R Scott Smith

List of Publications by Year
in descending order

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98	5,793	109321 35	74163 75
papers	citations	h-index	g-index

98	98	98	3870
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Nanoscaffold Mediates Hydrogen Release and the Reactivity of Ammonia Borane. Angewandte Chemie - International Edition, 2005, 44, 3578-3582.	13.8	751
2	Controlling the Morphology of Amorphous Solid Water. Science, 1999, 283, 1505-1507.	12.6	378
3	The existence of supercooled liquid water at 150?K. Nature, 1999, 398, 788-791.	27.8	279
4	The evaporation rate, free energy, and entropy of amorphous water at 150 K. Journal of Chemical Physics, 1996, 105, 240-244.	3.0	251
5	Control of amorphous solid water morphology using molecular beams. I. Experimental results. Journal of Chemical Physics, 2001, 114, 5284-5294.	3.0	248
6	H2O Condensation Coefficient and Refractive Index for Vapor-Deposited Ice from Molecular Beam and Optical Interference Measurements. The Journal of Physical Chemistry, 1996, 100, 4988-4995.	2.9	236
7	The Molecular Volcano: Abrupt CCl4Desorption Driven by the Crystallization of Amorphous Solid Water. Physical Review Letters, 1997, 79, 909-912.	7.8	214
8	Desorption and crystallization kinetics in nanoscale thin films of amorphous water ice. Surface Science, 1996, 367, L13-L18.	1.9	196
9	No Confinement Needed: Observation of a Metastable Hydrophobic Wetting Two-Layer Ice on Graphene. Journal of the American Chemical Society, 2009, 131, 12838-12844.	13.7	186
10	The deposition angle-dependent density of amorphous solid water films. Journal of Chemical Physics, 2003, 118, 364-372.	3.0	156
11	The adsorption and desorption of water on single crystal MgO(100): The role of surface defects. Journal of Chemical Physics, 1996, 105, 1295-1298.	3.0	151
12	Growth rate of crystalline ice and the diffusivity of supercooled water from 126 to 262 K. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14921-14925.	7.1	120
13	Physisorption of CO on the MgO(100) Surface. Journal of Physical Chemistry B, 2001, 105, 3747-3751.	2.6	118
14	Control of amorphous solid water morphology using molecular beams. II. Ballistic deposition simulations. Journal of Chemical Physics, 2001, 114, 5295-5303.	3.0	117
15	Effect of porosity on the adsorption, desorption, trapping, and release of volatile gases by amorphous solid water. Journal of Geophysical Research, 2001, 106, 33387-33392.	3.3	115
16	Evidence for Molecular Translational Diffusion during the Crystallization of Amorphous Solid Water. Journal of Physical Chemistry B, 1997, 101, 6123-6126.	2.6	104
17	The effect of the underlying substrate on the crystallization kinetics of dense amorphous solid water films. Journal of Chemical Physics, 2000, 112, 5932-5941.	3.0	97
18	Adsorption, desorption, and clustering of H2O on Pt(111). Journal of Chemical Physics, 2004, 120, 1516-1523.	3.0	94

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19	Structural and Chemical Characterization of Aligned Crystalline Nanoporous MgO Films Grown via Reactive Ballistic Deposition. Journal of Physical Chemistry B, 2002, 106, 3526-3529.	2.6	93
20	The self-diffusivity of amorphous solid water near 150 K. Chemical Physics, 2000, 258, 291-305.	1.9	88
21	Substrate induced crystallization of amorphous solid water at low temperatures. Journal of Chemical Physics, 1999, 110, 5489-5492.	3.0	87
22	Desorption Kinetics of Ar, Kr, Xe, N₂, O₂, CO, Methane, Ethane, and Propane from Graphene and Amorphous Solid Water Surfaces. Journal of Physical Chemistry B, 2016, 120, 1979-1987.	2.6	84
23	Determination of Absolute Coverages for Small Aliphatic Alcohols on TiO₂(110). Journal of Physical Chemistry C, 2011, 115, 22534-22539.	3.1	76
24	Crystallization Kinetics and Excess Free Energy of H₂O and D₂O Nanoscale Films of Amorphous Solid Water. Journal of Physical Chemistry A, 2011, 115, 5908-5917.	2.5	74
25	Thermal and Nonthermal Physiochemical Processes in Nanoscale Films of Amorphous Solid Water. Accounts of Chemical Research, 2012, 45, 33-42.	15.6	68
26	Adsorption, desorption, and diffusion of nitrogen in a model nanoporous material. I. Surface limited desorption kinetics in amorphous solid water. Journal of Chemical Physics, 2007, 127, 184707.	3.0	64
27	Thermal Stability of Ammonia Borane: A Case Study for Exothermic Hydrogen Storage Materials. Energy & Fuels, 2010, 24, 2596-2606.	5.1	57
28	Desorption Kinetics of Methanol, Ethanol, and Water from Graphene. Journal of Physical Chemistry A, 2014, 118, 8242-8250.	2.5	51
29	MOLECULAR BEAM STUDIES OF KINETIC PROCESSES IN NANOSCALE WATER FILMS. Surface Review and Letters, 1997, 04, 781-797.	1.1	50
30	Low-Temperature Oxidation of Methanol to Formaldehyde on a Model Single-Atom Catalyst: Pd Atoms on Fe₃O₄(001). ACS Catalysis, 2019, 9, 10977-10982.	11.2	50
31	Adsorption, Desorption, and Displacement Kinetics of H₂O and CO₂ on TiO₂(110). Journal of Physical Chemistry B, 2014, 118, 8054-8061.	2.6	48
32	Growth of Ordered Ultrathin Tungsten Oxide Films on Pt(111). Journal of Physical Chemistry C, 2011, 115, 5773-5783.	3.1	40
33	Adsorption of small hydrocarbons on rutile TiO2(110). Surface Science, 2016, 650, 83-92.	1.9	38
34	The release of trapped gases from amorphous solid water films. I. â€œTop-downâ€•crystallization-induced crack propagation probed using the molecular volcano. Journal of Chemical Physics, 2013, 138, 104501.	3.0	37
35	The effect of the incident collision energy on the phase and crystallization kinetics of vapor deposited water films. Journal of Chemical Physics, 2006, 124, 114710.	3.0	36
36	Electron-stimulated desorption of Dâ˜ (Hâ˜) from condensed D2O (H2O) films. Surface Science, 1997, 390, 86-91.	1.9	33

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37	Water Adsorption, Desorption, and Clustering on FeO(111). Journal of Physical Chemistry B, 2005, 109, 10362-10370.	2.6	33
38	HCl Adsorption and Ionization on Amorphous and Crystalline H₂O Films below 50 K. Journal of Physical Chemistry A, 2011, 115, 6002-6014.	2.5	31
39	A unique vibrational signature of rotated water monolayers on Pt(111): Predicted and observed. Journal of Chemical Physics, 2011, 134, 204702.	3.0	31
40	A free jet flow reactor for ion/molecule reaction studies at very low energies. International Journal of Mass Spectrometry and Ion Processes, 1990, 97, 55-86.	1.8	30
41	Adsorption Dynamics and Desorption Kinetics of Argon and Methane on MgO(100)â€. Journal of Physical Chemistry B, 2002, 106, 8360-8366.	2.6	30
42	Adsorption, Desorption, and Displacement Kinetics of H₂O and CO₂ on Forsterite, Mg₂SiO₄(011). Journal of Physical Chemistry C, 2014, 118, 29091-29100.	3.1	30
43	Infrared Spectroscopy and Optical Constants of Porous Amorphous Solid Water. Journal of Physical Chemistry B, 2009, 113, 4131-4140.	2.6	28
44	A Beaker without Walls: Formation of Deeply Supercooled Binary Liquid Solutions of Alcohols from Nanoscale Amorphous Solid Films. Physical Review Letters, 2002, 88, 245505.	7.8	27
45	The Effect of the Incident Collision Energy on the Porosity of Vapor-Deposited Amorphous Solid Water Films. Journal of Physical Chemistry B, 2009, 113, 4000-4007.	2.6	27
46	Adsorption, desorption, and diffusion of nitrogen in a model nanoporous material. II. Diffusion limited kinetics in amorphous solid water. Journal of Chemical Physics, 2007, 127, 184708.	3.0	24
47	The Molecular Volcano Revisited: Determination of Crack Propagation and Distribution During the Crystallization of Nanoscale Amorphous Solid Water Films. Journal of Physical Chemistry Letters, 2012, 3, 327-331.	4.6	24
48	Mixing It Up: Measuring Diffusion in Supercooled Liquid Solutions of Methanol and Ethanol at Temperatures near the Glass Transition. Journal of Physical Chemistry Letters, 2011, 2, 557-561.	4.6	23
49	The release of trapped gases from amorphous solid water films. II. â€œBottom-upâ€•induced desorption pathways. Journal of Chemical Physics, 2013, 138, 104502.	3.0	21
50	Intramolecular energy transfer in the HNC/HCN isomerization reaction: Quasiclassical state specific isomerization rates controlled by localized potential features. Journal of Chemical Physics, 1987, 86, 4452-4460.	3.0	20
51	Using Rare Gas Permeation to Probe Methanol Diffusion near the Glass Transition Temperature. Physical Review Letters, 2009, 103, 245902.	7.8	19
52	Reactivity of Fe⁰ Atoms, Clusters, and Nanoparticles with CCl₄ Multilayers on FeO(111). Journal of Physical Chemistry C, 2009, 113, 1818-1829.	3.1	19
53	Breaking through the glass ceiling: The correlation between the self-diffusivity in and krypton permeation through deeply supercooled liquid nanoscale methanol films. Journal of Chemical Physics, 2010, 132, 124502.	3.0	18
54	Communication: Distinguishing between bulk and interface-enhanced crystallization in nanoscale films of amorphous solid water. Journal of Chemical Physics, 2017, 146, 031102.	3.0	18

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55	Desorption Kinetics of Benzene and Cyclohexane from a Graphene Surface. Journal of Physical Chemistry B, 2018, 122, 587-594.	2.6	18
56	Temperature dependence of termolecular association reactions N2+ + 2N2 .fwdarw. N4+ + N2 and O2+ + 2O2 .fwdarw. O4+ + O2 occurring in free jet expansions below 20 K. The Journal of Physical Chemistry, 1989, 93, 8031-8037.	2.9	17
57	Interaction of CH4, CH3Cl, CH2Cl2, CHCl3, and CCl4with O-Terminated FeO(111). Journal of Physical Chemistry B, 2004, 108, 3644-3650.	2.6	17
58	Molecular Beam Studies of Nanoscale Films of Amorphous Solid Water. Springer Series in Cluster Physics, 2003, , 337-357.	0.3	17
59	Thermal decomposition of 1,1,1-trichloroethane and 1,1-dichloroethene over high surface area alumina. Langmuir, 1992, 8, 2473-2478.	3.5	16
60	Measuring diffusivity in supercooled liquid nanoscale films using inert gas permeation. II. Diffusion of Ar, Kr, Xe, and CH4 through Methanol. Journal of Chemical Physics, 2010, 133, 174505.	3.0	16
61	Molecular Hydrogen Formation from Proximal Glycol Pairs on TiO₂(110). Journal of the American Chemical Society, 2014, 136, 5559-5562.	13.7	16
62	Conversion of 1,2-Propylene Glycol on Rutile TiO₂(110). Journal of Physical Chemistry C, 2014, 118, 15339-15347.	3.1	16
63	Homogeneous Nucleation of Ice in Transiently-Heated, Supercooled Liquid Water Films. Journal of Physical Chemistry Letters, 2017, 8, 5736-5743.	4.6	16
64	Understanding the Binding of Aromatic Hydrocarbons on Rutile TiO₂(110). Journal of Physical Chemistry C, 2019, 123, 16766-16777.	3.1	16
65	Probing the interaction of amorphous solid water on a hydrophobic surface: dewetting and crystallization kinetics of ASW on carbon tetrachloride. Physical Chemistry Chemical Physics, 2011, 13, 19848.	2.8	15
66	Characterization of Nanoporous WO3 Films Grown via Ballistic Deposition. Journal of Physical Chemistry C, 2012, 116, 10649-10655.	3.1	15
67	Breaking Through the Glass Ceiling: Recent Experimental Approaches to Probe the Properties of Supercooled Liquids near the Glass Transition. Journal of Physical Chemistry Letters, 2012, 3, 725-730.	4.6	14
68	Mobility of Supercooled Liquid Toluene, Ethylbenzene, and Benzene near Their Glass Transition Temperatures Investigated Using Inert Gas Permeation. Journal of Physical Chemistry A, 2013, 117, 11881-11889.	2.5	14
69	Surface and bulk crystallization of amorphous solid water films: Confirmation of â€œtop-downâ€• crystallization. Surface Science, 2016, 652, 350-354.	1.9	14
70	Homogeneous ice nucleation rates and crystallization kinetics in transiently-heated, supercooled water films from 188 K to 230 K. Journal of Chemical Physics, 2019, 150, 204509.	3.0	14
71	Measuring diffusivity in supercooled liquid nanoscale films using inert gas permeation. I. Kinetic model and scaling methods. Journal of Chemical Physics, 2010, 133, 174504.	3.0	13
72	Conversion of 1,3-Propylene Glycol on Rutile TiO₂(110). Journal of Physical Chemistry C, 2014, 118, 23181-23188.	3.1	13

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73	Identification of intramolecular energy transfer pathways in a reactive triatomic system. Journal of Chemical Physics, 1988, 89, 2948-2957.	3.0	12
74	Helium Diffusion throughH2OandD2OAmorphous Ice: Observation of a Lattice Inverse Isotope Effect. Physical Review Letters, 2004, 92, 198306.	7.8	12
75	Complete Wetting of Pt(111) by Nanoscale Liquid Water Films. Journal of Physical Chemistry Letters, 2016, 7, 541-547.	4.6	12
76	Structure and Desorption Kinetics of Acetonitrile Thin Films on Pt(111) and on Graphene on Pt(111). Journal of Physical Chemistry C, 2020, 124, 2521-2530.	3.1	12
77	Reactivity of Fe⁰ Atoms and Clusters with D₂O over FeO(111). Journal of Physical Chemistry C, 2009, 113, 4960-4969.	3.1	11
78	Turning things downside up: Adsorbate induced water flipping on Pt(111). Journal of Chemical Physics, 2014, 141, 18C515.	3.0	11
79	A nanosecond pulsed laser heating system for studying liquid and supercooled liquid films in ultrahigh vacuum. Journal of Chemical Physics, 2016, 144, 164201.	3.0	11
80	Adsorption and reaction of methanol on Fe3O4(001). Journal of Chemical Physics, 2020, 152, 064703.	3.0	10
81	Formation of supercooled liquid solutions from nanoscale amorphous solid films of methanol and ethanol. Journal of Chemical Physics, 2007, 127, 244705.	3.0	9
82	Probing Toluene and Ethylbenzene Stable Glass Formation Using Inert Gas Permeation. Journal of Physical Chemistry Letters, 2015, 6, 3639-3644.	4.6	9
83	Rotational adiabatic switching of asymmetric top molecules. Journal of Chemical Physics, 1986, 85, 7241-7244.	3.0	8
84	Adsorption and Desorption of HCl on Pt(111). Journal of Physical Chemistry B, 2005, 109, 15506-15514.	2.6	8
85	Probing the mobility of supercooled liquid 3-methylpentane at temperatures near the glass transition using rare gas permeation. Journal of Chemical Physics, 2012, 137, 064509.	3.0	7
86	The Relationship between the Self-Diffusivity of Supercooled and Amorphous Solid Water. ACS Symposium Series, 2002, , 198-211.	0.5	6
87	Crystallization growth rates and front propagation in amorphous solid water films. Journal of Chemical Physics, 2019, 150, 214703.	3.0	6
88	Direct Deoxygenation of Phenylmethanol to Methylbenzene and Benzyl Radicals on Rutile TiO₂(110). ACS Catalysis, 2017, 7, 2002-2006.	11.2	5
89	Desorption Kinetics of Carbon Dioxide from a Graphene-Covered Pt(111) Surface. Journal of Physical Chemistry A, 2019, 123, 3248-3254.	2.5	5
90	Reactivity of C₂Cl₆ and C₂Cl₄ Multilayers with Fe⁰ Atoms over FeO(111). Journal of Physical Chemistry C, 2009, 113, 10233-10241.	3.1	4

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91	Desorption of Benzene, 1,3,5-Trifluorobenzene, and Hexafluorobenzene from a Graphene Surface: The Effect of Lateral Interactions on the Desorption Kinetics. Journal of Physical Chemistry Letters, 2018, 9, 2632-2638.	4.6	4
92	Crystallization kinetics of amorphous acetonitrile nanoscale films. Journal of Chemical Physics, 2021, 154, 144703.	3.0	4
93	Adsorption of ethane, ethene, and ethyne on reconstructed Fe3O4(001). Surface Science, 2021, 714, 121932.	1.9	4
94	Morphology of Vapor-Deposited Acetonitrile Films. Journal of Physical Chemistry A, 2020, 124, 6237-6245.	2.5	3
95	Reactivity of Fe⁰ Atoms with Mixed CCl₄ and D₂O Films over FeO(111). Journal of Physical Chemistry C, 2010, 114, 17136-17141.	3.1	2
96	Weak interactions between water and clathrate-forming gases at low pressures. Surface Science, 2015, 641, 216-223.	1.9	2
97	Communication: Proton exchange in low temperature co-mixed amorphous H2O and D2O films: The effect of the underlying Pt(111) and graphene substrates. Journal of Chemical Physics, 2018, 149, 081104.	3.0	1
98	Formation of Gas-Phase Allyl Radicals from Glycerol on Rutile TiO2(110). Journal of Physical Chemistry C, 2021, 125, 7227-7239.	3.1	0