0.1} O/ZnO. Journal of Electronic Materials, 2006, 35, 516-519.	2.2	17
66	Structure and reactivity of iridium oxide layers grown on Ir(100) by oxidation at sub-ambient O ₂ pressures. Journal Physics D: Applied Physics, 2019, 52, 434002.	2.8	17
67	Tuning the Reactivity of Ultrathin Oxides: NO Adsorption on Monolayer FeO(111). Angewandte Chemie - International Edition, 2016, 55, 9267-9271.	13.8	16
68	Hydrogen oxidation on oxygen-rich IrO ₂ (110). Journal of Lithic Studies, 2018, 4, 1-13.	0.5	16
69	Reduction of Oxidized Pd/Ag(111) Surfaces by H ₂ : Sensitivity to PdO Island Size and Dispersion. ACS Catalysis, 2020, 10, 10117-10124.	11.2	16
70	Molecular chemisorption of N ₂ on IrO ₂ (110). Journal of Chemical Physics, 2020, 152, 074712.	3.0	15
71	Selectivity in the initial C-H bond cleavage of n-butane on PdO(101). Physical Chemistry Chemical Physics, 2013, 15, 12075.	2.8	14
72	High-Resolution X-ray Photoelectron Spectroscopy of an IrO ₂ (110) Film on Ir(100). Journal of Physical Chemistry Letters, 2020, 11, 7184-7189.	4.6	14

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73	Catalytic Oxidation of Methane on IrO ₂ (110) Films Investigated Using Ambient-Pressure X-ray Photoelectron Spectroscopy. ACS Catalysis, 2022, 12, 2840-2853.	11.2	14
74	Temperature-Programmed Reaction of CO Adsorbed on Oxygen-Covered Pt(100): Reactivity of High-Coverage Oxygen Phases. Journal of Physical Chemistry C, 2008, 112, 4232-4241.	3.1	13
75	Growth, Structure, and Stability of the High-Index TbO _x (112) Surface on Cu(111). Journal of Physical Chemistry C, 2015, 119, 14175-14184.	3.1	13
76	Initial Reduction of the PdO(101) Surface: Role of Oxygen Vacancy Formation Kinetics. Journal of Physical Chemistry C, 2018, 122, 26007-26017.	3.1	13
77	Formation of a Ti-Cu(111) single atom alloy: Structure and CO binding. Journal of Chemical Physics, 2021, 154, 234703.	3.0	13
78	Isothermal Reduction of IrO ₂ (110) Films by Methane Investigated Using In Situ X-ray Photoelectron Spectroscopy. ACS Catalysis, 2021, 11, 5004-5016.	11.2	12
79	Methanol Adsorption and Oxidation on Reduced and Oxidized TbO _x (111) Surfaces. Journal of Physical Chemistry C, 2016, 120, 28617-28629.	3.1	11
80	Adsorption of NO on FeO _x Films Grown on Ag(111). Journal of Physical Chemistry C, 2016, 120, 9282-9291.	3.1	11
81	Adsorption of gas-phase oxygen atoms on Pt(100)-hex-R0.7Å: Evidence of a metastable chemisorbed phase. Surface Science, 2006, 600, 2928-2937.	1.9	10
82	Oxidation of Methanol on a PdO(101) Thin Film. Journal of Physical Chemistry C, 2011, 115, 11575-11585.	3.1	10
83	Fe Oxides on Ag Surfaces: Structure and Reactivity. Topics in Catalysis, 2017, 60, 492-502.	2.8	10
84	First Principles Study of Molecular O ₂ Adsorption on the PdO(101) Surface. Topics in Catalysis, 2017, 60, 401-412.	2.8	9
85	Growth and auto-oxidation of Pd on single-layer AgO _x /Ag(111). Physical Chemistry Chemical Physics, 2020, 22, 6202-6209.	2.8	8
86	Oxophilicity Drives Oxygen Transfer at a Palladium-Silver Interface for Increased CO Oxidation Activity. ACS Catalysis, 2020, 10, 13878-13889.	11.2	7
87	Formation, Characterization, and Reactivity of Adsorbed Oxygen on BaO/Pt(111). Journal of Physical Chemistry C, 2010, 114, 20195-20206.	3.1	6
88	Molecular adsorption of NO on PdO(101). Surface Science, 2015, 640, 150-158.	1.9	6
89	Promotion of CO oxidation on PdO(101) by adsorbed H ₂ O. Surface Science, 2016, 650, 203-209.	1.9	6
90	Methanol oxidation on stoichiometric and oxygen-rich RuO ₂ (110). Physical Chemistry Chemical Physics, 2017, 19, 18975-18987.	2.8	6

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91	Oxidation and Reduction of Ir(100) Studied by High-Energy Surface X-ray Diffraction. Journal of Physical Chemistry C, 2022, 126, 5244-5255.	3.1	6
92	Surface reactivity of oxide phases generated on Pd(111) during the growth vs. reduction of PdO(101) films. Surface Science, 2013, 611, 40-48.	1.9	5
93	Methanol Adsorption and Reaction on Samaria Thin Films on Pt(111). Materials, 2015, 8, 6228-6256.	2.9	5
94	Growth and Structure of Tb ₂ O ₃ (111) Films on Pt(111). Journal of Physical Chemistry C, 2018, 122, 9997-10005.	3.1	5
95	Redox-mediated transformation of a Tb ₂ O ₃ (111) thin film from the cubic fluorite to bixbyite structure. Physical Chemistry Chemical Physics, 2020, 22, 379-390.	2.8	4
96	Oxidation of a c-Tb ₂ O ₃ (111) thin film by the sequential formation of stoichiometric phases. Surface Science, 2020, 694, 121555.	1.9	4
97	Kinetics and selectivity of methane oxidation on an IrO ₂ (110) film. Journal of Physics Condensed Matter, 2022, 34, 284002.	1.8	3
98	Tuning the Reactivity of Ultrathin Oxides: NO Adsorption on Monolayer FeO(111). Angewandte Chemie, 2016, 128, 9413-9417.	2.0	2
99	Catalytic Chemistry on Oxide Nanostructures. Springer Series in Materials Science, 2016, , 251-280.	0.6	0