

Nikolay G Petrik

List of Publications by Year in descending order

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61
papers

3,334
citations

147726

31
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138417

58
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66
all docs

66
docs citations

66
times ranked

3481
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 1 | Direct visualization of radiation-induced transformations at alkali halide–air interfaces. <i>Communications Chemistry</i> , 2021, 4, . | 2.0 | 2 |
| 2 | Conversion of Formic Acid on Single- and Nano-Crystalline Anatase TiO ₂ (101). <i>Journal of Physical Chemistry C</i> , 2021, 125, 7686-7700. | 1.5 | 10 |
| 3 | Observation of Molecular Hydrogen Produced from Bridging Hydroxyls on Anatase TiO ₂ (101). <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 9289-9297. | 2.1 | 16 |
| 4 | Binding of Formic Acid on Anatase TiO ₂ (101). <i>Journal of Physical Chemistry C</i> , 2020, 124, 20228-20239. | 1.5 | 24 |
| 5 | Adsorption and Reaction of Methanol on Anatase TiO ₂ (101) Single Crystals and Faceted Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2019, 123, 24133-24145. | 1.5 | 14 |
| 6 | Crystallization growth rates and front propagation in amorphous solid water films. <i>Journal of Chemical Physics</i> , 2019, 150, 214703. | 1.2 | 6 |
| 7 | 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. | 1.2 | 14 |
| 8 | Molecular Water Adsorption and Reactions on γ -Al ₂ O ₃ (0001) and γ -Alumina Particles. <i>Journal of Physical Chemistry C</i> , 2018, 122, 9540-9551. | 1.5 | 25 |
| 9 | Electron-stimulated reactions in nanoscale water films adsorbed on γ -Al ₂ O ₃ (0001). <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 11634-11642. | 1.3 | 8 |
| 10 | Communication: Proton exchange in low temperature co-mixed amorphous H ₂ O and D ₂ O films: The effect of the underlying Pt(111) and graphene substrates. <i>Journal of Chemical Physics</i> , 2018, 149, 081104. | 1.2 | 1 |
| 11 | Diffusion and Photon-Stimulated Desorption of CO on TiO ₂ (110). <i>Journal of Physical Chemistry C</i> , 2018, 122, 15382-15389. | 1.5 | 14 |
| 12 | Adsorption and Photodesorption of CO from Charged Point Defects on TiO ₂ (110). <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 4565-4572. | 2.1 | 20 |
| 13 | Homogeneous Nucleation of Ice in Transiently-Heated, Supercooled Liquid Water Films. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 5736-5743. | 2.1 | 16 |
| 14 | 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. | 3.3 | 120 |
| 15 | 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. | 1.2 | 11 |
| 16 | Quenching of electron transfer reactions through coadsorption: A study of oxygen photodesorption from TiO ₂ (110). <i>Surface Science</i> , 2016, 652, 183-188. | 0.8 | 10 |
| 17 | Complete Wetting of Pt(111) by Nanoscale Liquid Water Films. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 541-547. | 2.1 | 12 |
| 18 | Anticorrelation between Surface and Subsurface Point Defects and the Impact on the Redox Chemistry of TiO ₂ (110). <i>ChemPhysChem</i> , 2015, 16, 313-321. | 1.0 | 41 |

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|----|--|-----|-----------|
| 19 | Insights into Acetone Photochemistry on Rutile TiO ₂ (110). 2. New Photodesorption Channel with CH ₃ Ejection along the Surface Normal. Journal of Physical Chemistry C, 2015, 119, 12273-12282. | 1.5 | 18 |
| 20 | Insights into Acetone Photochemistry on Rutile TiO ₂ (110). 1. Off-Normal CH ₃ Ejection from Acetone Diolate. Journal of Physical Chemistry C, 2015, 119, 12262-12272. | 1.5 | 23 |
| 21 | Reaction Kinetics of Water Molecules with Oxygen Vacancies on Rutile TiO ₂ (110). Journal of Physical Chemistry C, 2015, 119, 23059-23067. | 1.5 | 66 |
| 22 | Electron-stimulated reactions in layered CO/H ₂ O films: Hydrogen atom diffusion and the sequential hydrogenation of CO to methanol. Journal of Chemical Physics, 2014, 140, 204710. | 1.2 | 21 |
| 23 | Turning things downside up: Adsorbate induced water flipping on Pt(111). Journal of Chemical Physics, 2014, 141, 18C515. | 1.2 | 11 |
| 24 | Distance-Dependent Radiation Chemistry: Oxidation versus Hydrogenation of CO in Electron-Irradiated H ₂ O/CO/H ₂ O Ices. Journal of Physical Chemistry C, 2014, 118, 27483-27492. | 1.5 | 11 |
| 25 | Probing the photochemistry of chemisorbed oxygen on TiO ₂ (110) with Kr and other co-adsorbates. Physical Chemistry Chemical Physics, 2014, 16, 2338-2346. | 1.3 | 23 |
| 26 | Multiple Nonthermal Reaction Steps for the Photooxidation of CO to CO ₂ on Reduced TiO ₂ (110). Journal of Physical Chemistry Letters, 2013, 4, 344-349. | 2.1 | 28 |
| 27 | Hydrogen reactivity on highly-hydroxylated TiO ₂ (110) surfaces prepared via carboxylic acid adsorption and photolysis. Physical Chemistry Chemical Physics, 2012, 14, 3066-3074. | 1.3 | 61 |
| 28 | Thermal and Nonthermal Physicochemical Processes in Nanoscale Films of Amorphous Solid Water. Accounts of Chemical Research, 2012, 45, 33-42. | 7.6 | 68 |
| 29 | Structure and Dynamics of CO ₂ on Rutile TiO ₂ (110)-1 \bar{A} -1. Journal of Physical Chemistry C, 2012, 116, 26322-26334. | 1.5 | 60 |
| 30 | Adsorption Geometry of CO versus Coverage on TiO ₂ (110) from s- and p-Polarized Infrared Spectroscopy. Journal of Physical Chemistry Letters, 2012, 3, 3425-3430. | 2.1 | 43 |
| 31 | Polarization- and Azimuth-Resolved Infrared Spectroscopy of Water on TiO ₂ (110): Anisotropy and the Hydrogen-Bonding Network. Journal of Physical Chemistry Letters, 2012, 3, 778-784. | 2.1 | 91 |
| 32 | Oxygen Photochemistry on TiO ₂ (110): Recyclable, Photoactive Oxygen Produced by Annealing Adsorbed O ₂ . Journal of Physical Chemistry Letters, 2011, 2, 2790-2796. | 2.1 | 37 |
| 33 | Electron- and Hole-Mediated Reactions in UV-Irradiated O ₂ Adsorbed on Reduced Rutile TiO ₂ (110). Journal of Physical Chemistry C, 2011, 115, 152-164. | 1.5 | 64 |
| 34 | A unique vibrational signature of rotated water monolayers on Pt(111): Predicted and observed. Journal of Chemical Physics, 2011, 134, 204702. | 1.2 | 31 |
| 35 | Off-Normal CO ₂ Desorption from the Photooxidation of CO on Reduced TiO ₂ (110). Journal of Physical Chemistry Letters, 2010, 1, 2508-2513. | 2.1 | 52 |
| 36 | Photoinduced Dissociation of O ₂ on Rutile TiO ₂ (110). Journal of Physical Chemistry Letters, 2010, 1, 1758-1762. | 2.1 | 74 |

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|----|--|------|-----------|
| 37 | Electron-stimulated reactions and O ₂ production in methanol-covered amorphous solid water films. Journal of Chemical Physics, 2009, 130, 104710. | 1.2 | 10 |
| 38 | Nonthermal Water Splitting on Rutile TiO ₂ : Electron-Stimulated Production of H ₂ and O ₂ in Amorphous Solid Water Films on TiO ₂ (110). Journal of Physical Chemistry C, 2009, 113, 4451-4460. | 1.5 | 29 |
| 39 | Water as a Catalyst: Imaging Reactions of O ₂ with Partially and Fully Hydroxylated TiO ₂ (110) Surfaces. Journal of Physical Chemistry C, 2009, 113, 1908-1916. | 1.5 | 88 |
| 40 | Chemical Reactivity of Reduced TiO ₂ (110): The Dominant Role of Surface Defects in Oxygen Chemisorption. Journal of Physical Chemistry C, 2009, 113, 12407-12411. | 1.5 | 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. | 6.6 | 186 |
| 42 | Tetraoxygen on Reduced TiO ₂ Vacancies. Physical Review Letters, 2008, 100, 196102. | | |
| 43 | Site-dependent electron-stimulated reactions in water films on TiO ₂ (110). Journal of Chemical Physics, 2007, 127, 224706. | 1.2 | 13 |
| 44 | Hydrogen Bonding, H-D Exchange, and Molecular Mobility in Thin Water Films on TiO ₂ (110). Journal of Physical Chemistry C, 2007, 111, 16319-16329. | 2.9 | 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. | 1.2 | 66 |
| 46 | Electron-Stimulated Oxidation of Thin Water Films Adsorbed on TiO ₂ (110). Journal of Physical Chemistry C, 2007, 111, 16319-16329. | 1.5 | 44 |
| 47 | Electron-Stimulated Production of Molecular Oxygen in Amorphous Solid Water. Journal of Physical Chemistry B, 2006, 110, 2723-2731. | 1.2 | 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. | 1.2 | 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. | 1.2 | 43 |
| 50 | Electron-stimulated sputtering of thin amorphous solid water films on Pt(111). Journal of Chemical Physics, 2005, 123, 054702. | 1.2 | 38 |
| 51 | Crystalline Ice Growth on Pt(111): Observation of a Hydrophobic Water Monolayer. Physical Review Letters, 2005, 95, 166102. | 2.9 | 195 |
| 52 | Low-Energy Electron-Stimulated Luminescence of Thin H ₂ O and D ₂ O Layers on Pt(111). Journal of Physical Chemistry B, 2005, 109, 15835-15841. | 1.2 | 8 |
| 53 | Role of Water in Electron-Initiated Processes and Radical Chemistry: Issues and Scientific Advances. Chemical Reviews, 2005, 105, 355-390. | 23.0 | 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. | 1.2 | 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. | 1.2 | 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. | 2.9 | 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. | 1.2 | 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: An Energy, Temperature, and Quantum State Resolved Study. Journal of Physical Chemistry B, 2000, 104, 1563-1571. | 1.2 | 15 |
| 60 | Laser-stimulated luminescence of yttria-stabilized cubic zirconia crystals. Journal of Applied Physics, 1999, 85, 6770-6776. | 1.1 | 140 |
| 61 | Absorption of molecular forms of iodine from the gaseous phase by protective paint coatings. Atomic Energy, 1996, 80, 414-418. | 0.1 | 1 |