

R Scott Smith

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98 papers	5,247 citations	32 h-index	71 g-index
98 ext. papers	5,507 ext. citations	5.4 avg, IF	5.31 L-index

#	Paper	IF	Citations
98	Nanoscaffold mediates hydrogen release and the reactivity of ammonia borane. <i>Angewandte Chemie - International Edition</i> , 2005 , 44, 3578-82	16.4	711
97	Controlling the morphology of amorphous solid water. <i>Science</i> , 1999 , 283, 1505-7	33.3	358
96	The existence of supercooled liquid water at 150?K. <i>Nature</i> , 1999 , 398, 788-791	50.4	248
95	The evaporation rate, free energy, and entropy of amorphous water at 150 K. <i>Journal of Chemical Physics</i> , 1996 , 105, 240-244	3.9	234
94	Control of amorphous solid water morphology using molecular beams. I. Experimental results. <i>Journal of Chemical Physics</i> , 2001 , 114, 5284-5294	3.9	231
93	H ₂ O Condensation Coefficient and Refractive Index for Vapor-Deposited Ice from Molecular Beam and Optical Interference Measurements. <i>The Journal of Physical Chemistry</i> , 1996 , 100, 4988-4995		219
92	The Molecular Volcano: Abrupt CCl ₄ Desorption Driven by the Crystallization of Amorphous Solid Water. <i>Physical Review Letters</i> , 1997 , 79, 909-912	7.4	196
91	Desorption and crystallization kinetics in nanoscale thin films of amorphous water ice. <i>Surface Science</i> , 1996 , 367, L13-L18	1.8	186
90	No confinement needed: observation of a metastable hydrophobic wetting two-layer ice on graphene. <i>Journal of the American Chemical Society</i> , 2009 , 131, 12838-44	16.4	161
89	The adsorption and desorption of water on single crystal MgO(100): The role of surface defects. <i>Journal of Chemical Physics</i> , 1996 , 105, 1295-1298	3.9	141
88	The deposition angle-dependent density of amorphous solid water films. <i>Journal of Chemical Physics</i> , 2003 , 118, 364-372	3.9	138
87	Control of amorphous solid water morphology using molecular beams. II. Ballistic deposition simulations. <i>Journal of Chemical Physics</i> , 2001 , 114, 5295-5303	3.9	112
86	Physisorption of CO on the MgO(100) Surface. <i>Journal of Physical Chemistry B</i> , 2001 , 105, 3747-3751	3.4	108
85	Effect of porosity on the adsorption, desorption, trapping, and release of volatile gases by amorphous solid water. <i>Journal of Geophysical Research</i> , 2001 , 106, 33387-33392		99
84	Evidence for Molecular Translational Diffusion during the Crystallization of Amorphous Solid Water. <i>Journal of Physical Chemistry B</i> , 1997 , 101, 6123-6126	3.4	98
83	Structural and Chemical Characterization of Aligned Crystalline Nanoporous MgO Films Grown via Reactive Ballistic Deposition. <i>Journal of Physical Chemistry B</i> , 2002 , 106, 3526-3529	3.4	90
82	Adsorption, desorption, and clustering of H ₂ O on Pt111. <i>Journal of Chemical Physics</i> , 2004 , 120, 1516-233.9		87

81	The effect of the underlying substrate on the crystallization kinetics of dense amorphous solid water films. <i>Journal of Chemical Physics</i> , 2000 , 112, 5932-5941	3.9	87
80	Growth rate of crystalline ice and the diffusivity of supercooled water from 126 to 262 K. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 14921-14925 ^{11.5}		87
79	The self-diffusivity of amorphous solid water near 150 K. <i>Chemical Physics</i> , 2000 , 258, 291-305	2.3	84
78	Substrate induced crystallization of amorphous solid water at low temperatures. <i>Journal of Chemical Physics</i> , 1999 , 110, 5489-5492	3.9	83
77	Determination of Absolute Coverages for Small Aliphatic Alcohols on TiO ₂ (110). <i>Journal of Physical Chemistry C</i> , 2011 , 115, 22534-22539	3.8	69
76	Crystallization kinetics and excess free energy of H ₂ O and D ₂ O nanoscale films of amorphous solid water. <i>Journal of Physical Chemistry A</i> , 2011 , 115, 5908-17	2.8	64
75	Adsorption, desorption, and diffusion of nitrogen in a model nanoporous material. I. Surface limited desorption kinetics in amorphous solid water. <i>Journal of Chemical Physics</i> , 2007 , 127, 184707	3.9	61
74	Thermal and nonthermal physiochemical processes in nanoscale films of amorphous solid water. <i>Accounts of Chemical Research</i> , 2012 , 45, 33-42	24.3	60
73	Desorption Kinetics of Ar, Kr, Xe, N ₂ , O ₂ , CO, Methane, Ethane, and Propane from Graphene and Amorphous Solid Water Surfaces. <i>Journal of Physical Chemistry B</i> , 2016 , 120, 1979-87	3.4	60
72	Thermal Stability of Ammonia Borane: A Case Study for Exothermic Hydrogen Storage Materials. <i>Energy & Fuels</i> , 2010 , 24, 2596-2606	4.1	50
71	MOLECULAR BEAM STUDIES OF KINETIC PROCESSES IN NANOSCALE WATER FILMS. <i>Surface Review and Letters</i> , 1997 , 04, 781-797	1.1	50
70	Desorption kinetics of methanol, ethanol, and water from graphene. <i>Journal of Physical Chemistry A</i> , 2014 , 118, 8242-50	2.8	41
69	Adsorption, desorption, and displacement kinetics of H ₂ O and CO ₂ on TiO ₂ (110). <i>Journal of Physical Chemistry B</i> , 2014 , 118, 8054-61	3.4	39
68	Growth of Ordered Ultrathin Tungsten Oxide Films on Pt(111). <i>Journal of Physical Chemistry C</i> , 2011 , 115, 5773-5783	3.8	38
67	The effect of the incident collision energy on the phase and crystallization kinetics of vapor deposited water films. <i>Journal of Chemical Physics</i> , 2006 , 124, 114710	3.9	35
66	Low-Temperature Oxidation of Methanol to Formaldehyde on a Model Single-Atom Catalyst: Pd Atoms on Fe ₃ O ₄ (001). <i>ACS Catalysis</i> , 2019 , 9, 10977-10982	13.1	31
65	Electron-stimulated desorption of D ₂ (H ₂) from condensed D ₂ O (H ₂ O) films. <i>Surface Science</i> , 1997 , 390, 86-91	1.8	31
64	Adsorption of small hydrocarbons on rutile TiO ₂ (110). <i>Surface Science</i> , 2016 , 650, 83-92	1.8	30

- 63 Water adsorption, desorption, and clustering on FeO(111). *Journal of Physical Chemistry B*, **2005**, 109, 10362-70 3.4 30
- 62 The release of trapped gases from amorphous solid water films. I. "Top-down" crystallization-induced crack propagation probed using the molecular volcano. *Journal of Chemical Physics*, **2013**, 138, 104501 3.9 29
- 61 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 29
- 60 HCl adsorption and ionization on amorphous and crystalline H₂O films below 50 K. *Journal of Physical Chemistry A*, **2011**, 115, 6002-14 2.8 28
- 59 Adsorption Dynamics and Desorption Kinetics of Argon and Methane on MgO(100) *Journal of Physical Chemistry B*, **2002**, 106, 8360-8366 3.4 28
- 58 A unique vibrational signature of rotated water monolayers on Pt(111): predicted and observed. *Journal of Chemical Physics*, **2011**, 134, 204702 3.9 27
- 57 Infrared spectroscopy and optical constants of porous amorphous solid water. *Journal of Physical Chemistry B*, **2009**, 113, 4131-40 3.4 27
- 56 The effect of the incident collision energy on the porosity of vapor-deposited amorphous solid water films. *Journal of Physical Chemistry B*, **2009**, 113, 4000-7 3.4 26
- 55 A beaker without walls: formation of deeply supercooled binary liquid solutions of alcohols from nanoscale amorphous solid films. *Physical Review Letters*, **2002**, 88, 245505 7.4 26
- 54 Adsorption, Desorption, and Displacement Kinetics of H₂O and CO₂ on Forsterite, Mg₂SiO₄(011). *Journal of Physical Chemistry C*, **2014**, 118, 29091-29100 3.8 23
- 53 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 6.4 23
- 52 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 3.9 22
- 51 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, 327-31 6.4 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, 4452-4460¹⁹ 3.9 19
- 49 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 3.9 18
- 48 Reactivity of FeO Atoms, Clusters, and Nanoparticles with CCl₄ Multilayers on FeO(111). *Journal of Physical Chemistry C*, **2009**, 113, 1818-1829 3.8 18
- 47 Molecular Beam Studies of Nanoscale Films of Amorphous Solid Water. *Springer Series in Cluster Physics*, **2003**, 337-357 17
- 46 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 3.9 16

- 45 Using rare gas permeation to probe methanol diffusion near the glass transition temperature. *Physical Review Letters*, **2009**, 103, 245902 7.4 16
- 44 Interaction of CH₄, CH₃Cl, CH₂Cl₂, CHCl₃, and CCl₄ with O-Terminated FeO(111). *Journal of Physical Chemistry B*, **2004**, 108, 3644-3650 3.4 16
- 43 Communication: Distinguishing between bulk and interface-enhanced crystallization in nanoscale films of amorphous solid water. *Journal of Chemical Physics*, **2017**, 146, 031102 3.9 15
- 42 Molecular hydrogen formation from proximal glycol pairs on TiO₂(110). *Journal of the American Chemical Society*, **2014**, 136, 5559-62 16.4 15
- 41 Conversion of 1,2-Propylene Glycol on Rutile TiO₂(110). *Journal of Physical Chemistry C*, **2014**, 118, 15339-15347 3.5 15
- 40 Characterization of Nanoporous WO₃ Films Grown via Ballistic Deposition. *Journal of Physical Chemistry C*, **2012**, 116, 10649-10655 3.8 15
- 39 The release of trapped gases from amorphous solid water films. II. "Bottom-up" induced desorption pathways. *Journal of Chemical Physics*, **2013**, 138, 104502 3.9 15
- 38 Thermal decomposition of 1,1,1-trichloroethane and 1,1-dichloroethene over high surface area alumina. *Langmuir*, **1992**, 8, 2473-2478 4 15
- 37 Temperature dependence of termolecular association reactions N₂⁺ + 2N₂ → N₄⁺ + N₂ and O₂⁺ + 2O₂ → O₄⁺ + O₂ occurring in free jet expansions below 20 K. *The Journal of Physical Chemistry*, **1989**, 93, 8031-8037 15
- 36 Desorption Kinetics of Benzene and Cyclohexane from a Graphene Surface. *Journal of Physical Chemistry B*, **2018**, 122, 587-594 3.4 14
- 35 Surface and bulk crystallization of amorphous solid water films: Confirmation of "top-down" crystallization. *Surface Science*, **2016**, 652, 350-354 1.8 14
- 34 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, 725-30 6.4 14
- 33 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, 19848-55 3.6 14
- 32 Measuring diffusivity in supercooled liquid nanoscale films using inert gas permeation. I. Kinetic model and scaling methods. *Journal of Chemical Physics*, **2010**, 133, 174504 3.9 13
- 31 Conversion of 1,3-Propylene Glycol on Rutile TiO₂(110). *Journal of Physical Chemistry C*, **2014**, 118, 23181-23188 3.5 15
- 30 Homogeneous Nucleation of Ice in Transiently-Heated, Supercooled Liquid Water Films. *Journal of Physical Chemistry Letters*, **2017**, 8, 5736-5743 6.4 12
- 29 Identification of intramolecular energy transfer pathways in a reactive triatomic system. *Journal of Chemical Physics*, **1988**, 89, 2948-2957 3.9 12
- 28 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 2.8 11

27	Reactivity of FeO Atoms and Clusters with D2O over FeO(111). <i>Journal of Physical Chemistry C</i> , 2009 , 113, 4960-4969	3.8	11
26	Helium diffusion through H2O and D2O amorphous ice: observation of a lattice inverse isotope effect. <i>Physical Review Letters</i> , 2004 , 92, 198306	7.4	11
25	Complete Wetting of Pt(111) by Nanoscale Liquid Water Films. <i>Journal of Physical Chemistry Letters</i> , 2016 , 7, 541-7	6.4	10
24	Turning things downside up: adsorbate induced water flipping on Pt(111). <i>Journal of Chemical Physics</i> , 2014 , 141, 18C515	3.9	10
23	Understanding the Binding of Aromatic Hydrocarbons on Rutile TiO2(110). <i>Journal of Physical Chemistry C</i> , 2019 , 123, 16766-16777	3.8	9
22	Formation of supercooled liquid solutions from nanoscale amorphous solid films of methanol and ethanol. <i>Journal of Chemical Physics</i> , 2007 , 127, 244705	3.9	9
21	Probing Toluene and Ethylbenzene Stable Glass Formation Using Inert Gas Permeation. <i>Journal of Physical Chemistry Letters</i> , 2015 , 6, 3639-44	6.4	8
20	Adsorption and desorption of HCl on Pt(111). <i>Journal of Physical Chemistry B</i> , 2005 , 109, 15506-14	3.4	8
19	Rotational adiabatic switching of asymmetric top molecules. <i>Journal of Chemical Physics</i> , 1986 , 85, 7241-7244	3.4	8
18	A nanosecond pulsed laser heating system for studying liquid and supercooled liquid films in ultrahigh vacuum. <i>Journal of Chemical Physics</i> , 2016 , 144, 164201	3.9	8
17	Homogeneous ice nucleation rates and crystallization kinetics in transiently-heated, supercooled water films from 188 K to 230 K. <i>Journal of Chemical Physics</i> , 2019 , 150, 204509	3.9	7
16	Adsorption and reaction of methanol on FeO(001). <i>Journal of Chemical Physics</i> , 2020 , 152, 064703	3.9	7
15	Structure and Desorption Kinetics of Acetonitrile Thin Films on Pt(111) and on Graphene on Pt(111). <i>Journal of Physical Chemistry C</i> , 2020 , 124, 2521-2530	3.8	7
14	Probing the mobility of supercooled liquid 3-methylpentane at temperatures near the glass transition using rare gas permeation. <i>Journal of Chemical Physics</i> , 2012 , 137, 064509	3.9	7
13	The Relationship between the Self-Diffusivity of Supercooled and Amorphous Solid Water. <i>ACS Symposium Series</i> , 2002 , 198-211	0.4	6
12	Direct Deoxygenation of Phenylmethanol to Methylbenzene and Benzyl Radicals on Rutile TiO2(110). <i>ACS Catalysis</i> , 2017 , 7, 2002-2006	13.1	4
11	Crystallization growth rates and front propagation in amorphous solid water films. <i>Journal of Chemical Physics</i> , 2019 , 150, 214703	3.9	4
10	Reactivity of C2Cl6 and C2Cl4 Multilayers with FeO Atoms over FeO(111). <i>Journal of Physical Chemistry C</i> , 2009 , 113, 10233-10241	3.8	4

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| 9 | Desorption of Benzene, 1,3,5-Trifluorobenzene, and Hexafluorobenzene from a Graphene Surface: The Effect of Lateral Interactions on the Desorption Kinetics. <i>Journal of Physical Chemistry Letters</i> , 2018 , 9, 2632-2638 | 6.4 | 3 |
| 8 | Weak interactions between water and clathrate-forming gases at low pressures. <i>Surface Science</i> , 2015 , 641, 216-223 | 1.8 | 2 |
| 7 | Reactivity of Fe0 Atoms with Mixed CCl4 and D2O Films over FeO(111)□ <i>Journal of Physical Chemistry C</i> , 2010 , 114, 17136-17141 | 3.8 | 2 |
| 6 | Crystallization kinetics of amorphous acetonitrile nanoscale films. <i>Journal of Chemical Physics</i> , 2021 , 154, 144703 | 3.9 | 2 |
| 5 | Desorption Kinetics of Carbon Dioxide from a Graphene-Covered Pt(111) Surface. <i>Journal of Physical Chemistry A</i> , 2019 , 123, 3248-3254 | 2.8 | 1 |
| 4 | Morphology of Vapor-Deposited Acetonitrile Films. <i>Journal of Physical Chemistry A</i> , 2020 , 124, 6237-6245 | 5.8 | 1 |
| 3 | Communication: Proton exchange in low temperature co-mixed amorphous HO and DO films: The effect of the underlying Pt(111) and graphene substrates. <i>Journal of Chemical Physics</i> , 2018 , 149, 081104 | 3.9 | 1 |
| 2 | Adsorption of ethane, ethene, and ethyne on reconstructed Fe3O4(001). <i>Surface Science</i> , 2021 , 714, 121932 | 1.8 | 0 |
| 1 | Formation of Gas-Phase Allyl Radicals from Glycerol on Rutile TiO2(110). <i>Journal of Physical Chemistry C</i> , 2021 , 125, 7227-7239 | 3.8 | |