Nikolay G Petrik

List of Publications by Year
in descending order

61	3,334	147801 31	138484 58
papers	citations	h-index	g-index

66	66	66	3481
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Direct visualization of radiation-induced transformations at alkali halideâ€“air interfaces. Communications Chemistry, 2021, 4, .	4.5	2
2	Conversion of Formic Acid on Single- and Nano-Crystalline Anatase TiO₂(101). Journal of Physical Chemistry C, 2021, 125, 7686-7700.	3.1	10
3	Observation of Molecular Hydrogen Produced from Bridging Hydroxyls on Anatase TiO₂(101). Journal of Physical Chemistry Letters, 2020, 11, 9289-9297.	4.6	16
4	Binding of Formic Acid on Anatase TiO₂(101). Journal of Physical Chemistry C, 2020, 124, 20228-20239.	3.1	24
5	Adsorption and Reaction of Methanol on Anatase TiO₂(101) Single Crystals and Faceted Nanoparticles. Journal of Physical Chemistry C, 2019, 123, 24133-24145.	3.1	14
6	Crystallization growth rates and front propagation in amorphous solid water films. Journal of Chemical Physics, 2019, 150, 214703.	3.0	6
7	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
8	Molecular Water Adsorption and Reactions on Î±-Al₂O₃(0001) and Î±-Alumina Particles. Journal of Physical Chemistry C, 2018, 122, 9540-9551.	3.1	25
9	Electron-stimulated reactions in nanoscale water films adsorbed on Î±-Al₂O₃(0001). Physical Chemistry Chemical Physics, 2018, 20, 11634-11642.	2.8	8
10	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
11	Diffusion and Photon-Stimulated Desorption of CO on TiO₂(110). Journal of Physical Chemistry C, 2018, 122, 15382-15389.	3.1	14
12	Adsorption and Photodesorption of CO from Charged Point Defects on TiO2(110). Journal of Physical Chemistry Letters, 2017, 8, 4565-4572.	4.6	20
13	Homogeneous Nucleation of Ice in Transiently-Heated, Supercooled Liquid Water Films. Journal of Physical Chemistry Letters, 2017, 8, 5736-5743.	4.6	16
14	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
15	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
16	Quenching of electron transfer reactions through coadsorption: A study of oxygen photodesorption from TiO2(110). Surface Science, 2016, 652, 183-188.	1.9	10
17	Complete Wetting of Pt(111) by Nanoscale Liquid Water Films. Journal of Physical Chemistry Letters, 2016, 7, 541-547.	4.6	12
18	Anticorrelation between Surface and Subsurface Point Defects and the Impact on the Redox Chemistry of TiO₂(110). ChemPhysChem, 2015, 16, 313-321.	2.1	41

#	Article	IF	Citations
19	Insights into Acetone Photochemistry on Rutile TiO₂(110). 2. New Photodesorption Channel with CH₃ Ejection along the Surface Normal. Journal of Physical Chemistry C, 2015, 119, 12273-12282.	3.1	18
20	Insights into Acetone Photochemistry on Rutile TiO₂(110). 1. Off-Normal CH₃ Ejection from Acetone Diolate. Journal of Physical Chemistry C, 2015, 119, 12262-12272.	3.1	23
21	Reaction Kinetics of Water Molecules with Oxygen Vacancies on Rutile TiO₂(110). Journal of Physical Chemistry C, 2015, 119, 23059-23067.	3.1	66
22	Electron-stimulated reactions in layered CO/H2O films: Hydrogen atom diffusion and the sequential hydrogenation of CO to methanol. Journal of Chemical Physics, 2014, 140, 204710.	3.0	21
23	Turning things downside up: Adsorbate induced water flipping on Pt(111). Journal of Chemical Physics, 2014, 141, 18C515.	3.0	11
24	Distance-Dependent Radiation Chemistry: Oxidation versus Hydrogenation of CO in Electron-Irradiated H₂O/CO/H₂O Ices. Journal of Physical Chemistry C, 2014, 118, 27483-27492.	3.1	11
25	Probing the photochemistry of chemisorbed oxygen on TiO₂(110) with Kr and other co-adsorbates. Physical Chemistry Chemical Physics, 2014, 16, 2338-2346.	2.8	23
26	Multiple Nonthermal Reaction Steps for the Photooxidation of CO to CO₂ on Reduced TiO₂(110). Journal of Physical Chemistry Letters, 2013, 4, 344-349.	4.6	28
27	Hydrogen reactivity on highly-hydroxylated TiO2(110) surfaces prepared viacarboxylic acid adsorption and photolysis. Physical Chemistry Chemical Physics, 2012, 14, 3066-3074.	2.8	61
28	Thermal and Nonthermal Physiochemical Processes in Nanoscale Films of Amorphous Solid Water. Accounts of Chemical Research, 2012, 45, 33-42.	15.6	68
29	Structure and Dynamics of CO₂ on Rutile TiO₂(110)-1Ã—1. Journal of Physical Chemistry C, 2012, 116, 26322-26334.	3.1	60
30	Adsorption Geometry of CO versus Coverage on TiO₂(110) from s- and p-Polarized Infrared Spectroscopy. Journal of Physical Chemistry Letters, 2012, 3, 3425-3430.	4.6	43
31	Polarization- and Azimuth-Resolved Infrared Spectroscopy of Water on TiO₂(110): Anisotropy and the Hydrogen-Bonding Network. Journal of Physical Chemistry Letters, 2012, 3, 778-784.	4.6	91
32	Oxygen Photochemistry on TiO₂(110): Recyclable, Photoactive Oxygen Produced by Annealing Adsorbed O₂. Journal of Physical Chemistry Letters, 2011, 2, 2790-2796.	4.6	37
33	Electron- and Hole-Mediated Reactions in UV-Irradiated O₂ Adsorbed on Reduced Rutile TiO₂(110). Journal of Physical Chemistry C, 2011, 115, 152-164.	3.1	64
34	A unique vibrational signature of rotated water monolayers on Pt(111): Predicted and observed. Journal of Chemical Physics, 2011, 134, 204702.	3.0	31
35	Off-Normal CO₂ Desorption from the Photooxidation of CO on Reduced TiO₂(110). Journal of Physical Chemistry Letters, 2010, 1, 2508-2513.	4.6	52
36	Photoinduced Dissociation of O2 on Rutile TiO2(110). Journal of Physical Chemistry Letters, 2010, 1, 1758-1762.	4.6	74

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37	Electron-stimulated reactions and O2 production in methanol-covered amorphous solid water films. Journal of Chemical Physics, 2009, 130, 104710.	3.0	10
38	Nonthermal Water Splitting on Rutile TiO₂: Electron-Stimulated Production of H₂ and O₂ in Amorphous Solid Water Films on TiO₂(110). Journal of Physical Chemistry C, 2009, 113, 4451-4460.	3.1	29
39	Water as a Catalyst: Imaging Reactions of O₂ with Partially and Fully Hydroxylated TiO₂(110) Surfaces. Journal of Physical Chemistry C, 2009, 113, 1908-1916.	3.1	88
40	Chemical Reactivity of Reduced TiO₂(110): The Dominant Role of Surface Defects in Oxygen Chemisorption. Journal of Physical Chemistry C, 2009, 113, 12407-12411.	3.1	127
41	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
42	Tetraoxygen on Reduced<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>TiO</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mo stretchy="false">(</mml:mo><mml:mn>110</mml:mn><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 537 Td (stretchy="false">)</mm Vacancies. Physical Review Letters, 2008, 100, 196102.	7.8	158
43	Site-dependent electron-stimulated reactions in water films on TiO2(110). Journal of Chemical Physics, 2007, 127, 224706.	3.0	13
44	Hydrogen Bonding, H-D Exchange, and Molecular Mobility in Thin Water Films on<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>TiO</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mo stretchy="false">(</mml:mo><mml:mn>110</mml:mn><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 447 Td (stretchy="false">)</mm	7.8	35
45	Crystalline ice growth on Pt(111) and Pd(111): Nonwetting growth on a hydrophobic water monolayer. Journal of Chemical Physics, 2007, 126, 114702.	3.0	66
46	Electron-Stimulated Oxidation of Thin Water Films Adsorbed on TiO₂(110). Journal of Physical Chemistry C, 2007, 111, 16319-16329.	3.1	44
47	Electron-Stimulated Production of Molecular Oxygen in Amorphous Solid Water. Journal of Physical Chemistry B, 2006, 110, 2723-2731.	2.6	37
48	Layer-by-layer growth of thin amorphous solid water films on Pt(111) and Pd(111). Journal of Chemical Physics, 2006, 125, 044713.	3.0	48
49	Electron-stimulated production of molecular oxygen in amorphous solid water on Pt(111): Precursor transport through the hydrogen bonding network. Journal of Chemical Physics, 2006, 125, 124702.	3.0	43
50	Electron-stimulated sputtering of thin amorphous solid water films on Pt(111). Journal of Chemical Physics, 2005, 123, 054702.	3.0	38
51	Crystalline Ice Growth on Pt(111): Observation of a Hydrophobic Water Monolayer. Physical Review Letters, 2005, 95, 166102.	7.8	195
52	Low-Energy Electron-Stimulated Luminescence of Thin H2O and D2O Layers on Pt(111). Journal of Physical Chemistry B, 2005, 109, 15835-15841.	2.6	8
53	Role of Water in Electron-Initiated Processes and Radical Chemistry:â€‰ Issues and Scientific Advances. Chemical Reviews, 2005, 105, 355-390.	47.7	560
54	Electron-stimulated production of molecular hydrogen at the interfaces of amorphous solid water films on Pt(111). Journal of Chemical Physics, 2004, 121, 3736-3744.	3.0	50

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55	Electron-stimulated reactions in thin D2O films on Pt(111) mediated by electron trapping. Journal of Chemical Physics, 2004, 121, 3727-3735.	3.0	34
56	Electron-Stimulated Reactions at the Interfaces of Amorphous Solid Water Films Driven by Long-Range Energy Transfer from the Bulk. Physical Review Letters, 2003, 90, 166102.	7.8	48
57	Interfacial Energy Transfer during Gamma Radiolysis of Water on the Surface of ZrO2 and Some Other Oxides. Journal of Physical Chemistry B, 2001, 105, 5935-5944.	2.6	152
58	Thermal and radiation stability of the hydrated salt minerals epsomite, mirabilite, and natron under Europa environmental conditions. Journal of Geophysical Research, 2001, 106, 3311-3319.	3.3	104
59	Electron Beam Induced Damage of NaNO3 Single Crystals:â€‰ An Energy, Temperature, and Quantum State Resolved Study. Journal of Physical Chemistry B, 2000, 104, 1563-1571.	2.6	15
60	Laser-stimulated luminescence of yttria-stabilized cubic zirconia crystals. Journal of Applied Physics, 1999, 85, 6770-6776.	2.5	140
61	Absorption of molecular forms of iodine from the gaseous phase by protective paint coatings. Atomic Energy, 1996, 80, 414-418.	0.4	1