

Johan Gustafson

List of Publications by Year in descending order

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79
papers

3,433
citations

117453

34
h-index

143772

57
g-index

80
all docs

80
docs citations

80
times ranked

2537
citing authors

#	ARTICLE	IF	CITATIONS
1	Kinetic Hindrance during the Initial Oxidation of Pd(100) at Ambient Pressures. <i>Physical Review Letters</i> , 2004, 92, 046101.	2.9	209
2	The Pd($\sqrt{2} \times \sqrt{2}$) $\sqrt{2}$ -O surface oxide revisited. <i>Surface Science</i> , 2003, 541, 101-112.	0.8	201
3	Self-Limited Growth of a Thin Oxide Layer on Rh(111). <i>Physical Review Letters</i> , 2004, 92, 126102.	2.9	198
4	The Active Phase of Palladium during Methane Oxidation. <i>Journal of Physical Chemistry Letters</i> , 2012, 3, 678-682.	2.1	183
5	High-Energy Surface X-ray Diffraction for Fast Surface Structure Determination. <i>Science</i> , 2014, 343, 758-761.	6.0	144
6	<i>In Situ</i> X-Ray Photoelectron Spectroscopy of Model Catalysts: At the Edge of the Gap. <i>Physical Review Letters</i> , 2013, 110, 117601.	2.9	107
7	Surface structure and reactivity of Pd(100) during CO oxidation near ambient pressures. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 13167.	1.3	104
8	Structure of a thin oxide film on Rh(100). <i>Physical Review B</i> , 2005, 71, .	1.1	101
9	Catalytic Activity of the Rh Surface Oxide: CO Oxidation over Rh(111) under Realistic Conditions. <i>Journal of Physical Chemistry C</i> , 2010, 114, 4580-4583.	1.5	88
10	Sensitivity of catalysis to surface structure: The example of CO oxidation on Rh under realistic conditions. <i>Physical Review B</i> , 2008, 78, .	1.1	86
11	Oxidation and reduction of Pd(100) and aerosol-deposited Pd nanoparticles. <i>Physical Review B</i> , 2011, 83, .	1.1	79
12	Intrinsic Ligand Effect Governing the Catalytic Activity of Pd Oxide Thin Films. <i>ACS Catalysis</i> , 2014, 4, 3330-3334.	5.5	79
13	Oxygen-induced step bunching and faceting of Rh(553): Experiment and ab initio calculations. <i>Physical Review B</i> , 2006, 74, .	1.1	71
14	Structure and catalytic reactivity of Rh oxides. <i>Catalysis Today</i> , 2009, 145, 227-235.	2.2	71
15	Oxidation of Pd(553): From ultrahigh vacuum to atmospheric pressure. <i>Physical Review B</i> , 2007, 76, .	1.1	70
16	Steps Control the Dissociation of CO ₂ on Cu(100). <i>Journal of the American Chemical Society</i> , 2018, 140, 12974-12979.	6.6	70
17	CO Adsorption on Clean and Oxidized Pd(111). <i>Journal of Physical Chemistry C</i> , 2014, 118, 1118-1128.	1.5	69
18	The Role of Oxides in Catalytic CO Oxidation over Rhodium and Palladium. <i>ACS Catalysis</i> , 2018, 8, 4438-4445.	5.5	69

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19	The surface oxide as a source of oxygen on Rh(111). Journal of Electron Spectroscopy and Related Phenomena, 2005, 144-147, 367-372.	0.8	62
20	HIPPIE: a new platform for ambient-pressure X-ray photoelectron spectroscopy at the MAX IV Laboratory. Journal of Synchrotron Radiation, 2021, 28, 624-636.	1.0	60
21	Comment on "CO Oxidation on Pt-Group Metals from Ultrahigh Vacuum to Near Atmospheric Pressures. 2. Palladium and Platinum". Journal of Physical Chemistry C, 2010, 114, 6875-6876.	1.5	54
22	Step-Orientation-Dependent Oxidation: From 1D to 2D Oxides. Physical Review Letters, 2008, 101, 266104.	2.9	49
23	A surface x-ray study of the structure and morphology of the oxidized Pd(001) surface. Journal of Chemical Physics, 2005, 122, 044706.	1.2	48
24	X-ray photoemission analysis of clean and carbon monoxide-chemisorbed platinum(111) stepped surfaces using a curved crystal. Nature Communications, 2015, 6, 8903.	5.8	48
25	Structure and reactivity of a model catalyst alloy under realistic conditions. Journal of Physics Condensed Matter, 2008, 20, 184018.	0.7	47
26	High-Coverage Oxygen Structures on Rh(111): Adsorbate Repulsion and Site Preference Is Not Enough. Physical Review Letters, 2004, 93, 266103.	2.9	46
27	Lack of surface oxide layers and facile bulk oxide formation on Pd(110). Physical Review B, 2009, 80, .	1.1	41
28	Evidence for the Active Phase of Heterogeneous Catalysts through In Situ Reaction Product Imaging and Multiscale Modeling. ACS Catalysis, 2015, 5, 4514-4518.	5.5	41
29	Transient Structures of PdO during CO Oxidation over Pd(100). Journal of Physical Chemistry C, 2015, 119, 15469-15476.	1.5	41
30	Spatially and temporally resolved gas distributions around heterogeneous catalysts using infrared planar laser-induced fluorescence. Nature Communications, 2015, 6, 7076.	5.8	41
31	Novel in Situ Techniques for Studies of Model Catalysts. Accounts of Chemical Research, 2017, 50, 2326-2333.	7.6	39
32	Understanding the Intrinsic Surface Reactivity of Single-Layer and Multilayer PdO(101) on Pd(100). ACS Catalysis, 2018, 8, 8553-8567.	5.5	38
33	Strain Dependent Light-off Temperature in Catalysis Revealed by Planar Laser-Induced Fluorescence. ACS Catalysis, 2017, 7, 110-114.	5.5	36
34	An in situ set up for the detection of CO ₂ from catalytic CO oxidation by using planar laser-induced fluorescence. Review of Scientific Instruments, 2012, 83, 053104.	0.6	35
35	Structure of the Rh ₂ O ₃ (0001) surface. Surface Science, 2012, 606, 1416-1421.	0.8	34
36	Identification of Step Atoms by High Resolution Core Level Spectroscopy. Physical Review Letters, 2003, 91, 056102.	2.9	33

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37	Quantitative surface structure determination using in situ high-energy SXRD: Surface oxide formation on Pd(100) during catalytic CO oxidation. <i>Surface Science</i> , 2014, 630, 229-235.	0.8	32
38	Growth of Ultrathin Iron Oxide Films on Ag(100). <i>Journal of Physical Chemistry C</i> , 2015, 119, 2572-2582.	1.5	32
39	2D and 3D imaging of the gas phase close to an operating model catalyst by planar laser induced fluorescence. <i>Journal of Physics Condensed Matter</i> , 2016, 28, 453002.	0.7	30
40	Effects of non-local exchange on core level shifts for gas-phase and adsorbed molecules. <i>Journal of Chemical Physics</i> , 2014, 141, 034706.	1.2	29
41	Kinetics of the Reduction of the Rh(111) Surface Oxide: Linking Spectroscopy and Atomic-Scale Information. <i>Journal of Physical Chemistry B</i> , 2006, 110, 9966-9975.	1.2	27
42	Real-Time Gas-Phase Imaging over a Pd(110) Catalyst during CO Oxidation by Means of Planar Laser-Induced Fluorescence. <i>ACS Catalysis</i> , 2015, 5, 2028-2034.	5.5	26
43	Structure–function relationship during CO ₂ methanation over Rh/Al ₂ O ₃ and Rh/SiO ₂ catalysts under atmospheric pressure conditions. <i>Catalysis Science and Technology</i> , 2018, 8, 2686-2696.	2.1	26
44	Dissociative Adsorption of Hydrogen on PdO(101) Studied by HRCLS and DFT. <i>Journal of Physical Chemistry C</i> , 2013, 117, 13510-13519.	1.5	25
45	Copper-Modified Zeolites and Silica for Conversion of Methane to Methanol. <i>Catalysts</i> , 2018, 8, 545.	1.6	25
46	Catalytic Oxidation of Carbon Monoxide on a Curved Pd Crystal: Spatial Variation of Active and Poisoning Phases in Stationary Conditions. <i>Journal of the American Chemical Society</i> , 2018, 140, 16245-16252.	6.6	24
47	Visualization of Gas Distribution in a Model AP-XPS Reactor by PLIF: CO Oxidation over a Pd(100) Catalyst. <i>Catalysts</i> , 2017, 7, 29.	1.6	23
48	A high pressure X-ray photoelectron spectroscopy study of oxidation and reduction of Rh(100) and Rh nanoparticles. <i>Surface Science</i> , 2014, 628, 153-158.	0.8	22
49	High-energy x-ray diffraction from surfaces and nanoparticles. <i>Physical Review B</i> , 2017, 96, .	1.1	22
50	Comparison of AP-XPS and PLIF Measurements During CO Oxidation Over Pd Single Crystals. <i>Topics in Catalysis</i> , 2016, 59, 478-486.	1.3	21
51	Simultaneous Imaging of Gas Phase over and Surface Reflectance of a Pd(100) Single Crystal during CO Oxidation. <i>Journal of Physical Chemistry C</i> , 2017, 121, 23511-23519.	1.5	20
52	Combining high-energy X-ray diffraction with Surface Optical Reflectance and Planar Laser Induced Fluorescence for <i>operando</i> catalyst surface characterization. <i>Review of Scientific Instruments</i> , 2019, 90, 033703.	0.6	20
53	Initial oxidation of Cu(100) studied by X-ray photo-electron spectroscopy and density functional theory calculations. <i>Surface Science</i> , 2018, 675, 64-69.	0.8	17
54	Tuning the Reactivity of Ultrathin Oxides: NO Adsorption on Monolayer FeO(111). <i>Angewandte Chemie - International Edition</i> , 2016, 55, 9267-9271.	7.2	16

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55	Surface optical reflectance combined with x-ray techniques during gas-surface interactions. Journal Physics D: Applied Physics, 2020, 53, 224001.	1.3	15
56	Reply to "Comment on "Catalytic Activity of the Rh Surface Oxide: CO Oxidation over Rh(111) under Realistic Conditions"™. Journal of Physical Chemistry C, 2010, 114, 22372-22373.	1.5	14
57	Step dynamics and oxide formation during CO oxidation over a vicinal Pd surface. Physical Chemistry Chemical Physics, 2016, 18, 20312-20320.	1.3	14
58	Bridging the Pressure Gap in CO Oxidation. ACS Catalysis, 2021, 11, 9128-9135.	5.5	14
59	Catalytic Oxidation of CO on a Curved Pt(111) Surface: Simultaneous Ignition at All Facets through a Transient CO-O Complex**. Angewandte Chemie - International Edition, 2020, 59, 20037-20043.	7.2	13
60	CO Chemisorption on Vicinal Rh(111) Surfaces Studied with a Curved Crystal. Journal of Physical Chemistry C, 2020, 124, 9305-9313.	1.5	13
61	The influence of incommensurability on the long-range periodicity of the Pd(100)-(1x1) surface. Surface Science, 2017, 660, 1-8.	0.8	11
62	High energy surface x-ray diffraction applied to model catalyst surfaces at work. Journal of Physics Condensed Matter, 2021, 33, 073001.	0.7	11
63	Structure of two-dimensional Fe3O4. Journal of Chemical Physics, 2020, 152, 114705.	1.2	10
64	A high pressure x-ray photoelectron spectroscopy study of CO oxidation over Rh(100). Journal of Physics Condensed Matter, 2014, 26, 055003.	0.7	9
65	An in situ sample environment reaction cell for spatially resolved x-ray absorption spectroscopy studies of powders and small structured reactors. Review of Scientific Instruments, 2015, 86, 033112.	0.6	9
66	Combining synchrotron light with laser technology in catalysis research. Journal of Synchrotron Radiation, 2018, 25, 1389-1394.	1.0	9
67	Structural Changes in Monolayer Cobalt Oxides under Ambient Pressure CO and O2 Studied by In Situ Grazing-Incidence X-ray Absorption Fine Structure Spectroscopy. Journal of Physical Chemistry C, 2022, 126, 3411-3418.	1.5	9
68	Faceting of Rhodium(553) in Realistic Reaction Mixtures of Carbon Monoxide and Oxygen. Journal of Physical Chemistry C, 2015, 119, 11646-11652.	1.5	8
69	Redox behavior of iron at the surface of an O(100) single crystal studied by ambient-pressure photoelectron spectroscopy. Journal of Lithic Studies, 2017, 3, 95-103.	0.1	8
70	Surface-Sensitive X-ray Diffraction Across the Pressure Gap. Springer Series in Chemical Physics, 2017, , 59-87.	0.2	7
71	Role of hydroxylation for the atomic structure of a non-polar vicinal zinc oxide. Communications Chemistry, 2021, 4, .	2.0	6
72	Oxygen-Stabilized Rh Adatoms: OD Oxides on a Vicinal Surface. Journal of Physical Chemistry Letters, 2011, 2, 2747-2751.	2.1	5

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73	The Rh(100)-(3 Å ⁻¹) ₂ O structure. Journal of Physics Condensed Matter, 2012, 24, 225006.	0.7	5
74	Reactivity and Mass Transfer of Low-Dimensional Catalysts. Chemical Record, 2014, 14, 857-868.	2.9	4
75	Planar Laser Induced Fluorescence Applied to Catalysis. Springer Series in Chemical Physics, 2017, , 131-149.	0.2	4
76	Oxygen induced faceting of Cu(911). Surface Science, 2022, 715, 121933.	0.8	3
77	Steps and catalytic reactions: CO oxidation with preadsorbed O on Rh(553). Surface Science, 2022, 715, 121928.	0.8	2
78	Catalytic Oxidation of CO on a Curved Pt(111) Surface: Simultaneous Ignition at All Facets through a Transient CO-O Complex**. Angewandte Chemie, 2020, 132, 20212-20218.	1.6	1
79	Optical demonstration of crystallography and reciprocal space using laser diffraction from Au microdisc arrays. Journal of Applied Crystallography, 2022, 55, 168-171.	1.9	0