Zdenek Dohnalek

List of Publications by Year
in descending order

99	4,855	81900 39	98798 67
papers	citations	h-index	g-index

103	103	103	4051
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Thermally-driven processes on rutile TiO2(110)-(1Ã—1): A direct view at the atomic scale. Progress in Surface Science, 2010, 85, 161-205.	8.3	282
2	Imaging Adsorbate Oâ^'H Bond Cleavage:Â Methanol on TiO2(110). Journal of the American Chemical Society, 2006, 128, 4198-4199.	13.7	211
3	Crystalline Ice Growth on Pt(111): Observation of a Hydrophobic Water Monolayer. Physical Review Letters, 2005, 95, 166102.	7.8	195
4	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
5	n-alkanes on Pt(111) and on C(0001)â^•Pt(111): Chain length dependence of kinetic desorption parameters. Journal of Chemical Physics, 2006, 125, 234308.	3.0	170
6	Structural motifs of water on metal oxide surfaces. Chemical Society Reviews, 2017, 46, 1785-1806.	38.1	170
7	n-alkanes on MgO(100). II. Chain length dependence of kinetic desorption parameters for small n-alkanes. Journal of Chemical Physics, 2005, 122, 164708.	3.0	156
8	Physisorption of N2, O2, and CO on Fully Oxidized TiO2(110). Journal of Physical Chemistry B, 2006, 110, 6229-6235.	2.6	155
9	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
10	Intrinsic Diffusion of Hydrogen on Rutile TiO₂(110). Journal of the American Chemical Society, 2008, 130, 9080-9088.	13.7	124
11	n-alkanes on MgO(100). I. Coverage-dependent desorption kinetics of n-butane. Journal of Chemical Physics, 2005, 122, 164707.	3.0	120
12	Transient Mobility of Oxygen Adatoms upon O2Dissociation on Reduced TiO2(110). Journal of Physical Chemistry C, 2008, 112, 2649-2653.	3.1	118
13	Dehydration, dehydrogenation, and condensation of alcohols on supported oxide catalysts based on cyclic (WO₃)₃ and (MoO₃)₃ clusters. Chemical Society Reviews, 2014, 43, 7664-7680.	38.1	99
14	Formation of O adatom pairs and charge transfer upon O2 dissociation on reduced TiO2(110). Physical Chemistry Chemical Physics, 2010, 12, 6337.	2.8	98
15	Formation of Monodisperse (WO3)3 Clusters on TiO2(110). Angewandte Chemie - International Edition, 2006, 45, 4786-4789.	13.8	92
16	Probing equilibrium of molecular and deprotonated water on TiO ₂ (110). Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 1801-1805.	7.1	90
17	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
18	Imaging Intrinsic Diffusion of Bridge-Bonded Oxygen Vacancies onTiO2(110). Physical Review Letters, 2007, 99, 126105.	7.8	86

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19	Catalytic Dehydration of 2-Propanol on (WO₃)₃ Clusters on TiO₂(110). Journal of the American Chemical Society, 2008, 130, 5059-5061.	13.7	76
20	Determination of Absolute Coverages for Small Aliphatic Alcohols on TiO₂(110). Journal of Physical Chemistry C, 2011, 115, 22534-22539.	3.1	76
21	Imaging Consecutive Steps of O₂ Reaction with Hydroxylated TiO₂(110): Identification of HO₂ and Terminal OH Intermediates. Journal of Physical Chemistry C, 2009, 113, 666-671.	3.1	75
22	Surface Chemistry of 2-Propanol on TiO₂(110):â€‰ Low- and High-Temperature Dehydration, Isotope Effects, and Influence of Local Surface Structure. Journal of Physical Chemistry C, 2007, 111, 11059-11067.	3.1	73
23	Direct Observation of Site-Specific Molecular Chemisorption of O₂ on TiO₂(110). Journal of Physical Chemistry Letters, 2010, 1, 3524-3529.	4.6	69
24	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
25	Importance of Diffusion in Methanol Photochemistry on TiO₂(110). Journal of Physical Chemistry C, 2012, 116, 25465-25469.	3.1	66
26	Understanding Heterolytic H₂ Cleavage and Water-Assisted Hydrogen Spillover on Fe₃O₄(001)-Supported Single Palladium Atoms. ACS Catalysis, 2019, 9, 7876-7887.	11.2	63
27	Direct Visualization of 2-Butanol Adsorption and Dissociation on TiO2(110). Journal of Physical Chemistry C, 2007, 111, 3021-3027.	3.1	62
28	Ethanol Conversion on Cyclic (MO3)3 (M = Mo, W) Clusters. Journal of Physical Chemistry C, 2014, 118, 4869-4877.	3.1	62
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	Reactive Ballistic Deposition of Porous TiO2Films:â€‰ Growth and Characterization. Journal of Physical Chemistry C, 2007, 111, 4765-4773.	3.1	56
31	Interaction of Formaldehyde with the Rutile TiO₂(110) Surface: A Combined Experimental and Theoretical Study. Journal of Physical Chemistry C, 2016, 120, 12626-12636.	3.1	54
32	Methane adsorption and dissociation and oxygen adsorption and reaction with CO on Pd nanoparticles on MgO(100) and on Pd(111). Surface Science, 2005, 591, 90-107.	1.9	51
33	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
34	Inductive Effect of Alkyl Chains on Alcohol Dehydration at Bridge-bonded Oxygen Vacancies of TiO2(110). Catalysis Letters, 2007, 119, 1-4.	2.6	49
35	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
36	Adsorption, Desorption, and Displacement Kinetics of H₂O and CO₂ on TiO₂(110). Journal of Physical Chemistry B, 2014, 118, 8054-8061.	2.6	48

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37	Dimerization Induced Deprotonation of Water on RuO₂(110). Journal of Physical Chemistry Letters, 2014, 5, 3445-3450.	4.6	47
38	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
39	Imaging Hindered Rotations of Alkoxy Species on TiO2(110). Journal of the American Chemical Society, 2009, 131, 17926-17932.	13.7	40
40	Growth of Ordered Ultrathin Tungsten Oxide Films on Pt(111). Journal of Physical Chemistry C, 2011, 115, 5773-5783.	3.1	40
41	Formaldehyde Polymerization on (WO3)3/TiO2(110) Model Catalyst. Journal of Physical Chemistry C, 2010, 114, 17017-17022.	3.1	39
42	Adsorption of small hydrocarbons on rutile TiO2(110). Surface Science, 2016, 650, 83-92.	1.9	38
43	Oxidation, Reduction, and Condensation of Alcohols over (MO3)3 (M = Mo, W) Nanoclusters. Journal of Physical Chemistry C, 2014, 118, 22620-22634.	3.1	37
44	Reactive Ballistic Deposition of Nanostructured Model Materials for Electrochemical Energy Conversion and Storage. Accounts of Chemical Research, 2012, 45, 434-443.	15.6	36
45	Water Interactions with Terminal Hydroxyls on TiO₂(110). Journal of Physical Chemistry C, 2010, 114, 17080-17084.	3.1	34
46	Cryogenic CO2Formation on Oxidized Gold Clusters Synthesized via Reactive Layer Assisted Deposition. Journal of the American Chemical Society, 2005, 127, 14592-14593.	13.7	33
47	Deprotonated Water Dimers: The Building Blocks of Segmented Water Chains on Rutile RuO₂(110). Journal of Physical Chemistry C, 2015, 119, 23552-23558.	3.1	33
48	Vacancy-Assisted Diffusion of Alkoxy Species on Rutile<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 50 287 Td (stretchy="false">)</mm	7.8	31
49	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
50	Infrared Spectroscopy and Optical Constants of Porous Amorphous Solid Water. Journal of Physical Chemistry B, 2009, 113, 4131-4140.	2.6	28
51	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
52	Polymerization of Formaldehyde and Acetaldehyde on Ordered (WO3)3 Films on Pt(111). Journal of Physical Chemistry C, 2011, 115, 9692-9700.	3.1	27
53	Preparation, Characterization, and Catalytic Properties of Tungsten Trioxide Cyclic Trimers on FeO(111)/Pt(111). Journal of Physical Chemistry C, 2012, 116, 908-916.	3.1	27
54	Imaging of Formaldehyde Adsorption and Diffusion on TiO2(110). Topics in Catalysis, 2015, 58, 103-113.	2.8	26

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55	Iso-oriented monolayer Î±-MoO₃(010) films epitaxially grown on SrTiO₃(001). Nanoscale, 2016, 8, 3119-3124.	5.6	26
56	Formation of Metastable Water Chains on Anatase TiO₂(101). Journal of Physical Chemistry C, 2017, 121, 20413-20418.	3.1	26
57	Dehydration and dehydrogenation of ethylene glycol on rutile TiO2(110). Physical Chemistry Chemical Physics, 2013, 15, 12180.	2.8	24
58	Binding of Formic Acid on Anatase TiO₂(101). Journal of Physical Chemistry C, 2020, 124, 20228-20239.	3.1	24
59	Tracking Site-Specific Câ€“C Coupling of Formaldehyde Molecules on Rutile TiO₂(110). Journal of Physical Chemistry C, 2015, 119, 14267-14272.	3.1	21
60	Site-Specific Imaging of Elemental Steps in Dehydration of Diols on TiO₂(110). ACS Nano, 2013, 7, 10414-10423.	14.6	20
61	Adsorption and Photodesorption of CO from Charged Point Defects on TiO2(110). Journal of Physical Chemistry Letters, 2017, 8, 4565-4572.	4.6	20
62	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
63	Reactivity of FeO(111)/Pt(111) with Alcohols. Journal of Physical Chemistry C, 2009, 113, 20020-20028.	3.1	19
64	Low-Temperature Reductive Coupling of Formaldehyde on Rutile TiO₂(110). Journal of Physical Chemistry C, 2015, 119, 18452-18457.	3.1	19
65	Alcohol Dehydration on Monooxo Wâ•Ö and Dioxo Oâ•Wâ•Ö Species. Journal of Physical Chemistry Letters, 2012, 3, 2168-2172.	4.6	18
66	Cerium Oxide Nanoclusters on Graphene/Ru(0001): Intercalation of Oxygen via Spillover. ACS Nano, 2015, 9, 8617-8626.	14.6	17
67	Molecular Beam Studies of Nanoscale Films of Amorphous Solid Water. Springer Series in Cluster Physics, 2003, , 337-357.	0.3	17
68	OH Group Dynamics of 1,3-Propanediol on TiO2(110). Journal of Physical Chemistry Letters, 2012, 3, 3257-3263.	4.6	16
69	Molecular Hydrogen Formation from Proximal Glycol Pairs on TiO₂(110). Journal of the American Chemical Society, 2014, 136, 5559-5562.	13.7	16
70	Conversion of 1,2-Propylene Glycol on Rutile TiO₂(110). Journal of Physical Chemistry C, 2014, 118, 15339-15347.	3.1	16
71	Understanding the Binding of Aromatic Hydrocarbons on Rutile TiO₂(110). Journal of Physical Chemistry C, 2019, 123, 16766-16777.	3.1	16
72	The effect of oxygen vacancies on the binding interactions of NH3 with rutile TiO2(110)-1 Ã— 1. Physical Chemistry Chemical Physics, 2012, 14, 15060.	2.8	15

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73	Unexpected Nondissociative Binding of N₂O on Oxygen Vacancies on a Rutile TiO₂(110)-1Ã—1. Journal of Physical Chemistry C, 2012, 116, 1145-1150.	3.1	15
74	Characterization of Nanoporous WO3 Films Grown via Ballistic Deposition. Journal of Physical Chemistry C, 2012, 116, 10649-10655.	3.1	15
75	Formation of Supported Graphene Oxide: Evidence for Enolate Species. Journal of the American Chemical Society, 2018, 140, 5102-5109.	13.7	14
76	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
77	Interaction of CO2 with oxygen adatoms on rutile TiO2(110). Physical Chemistry Chemical Physics, 2013, 15, 6190.	2.8	13
78	Conversion of 1,3-Propylene Glycol on Rutile TiO₂(110). Journal of Physical Chemistry C, 2014, 118, 23181-23188.	3.1	13
79	Reactivity of Fe⁰ Atoms and Clusters with D₂O over FeO(111). Journal of Physical Chemistry C, 2009, 113, 4960-4969.	3.1	11
80	Dynamics, Stability, and Adsorption States of Water on Oxidized RuO₂(110). Journal of Physical Chemistry C, 2017, 121, 18505-18515.	3.1	11
81	Strong Temperature Dependence in the Reactivity of H2 on RuO2(110). Journal of Physical Chemistry Letters, 2016, 7, 2967-2970.	4.6	10
82	Growth and Stability of Titanium Dioxide Nanoclusters on Graphene/Ru(0001). Journal of Physical Chemistry B, 2018, 122, 640-648.	2.6	10
83	Adsorption and reaction of methanol on Fe3O4(001). Journal of Chemical Physics, 2020, 152, 064703.	3.0	10
84	Creating self-assembled arrays of mono-oxo (MoO ₃) ₁ species on TiO ₂ (101) via deposition and decomposition of (MoO ₃) _n oligomers. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	10
85	Conversion of Formic Acid on Single- and Nano-Crystalline Anatase TiO₂(101). Journal of Physical Chemistry C, 2021, 125, 7686-7700.	3.1	10
86	Light Makes a Surface Banana-Bond Split: Photodesorption of Molecular Hydrogen from RuO2(110). Journal of the American Chemical Society, 2016, 138, 8714-8717.	13.7	9
87	Hydrogen adsorption and reaction on RuO2(110). Surface Science, 2018, 677, 264-270.	1.9	9
88	Understanding How Surface Morphology and Hydrogen Dissolution Influence Ethylene Hydrogenation on Palladium. Journal of Physical Chemistry C, 2008, 112, 15796-15801.	3.1	8
89	Low-Temperature Desorption of N₂O from NO on Rutile TiO₂(110)-1 Ã— 1. Journal of Physical Chemistry C, 2014, 118, 9544-9550.	3.1	8
90	Ammonia Formation from NO Reaction with Surface Hydroxyls on Rutile TiO₂(110)-1 Ã— 1. Journal of Physical Chemistry C, 2015, 119, 1130-1135.	3.1	6

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91	Temperature-programmed desorption study of NO reactions on rutile TiO2(110)-1 Ã— 1. Surface Science, 2016, 652, 148-155.	1.9	6
92	Direct Deoxygenation of Phenylmethanol to Methylbenzene and Benzyl Radicals on Rutile TiO₂(110). ACS Catalysis, 2017, 7, 2002-2006.	11.2	5
93	Reactivity of C₂Cl₆ and C₂Cl₄ Multilayers with Fe⁰ Atoms over FeO(111). Journal of Physical Chemistry C, 2009, 113, 10233-10241.	3.1	4
94	Adsorption of ethane, ethene, and ethyne on reconstructed Fe3O4(001). Surface Science, 2021, 714, 121932.	1.9	4
95	Binding and stability of MgO monomers on anatase TiO2(101). Journal of Chemical Physics, 2021, 154, 204703.	3.0	3
96	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
97	Catalytic Chemistry on Oxide Nanostructures. Springer Series in Materials Science, 2016, , 251-280.	0.6	0
98	Editorial: Insights into Surface Phenomena: In Honor of John T. Yates Jr.. Surface Science, 2016, 652, 1.	1.9	0
99	Formation of Gas-Phase Allyl Radicals from Glycerol on Rutile TiO2(110). Journal of Physical Chemistry C, 2021, 125, 7227-7239.	3.1	0