

William S Epling

List of Publications by Year in descending order

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110
papers

7,589
citations

57758

44
h-index

54911

84
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111
all docs

111
docs citations

111
times ranked

5558
citing authors

#	ARTICLE	IF	CITATIONS
1	Overview of the Fundamental Reactions and Degradation Mechanisms of NO _x Storage/Reduction Catalysts. <i>Catalysis Reviews - Science and Engineering</i> , 2004, 46, 163-245.	12.9	800
2	Interaction of Molecular Oxygen with the Vacuum-Annealed TiO ₂ (110) Surface: A Molecular and Dissociative Channels. <i>Journal of Physical Chemistry B</i> , 1999, 103, 5328-5337.	2.6	473
3	Insights into Photoexcited Electron Scavenging Processes on TiO ₂ Obtained from Studies of the Reaction of O ₂ with OH Groups Adsorbed at Electronic Defects on TiO ₂ (110). <i>Journal of Physical Chemistry B</i> , 2003, 107, 534-545.	2.6	413
4	In Situ-DRIFTS Study of Selective Catalytic Reduction of NO _x by NH ₃ over Cu-Exchanged SAPO-34. <i>ACS Catalysis</i> , 2013, 3, 871-881.	11.2	375
5	Review of methane catalytic cracking for hydrogen production. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 2904-2935.	7.1	341
6	Diesel Oxidation Catalysts. <i>Catalysis Reviews - Science and Engineering</i> , 2011, 53, 337-423.	12.9	316
7	A comparison of hydrothermal aging effects on NH ₃ -SCR of NO over Cu-SSZ-13 and Cu-SAPO-34 catalysts. <i>Applied Catalysis B: Environmental</i> , 2015, 165, 438-445.	20.2	260
8	NH ₃ -SCR over Cu/SAPO-34: Zeolite acidity and Cu structure changes as a function of Cu loading. <i>Catalysis Today</i> , 2014, 231, 64-74.	4.4	180
9	SO ₂ poisoning impact on the NH ₃ -SCR reaction over a commercial Cu-SAPO-34 SCR catalyst. <i>Applied Catalysis B: Environmental</i> , 2014, 156-157, 371-377.	20.2	179
10	Nature of Cu Active Centers in Cu-SSZ-13 and Their Responses to SO ₂ Exposure. <i>ACS Catalysis</i> , 2018, 8, 1325-1337.	11.2	172
11	Further evidence of multiple NO _x sorption sites on NO _x storage/reduction catalysts. <i>Catalysis Today</i> , 2004, 96, 21-30.	4.4	167
12	Quantified NO _x adsorption on Pt/K/gamma-Al ₂ O ₃ and the effects of CO ₂ and H ₂ O. <i>Applied Catalysis B: Environmental</i> , 2005, 58, 255-264.	20.2	136
13	Characterization of Ceria's Interaction with NO _x and NH ₃ . <i>Journal of Physical Chemistry C</i> , 2013, 117, 8282-8289.	3.1	128
14	Differential kinetic analysis of diesel particulate matter (soot) oxidation by oxygen using a step-response technique. <i>Applied Catalysis B: Environmental</i> , 2005, 61, 120-129.	20.2	119
15	Passive NO _x adsorber: An overview of catalyst performance and reaction chemistry. <i>Applied Catalysis A: General</i> , 2019, 570, 1-14.	4.3	117
16	Catalytic Oxidation of Methane over ZrO ₂ -Supported Pd Catalysts. <i>Journal of Catalysis</i> , 1999, 182, 5-12.	6.2	114
17	Kinetic and mechanistic study of bimetallic Pt-Pd/Al ₂ O ₃ catalysts for CO and C ₃ H ₆ oxidation. <i>Applied Catalysis B: Environmental</i> , 2017, 202, 404-417.	20.2	109
18	Selective Catalytic Reduction of NO _x with NH ₃ over a Cu-SSZ-13 Catalyst Prepared by a Solid-State Ion-Exchange Method. <i>ChemCatChem</i> , 2014, 6, 1579-1583.	3.7	101

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19	SO ₂ Poisoning of the NH ₃ -SCR Reaction over Cu-SAPO-34: Effect of Ammonium Sulfate versus Other S-Containing Species. ACS Catalysis, 2016, 6, 6612-6622.	11.2	97
20	Reversible and irreversible deactivation of Cu-CHA NH ₃ -SCR catalysts by SO ₂ and SO ₃ . Applied Catalysis B: Environmental, 2018, 226, 38-45.	20.2	97
21	Effects of CO on Pd/BEA Passive NO _x Adsorbers. Catalysis Letters, 2017, 147, 745-750.	2.6	85
22	Sulfur deactivation and regeneration of mono- and bimetallic Pd-Pt methane oxidation catalysts. Applied Catalysis B: Environmental, 2017, 206, 589-598.	20.2	84
23	Title is missing!. Catalysis Letters, 2003, 90, 45-56.	2.6	83
24	Condition-Dependent Pd Speciation and NO Adsorption in Pd/Zeolites. ACS Catalysis, 2020, 10, 12801-12818.	11.2	74
25	The effects of regeneration conditions on NO _x and NH ₃ release from NO _x storage/reduction catalysts. Applied Catalysis B: Environmental, 2007, 74, 117-129.	20.2	71
26	Spatially resolving SCR reactions over a Fe/zeolite catalyst. Applied Catalysis B: Environmental, 2011, 102, 110-119.	20.2	70
27	Stable and Active Oxidation Catalysis by Cooperative Lattice Oxygen Redox on SmMn ₂ O ₅ Mullite Surface. Journal of the American Chemical Society, 2019, 141, 10722-10728.	13.7	64
28	Effect of hydrocarbon species on no oxidation over diesel oxidation catalysts. Applied Catalysis B: Environmental, 2009, 92, 422-428.	20.2	63
29	Effect of interactions between Ni and Mo on catalytic properties of a bimetallic Ni-Mo/Al ₂ O ₃ propane reforming catalyst. Applied Catalysis A: General, 2015, 490, 80-92.	4.3	62
30	Investigation of an irreversible NO _x storage degradation Mode on a Pd/BEA passive NO _x adsorber. Applied Catalysis B: Environmental, 2019, 258, 118032.	20.2	60
31	Kinetic study of adsorption and desorption of SO ₂ over γ -Al ₂ O ₃ and Pt/ γ -Al ₂ O ₃ . Applied Catalysis B: Environmental, 2016, 181, 587-598.	20.2	54
32	Ag ₂ O XPS Spectra. Surface Science Spectra, 1994, 3, 157-162.	1.3	53
33	Superior catalytic performance of Mn-Mullite over Mn-Perovskite for NO oxidation. Catalysis Today, 2018, 310, 195-201.	4.4	52
34	Relationship of Pt Particle Size to the NO _x Storage Performance of Thermally Aged Pt/BaO/Al ₂ O ₃ Lean NO _x Trap Catalysts. Industrial & Engineering Chemistry Research, 2006, 45, 8815-8821.	3.7	51
35	Intra-channel evolution of carbon monoxide and its implication on the regeneration of a monolithic Pt/K/Al ₂ O ₃ NO _x storage-reduction catalyst. Catalysis Today, 2006, 114, 102-111.	4.4	51
36	Competitive no, co and hydrocarbon oxidation reactions over a diesel oxidation catalyst. Canadian Journal of Chemical Engineering, 2012, 90, 1527-1538.	1.7	51

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37	Ag Foil by XPS. Surface Science Spectra, 1994, 3, 151-156.	1.3	50
38	Effect of Pt:Pd ratio on CO and hydrocarbon oxidation. Applied Catalysis B: Environmental, 2018, 223, 67-75.	20.2	50
39	Study of Cs-Promoted, γ -Alumina-Supported Silver, Ethylene Epoxidation Catalysts. Journal of Catalysis, 1997, 168, 393-399.	6.2	48
40	Sulfur release from a model Pt/Al ₂ O ₃ diesel oxidation catalyst: Temperature-programmed and step-response techniques characterization. Applied Catalysis A: General, 2010, 383, 182-191.	4.3	48
41	Selective low-temperature removal of carbon monoxide from hydrogen-rich fuels over Cu/Ce/Al catalysts. Journal of Power Sources, 2005, 147, 178-183.	7.8	47
42	Carbonate Formation and Stability on a Pt/BaO/ γ -Al ₂ O ₃ NOX Storage/Reduction Catalyst. Journal of Physical Chemistry C, 2008, 112, 10952-10959.	3.1	47
43	Reaction and Surface Characterization Study of Higher Alcohol Synthesis Catalysts. Journal of Catalysis, 1997, 169, 438-446.	6.2	46
44	Inverse Hysteresis Phenomena During CO and C ₃ H ₆ Oxidation over a Pt/Al ₂ O ₃ Catalyst. Catalysis Letters, 2012, 142, 930-935.	2.6	46
45	The effect of exothermic reactions during regeneration on the NOX trapping efficiency of a NOX storage/reduction catalyst. Catalysis Letters, 2006, 110, 143-148.	2.6	44
46	Methane cracking using Ni supported on porous and non-porous alumina catalysts. International Journal of Hydrogen Energy, 2012, 37, 9038-9048.	7.1	44
47	Hydrogen production by methane cracking using Ni-supported catalysts in a fluidized bed. International Journal of Hydrogen Energy, 2012, 37, 10690-10701.	7.1	43
48	Spatially resolving CO and C ₃ H ₆ oxidation reactions in a Pt/Al ₂ O ₃ model oxidation catalyst. Catalysis Today, 2016, 267, 157-166.	4.4	43
49	AgO XPS Spectra. Surface Science Spectra, 1994, 3, 163-168.	1.3	42
50	Spatially resolving concentration and temperature gradients during the oxidation of propylene on Pt/Al ₂ O ₃ . Applied Catalysis A: General, 2009, 365, 301-308.	4.3	39
51	Study of Cs-Promoted, γ -Alumina-Supported Silver, Ethylene-Epoxidation Catalysts. Journal of Catalysis, 1997, 171, 490-497.	6.2	38
52	Surface Characterization Study of the Thermal Decomposition of Ag ₂ CO ₃ . Journal of Physical Chemistry B, 1998, 102, 2263-2268.	2.6	38
53	Performance characteristics of Mo/Ni/Al ₂ O ₃ catalysts in LPG oxidative steam reforming for hydrogen production. International Journal of Hydrogen Energy, 2014, 39, 10061-10073.	7.1	38
54	Effect of SO ₂ on NH ₃ oxidation over a Cu-SAPO-34 SCR catalyst. Catalysis Science and Technology, 2016, 6, 2679-2685.	4.1	37

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55	Reaction and Surface Characterization Study of Higher Alcohol Synthesis Catalysts. Journal of Catalysis, 1998, 175, 175-184.	6.2	36
56	Formation and Decomposition of Sulfite and Sulfate Species on Pt/Pd Catalysts: An SO ₂ Oxidation and Sulfur Exposure Study. ACS Catalysis, 2019, 9, 640-648.	11.2	36
57	Water-Induced Morphology Changes in BaO/γ-Al ₂ O ₃ /NO _x Storage Materials: an FTIR, TPD, and Time-Resolved Synchrotron XRD Study. Journal of Physical Chemistry C, 2007, 111, 4678-4687.	3.1	35
58	The effects of regeneration-phase CO and/or H ₂ amount on the performance of a NO _x storage/reduction catalyst. Applied Catalysis B: Environmental, 2009, 89, 315-325.	20.2	34
59	Waste into Fuel Catalyst and Process Development for MSW Valorisation. Catalysts, 2018, 8, 113.	3.5	34
60	Mechanism-based kinetic modeling of Cu-SSZ-13 sulfation and desulfation for NH ₃ -SCR applications. Reaction Chemistry and Engineering, 2019, 4, 1038-1049.	3.7	32
61	New insights into the promoting effect of H ₂ O on a model Pt/Ba/Al ₂ O ₃ NSR catalyst. Applied Catalysis B: Environmental, 2010, 97, 236-247.	20.2	31
62	SO ₂ adsorption and desorption characteristics of Pd and Pt catalysts: Precious metal crystallite size dependence. Applied Catalysis A: General, 2017, 534, 85-93.	4.3	31
63	Title is missing!. Reaction Kinetics and Catalysis Letters, 2000, 70, 97-103.	0.6	30
64	Reaction and Deactivation Rates of Methane Catalytic Cracking over Nickel. Industrial & Engineering Chemistry Research, 2011, 50, 12460-12470.	3.7	30
65	Experimental and kinetic study of SO ₂ oxidation on a Pt/γ-Al ₂ O ₃ catalyst. Applied Catalysis B: Environmental, 2014, 152-153, 108-116.	20.2	30
66	Hydrocarbon Trapping over Ag-Beta Zeolite for Cold-Start Emission Control. Catalysis Letters, 2017, 147, 1355-1362.	2.6	30
67	Coupled NO and C ₃ H ₆ Trapping, Release and Conversion on Pd/BEA: Evaluation of the Lean Hydrocarbon NO _x Trap. Industrial & Engineering Chemistry Research, 2019, 58, 22912-22923.	3.7	28
68	Methane oxidation hysteresis over Pt/Al ₂ O ₃ . Applied Catalysis A: General, 2014, 478, 91-97.	4.3	27
69	Regeneration of a model NO _x storage/reduction catalyst using hydrocarbons as the reductant. Applied Catalysis B: Environmental, 2010, 96, 524-532.	20.2	26
70	Low Temperature Ceria-Based Lean NO _x Traps. Catalysis Letters, 2012, 142, 946-958.	2.6	26
71	SO ₂ adsorption and desorption characteristics of bimetallic Pd-Pt catalysts: Pd:Pt ratio dependency. Catalysis Today, 2019, 320, 11-19.	4.4	26
72	Sulfur Poisoning of a Pt/Al ₂ O ₃ Oxidation Catalyst: Understanding of SO ₂ , SO ₃ and H ₂ SO ₄ Impacts. Topics in Catalysis, 2016, 59, 1028-1032.	2.8	25

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73	Modulating and Orienting an Anisotropic Zn-Based Metal Organic Framework for Selective CH ₄ /CO ₂ Gas Separation. <i>Crystals</i> , 2019, 9, 20.	2.2	25
74	Characterization of Copper Foam as Catalytic Material in Ethanol Dehydrogenation. <i>Canadian Journal of Chemical Engineering</i> , 2007, 85, 917-924.	1.7	24
75	Investigating the Effect of NO Versus NO ₂ on the Performance of a Model NO X Storage/Reduction Catalyst. <i>Catalysis Letters</i> , 2009, 130, 121-129.	2.6	24
76	Oxidation study of a polycrystalline Ni/Cr alloy I: room-temperature exposure to O ₂ . <i>Thin Solid Films</i> , 1997, 307, 126-132.	1.8	22
77	Higher-alcohol synthesis reaction study V. Effect of excess ZnO on catalyst performance. <i>Applied Catalysis A: General</i> , 1998, 166, 375-385.	4.3	22
78	Oxidation Study of a Polycrystalline Ni/Cr Alloy II. <i>Chemistry of Materials</i> , 1998, 10, 50-58.	6.7	22
79	Influence of Pt Loading in Aged NO _x Storage and Reduction Catalysts. <i>Journal of Physical Chemistry C</i> , 2011, 115, 952-960.	3.1	21
80	NO Oxidation Inhibition by Hydrocarbons over a Diesel Oxidation Catalyst: Reaction Between Surface Nitrates and Hydrocarbons. <i>Catalysis Letters</i> , 2011, 141, 1746-1751.	2.6	21
81	Spatially resolved temperature and gas species concentration changes during C ₃ H ₆ oxidation over a Pt/Al ₂ O ₃ catalyst following sulfur exposure. <i>Applied Catalysis A: General</i> , 2011, 397, 272-284.	4.3	20
82	Investigation of NO adsorption and desorption phenomena on a Pd/ZSM-5 passive NO _x adsorber. <i>Applied Catalysis B: Environmental</i> , 2021, 298, 120561.	20.2	20
83	Spatially-Resolved Calorimetry: Using IR Thermography to Measure Temperature and Trapped NO _x Distributions on a NO _x Adsorber Catalyst. <i>Catalysis Letters</i> , 2008, 125, 229-235.	2.6	19
84	NO _x storage/reduction catalyst performance with oxygen in the regeneration phase. <i>Catalysis Today</i> , 2008, 136, 156-163.	4.4	18
85	Spatially-Resolved Temperature and Gas Species Changes in a Lean-Burn Engine Emissions Control Catalyst. <i>Industrial & Engineering Chemistry Research</i> , 2010, 49, 10311-10322.	3.7	18
86	Improved CO, hydrocarbon and NO oxidation performance using zone-coated Pt-based catalysts. <i>Catalysis Today</i> , 2013, 207, 220-226.	4.4	18
87	Study of NO Formation During NH ₃ Oxidation Reaction Over a Cu-SAPO-34 SCR catalyst. <i>Catalysis Letters</i> , 2016, 146, 1552-1561.	2.6	18
88	Higher alcohol synthesis reaction study VI: effect of Cr replacement by Mn on the performance of Cs- and Cs, Pd-promoted Zn/Cr spinel catalysts. <i>Applied Catalysis A: General</i> , 1999, 183, 335-343.	4.3	17
89	NH ₃ pulsing adsorption and SCR reactions over a Cu-CHA SCR catalyst. <i>Catalysis Today</i> , 2012, 197, 9-17.	4.4	17
90	Integration of an Oxidation Catalyst with Pd/Zeolite-Based Passive NO _x Adsorbers: Impacts on Degradation Resistance and Desorption Characteristics. <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 6455-6464.	3.7	16

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91	From Active Site Models to Real Catalysts: Importance of the Material Gap in the Design of Pd Catalysts for Methane Oxidation. <i>ChemCatChem</i> , 2017, 9, 1594-1600.	3.7	15
92	Spatial Resolution of Reactant Species Consumption in Diesel Oxidation Catalysts. <i>Topics in Catalysis</i> , 2009, 52, 1856-1859.	2.8	14
93	Characterization study of GaAs(001) surfaces using ion scattering spectroscopy and x-ray photoelectron spectroscopy. <i>Journal of Applied Physics</i> , 1997, 81, 6160-6164.	2.5	13
94	Evaluation of the Ignition of Diesel Fuels on Hot Surfaces. <i>Fire Technology</i> , 2010, 46, 407-423.	3.0	13
95	Reaction Kinetics of C ₃ H ₆ Oxidation for Various Reaction Pathways Over Diesel Oxidation Catalysts. <i>Topics in Catalysis</i> , 2013, 56, 1916-1921.	2.8	13
96	Heterogeneous catalyst design: Zoned and layered catalysts in diesel vehicle aftertreatment monolith reactors. <i>Canadian Journal of Chemical Engineering</i> , 2019, 97, 188-206.	1.7	13
97	A Summary of Sulfur Deactivation, Desorption, and Regeneration Characteristics of Mono- and Bimetallic Pd-Pt Methane Oxidation Catalysts: Pd:Pt Mole Ratio and Particle Size Dependency. <i>Emission Control Science and Technology</i> , 2018, 4, 78-89.	1.5	11
98	Comparison of light-off performance of Pt-Pd/ γ -Al ₂ O ₃ dual layer and dual brick diesel oxidation catalysts. <i>Chemical Engineering Journal</i> , 2018, 335, 1004-1017.	12.7	11
99	Effects of Multicomponent Hydrocarbon Feed on Hydrocarbon Adsorption Desorption and Oxidation Light-Off Behavior on a Pd/BEA Hydrocarbon Trap. <i>Catalysis Letters</i> , 2019, 149, 3194-3202.	2.6	11
100	Evaluating the Effects of Precious Metal Distribution along a Monolith-Supported Catalyst for CO oxidation. <i>Industrial & Engineering Chemistry Research</i> , 2012, 51, 6672-6679.	3.7	10
101	An investigation of the role of surface nitrate species in the oxidation of propene on a Pt-based diesel oxidation catalyst. <i>Catalysis Science and Technology</i> , 2013, 3, 2349.	4.1	10
102	Investigating carbon monoxide and propene oxidation on a platinum diesel oxidation catalyst. <i>Canadian Journal of Chemical Engineering</i> , 2014, 92, 1496-1505.	1.7	7
103	Coupled Heterogeneous and Homogeneous Hydrocarbon Oxidation Reactions in Model Diesel Oxidation Catalysts. <i>Emission Control Science and Technology</i> , 2017, 3, 5-17.	1.5	7
104	Zoning and Trapping Effects on CO and Hydrocarbon Light-Off in Diesel Oxidation Catalysts. <i>Industrial & Engineering Chemistry Research</i> , 2017, 56, 13628-13633.	3.7	6
105	Simulation of methane catalytic cracking in a bubbling fluidised bed. <i>Canadian Journal of Chemical Engineering</i> , 2013, 91, 1928-1935.	1.7	4
106	Effect of Thermal Degradation on the CO, C ₃ H ₆ , and NO Oxidation Performance of Pt/Al ₂ O ₃ with a Zoned Distribution of Pt. <i>Industrial & Engineering Chemistry Research</i> , 2014, 53, 5692-5700.	3.7	4
107	Effects of CO and H ₂ O Co-Feed on the Adsorption and Oxidation Properties of a Pd/BEA Hydrocarbon Trap. <i>Catalysts</i> , 2021, 11, 348.	3.5	4
108	Reduction of Surface Nitrates via C ₃ H ₆ Oxidation Over a Pt/Al ₂ O ₃ Catalyst. <i>Topics in Catalysis</i> , 2013, 56, 114-117.	2.8	2

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109	From Active-Site Models to Real Catalysts: Importance of the Material Gap in the Design of Pd Catalysts for Methane Oxidation. ChemCatChem, 2017, 9, 1520-1520.	3.7	1
110	Chapter 4. Lean NOx Trap Performance Degradation – Reversible Sulfur Poisoning and Irreversible Thermally-induced Sintering. RSC Catalysis Series, 2018, , 104-126.	0.1	1