Oliver Diwald

List of Publications by Year
in descending order

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108 papers	5,175 citations	101543 36 h-index	88630 70 g-index
126 all docs	126 docs citations	126 times ranked	5761 citing authors

#	Article	IF	Citations
1	TiO2 anatase and rutile grains and the effect of particle printing on porphyrin adsorption. Surface Science, 2022, 722, 122083.	1.9	3
2	Paramagnetic electron centers in BaTiO3 nanoparticle powders. Physical Chemistry Chemical Physics, 2021, 23, 12881-12888.	2.8	4
3	Segregation Engineering in MgO Nanoparticle-Derived Ceramics: The Impact of Calcium and Barium Admixtures on the Microstructure and Light Emission Properties. ACS Applied Materials & Interfaces, 2021, 13, 25493-25502.	8.0	4
4	Always cubes: A comparative evaluation of gas phase synthesis methods and precursor selection for the production of MgO nanoparticles. Open Ceramics, 2021, 6, 100104.	2.0	9
5	Cubes to Cubes: Organization of MgO Particles into One-Dimensional and Two-Dimensional Nanostructures. Crystal Growth and Design, 2021, 21, 4674-4682.	3.0	17
6	Rubbing Powders: Direct Spectroscopic Observation of Triboinduced Oxygen Radical Formation in MgO Nanocube Ensembles. Journal of Physical Chemistry C, 2021, 125, 22239-22248.	3.1	2
7	Apparent crystallite domain size growth in metal oxide nanocrystal ensembles: The importance of surface reactivity of powders for processing. Open Ceramics, 2020, 3, 100014.	2.0	3
8	Isolated Cobalt Ions Embedded in Magnesium Oxide Nanostructures: Spectroscopic Properties and Redox Activity. Chemistry - A European Journal, 2020, 26, 16049-16056.	3.3	5
9	Morphology-Graded Silicon Nanowire Arrays via Chemical Etching: Engineering Optical Properties at the Nanoscale and Macroscale. ACS Applied Materials & Interfaces, 2020, 12, 13140-13147.	8.0	41
10	Catalytic activity, water formation, and sintering: Methane activation over Co- and Fe-doped MgO nanocrystals. Journal of Chemical Physics, 2020, 152, 074713.	3.0	11
11	Cobalt and Iron Ions in MgO Nanocrystals: Should They Stay or Should They Go. Journal of Physical Chemistry C, 2019, 123, 25991-26004.	3.1	8
12	From Anhydrous Zinc Oxide Nanoparticle Powders to Aqueous Colloids: Impact of Water Condensation and Organic Salt Adsorption on Free Exciton Emission. Langmuir, 2019, 35, 8741-8747.	3.5	7
13	Impurity Segregation and Nanoparticle Reorganization of Indium Doped MgO Cubes. ChemNanoMat, 2019, 5, 634-641.	2.8	6
14	Microstructural investigation of twin-roll cast magnesium AZ31B subjected to a single monotonic compressive stress. Journal of Alloys and Compounds, 2019, 789, 1022-1034.	5.5	3
15	Thin water films covering oxide nanomaterials: Stability issues and influences on materials processing. Journal of Materials Research, 2019, 34, 428-441.	2.6	18
16	Reactive Porphyrin Adsorption on TiO₂ Anatase Particles: Solvent Assistance and the Effect of Water Addition. ACS Applied Materials & Interfaces, 2018, 10, 16836-16842.	8.0	15
17	Three-Dimensional Electrochemical Axial Lithography on Si Micro- and Nanowire Arrays. Nano Letters, 2018, 18, 7343-7349.	9.1	18
18	Anchoring of carboxyl-functionalized porphyrins on MgO, TiO₂, and Co₃O₄ nanoparticles. Physical Chemistry Chemical Physics, 2018, 20, 24858-24868.	2.8	25

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19	Thermally Activated Selfâ€metalation of Carboxyâ€functionalized Porphyrin Films on MgO Nanocubes. ChemPhysChem, 2018, 19, 2272-2280.	2.1	7
20	Thin water films and particle morphology evolution in nanocrystalline MgO. Journal of the American Ceramic Society, 2018, 101, 4994-5003.	3.8	18
21	Biologic effects of nanoparticle-allergen conjugates: time-resolved uptake using an in vitro lung epithelial co-culture model of A549 and THP-1 cells. Environmental Science: Nano, 2018, 5, 2184-2197.	4.3	8
22	Exciton Emission and Lightâ€induced Charge Separation in Colloidal ZnO Nanocrystals. ChemPhotoChem, 2018, 2, 994-1001.	3.0	5
23	Concept of the highly strained volume for fatigue modeling of wrought magnesium alloys. International Journal of Fatigue, 2018, 117, 283-291.	5.7	11
24	Organisation von Metalloxidâ€NanowÃ¼rfeln durch Hydroxylierung. Angewandte Chemie, 2017, 129, 1428-1432.	2.0	0
25	Bovine Serum Albumin Adsorption on TiO₂ Colloids: The Effect of Particle Agglomeration and Surface Composition. Langmuir, 2017, 33, 2551-2558.	3.5	44
26	Hydroxylation Induced Alignment of Metal Oxide Nanocubes. Angewandte Chemie - International Edition, 2017, 56, 1407-1410.	13.8	19
27	Stability and Local Environment of Iron in Vapor Phase Grown MgO Nanocrystals. Journal of Physical Chemistry C, 2017, 121, 24292-24301.	3.1	10
28	Iron Precursor Decomposition in the Magnesium Combustion Flame: A New Approach for the Synthesis of Particulate Metal Oxide Nanocomposites. Particle and Particle Systems Characterization, 2017, 34, 1700109.	2.3	10
29	Enzyme adsorption-induced activity changes: a quantitative study on TiO2 model agglomerates. Journal of Nanobiotechnology, 2017, 15, 55.	9.1	14
30	Hydration of magnesia cubes: a helium ion microscopy study. Beilstein Journal of Nanotechnology, 2016, 7, 302-309.	2.8	12
31	Changing interfaces: Photoluminescent ZnO nanoparticle powders in different aqueous environments. Surface Science, 2016, 652, 253-260.	1.9	19
32	Adsorption, Ordering, and Metalation of Porphyrins on MgO Nanocube Surfaces: The Directional Role of Carboxylic Anchoring Groups. Journal of Physical Chemistry C, 2016, 120, 26879-26888.	3.1	20
33	Porphyrin Metalation at MgO Surfaces: A Spectroscopic and Quantum Mechanical Study on Complementary Model Systems. Chemistry - A European Journal, 2016, 22, 1744-1749.	3.3	36
34	Electronic Reducibility Scales with Intergranular Interface Area in Consolidated In₂O₃ Nanoparticles Powders. Journal of Physical Chemistry C, 2016, 120, 4581-4588.	3.1	4
35	CHAPTER 8. Traps and Interfaces in Photocatalysis: Model Studies on TiO2 Particle Systems. RSC Energy and Environment Series, 2016, , 185-217.	0.5	7
36	Surface-specific visible light luminescence from composite metal oxide nanocrystals. Journal of Materials Science, 2015, 50, 8153-8165.	3.7	17

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37	Size Effects in MgO Cube Dissolution. Langmuir, 2015, 31, 2770-2776.	3.5	49
38	Defects in Metal Oxide Nanoparticle Powders. Springer Series in Surface Sciences, 2015, , 273-301.	0.3	14
39	Thin water films and magnesium hydroxide fiber growth. RSC Advances, 2015, 5, 82564-82569.	3.6	6
40	Porphyrin Metalation at the MgO Nanocube/Toluene Interface. ACS Applied Materials & Interfaces, 2015, 7, 22962-22969.	8.0	30
41	O₂ adsorption dependent photoluminescence emission from metal oxide nanoparticles. Physical Chemistry Chemical Physics, 2014, 16, 23922-23929.	2.8	38
42	Spontaneous Growth of Magnesium Hydroxide Fibers at Ambient Conditions. Crystal Growth and Design, 2014, 14, 4236-4239.	3.0	9
43	Photoluminescence quenching in compressed MgO nanoparticle systems. Physical Chemistry Chemical Physics, 2014, 16, 8339.	2.8	23
44	On the Entangled Growth of NaTaO₃ Cubes and Na₂Ti₃O₇ Wires in Sodium Hydroxide Solution. Chemistry - A European Journal, 2013, 19, 10235-10243.	3.3	4
45	Synthesis and Aggregation of In₂O₃ Nanoparticles: Impact of Process Parameters on Stoichiometry Changes and Optical Properties. Langmuir, 2013, 29, 6077-6083.	3.5	17
46	First Combined Electron Paramagnetic Resonance and FT-IR Spectroscopic Evidence for Reversible O₂ Adsorption on In₂O_{3â€“x} Nanoparticles. Journal of Physical Chemistry C, 2013, 117, 20722-20729.	3.1	29
47	Surface Decoration of MgO Nanocubes with Sulfur Oxides: Experiment and Theory. Journal of Physical Chemistry C, 2013, 117, 7727-7735.	3.1	15
48	Defects in Oxygen-Depleted Titanate Nanostructures. Langmuir, 2012, 28, 7851-7858.	3.5	16
49	Facilitated Lattice Oxygen Depletion in Consolidated TiO₂ Nanocrystal Ensembles: A Quantitative Spectroscopic O₂ Adsorption Study. Journal of Physical Chemistry C, 2012, 116, 2896-2903.	3.1	27
50	Surface exciton separation in photoexcited MgO nanocube powders. Nanoscale, 2012, 4, 7494.	5.6	20
51	Exciton Formation at Solidâ€“Solid Interfaces: A Systematic Experimental and ab Initio Study on Compressed MgO Nanopowders. Journal of Physical Chemistry C, 2012, 116, 10103-10112.	3.1	25
52	Particle Networks from Powder Mixtures: Generation of TiO2â€“SnO2 Heterojunctions via Surface Charge-Induced Heteroaggregation. Journal of Physical Chemistry C, 2012, 116, 22967-22973.	3.1	59
53	Bulk and Surface Excitons in Alloyed and Phase-Separated ZnOâ€“MgO Particulate Systems. ACS Applied Materials & Interfaces, 2012, 4, 2490-2497.	8.0	10
54	Phase Separation at the Nanoscale: Structural Properties of BaO Segregates on MgO-Based Nanoparticles. Journal of Physical Chemistry C, 2011, 115, 15853-15861.	3.1	26

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55	Optical Properties of Nanocrystal Interfaces in Compressed MgO Nanopowders. ACS Nano, 2011, 5, 3003-3009.	14.6	43
56	Solidâ^'Solid Interface Formation in TiO2Nanoparticle Networks. Langmuir, 2011, 27, 1946-1953.	3.5	49
57	Computational and Experimental Investigations into N₂O Decomposition over MgO Nanocrystals from Thorough Molecular Mechanism to ab initio Microkinetics. Journal of Physical Chemistry C, 2011, 115, 22451-22460.	3.1	41
58	Delamination and Dissolution of Titanate Nanowires: A Combined Structure and in Situ Second Harmonic Generation Study. Journal of Physical Chemistry C, 2011, 115, 12381-12387.	3.1	13
59	Enhancement of TiO2 visible light photoactivity through accumulation of defects during reductionâ€"oxidation treatment. Journal of Photochemistry and Photobiology A: Chemistry, 2010, 212, 135-141.	3.9	33
60	BaO Clusters on MgO Nanocubes: A Quantitative Analysis of Opticalâ€Powder Properties. Small, 2010, 6, 582-588.	10.0	17
61	(Invited) Photoluminescence Properties of Alkaline-Earth Oxide Nanoparticles. ECS Transactions, 2010, 28, 67-80.	0.5	5
62	Zinc oxide scaffolds on MgO nanocubes. Nanotechnology, 2010, 21, 355603.	2.6	31
63	Solar Light and Dopant-Induced Recombination Effects: Photoactive Nitrogen in TiO₂ as a Case Study. Journal of Physical Chemistry C, 2010, 114, 18067-18072.	3.1	54
64	Tuning Photoluminescence Properties of Alkaline-earth Oxide Nanoparticles by Site-selective Functionalization and Doping. ECS Transactions, 2009, 25, 131-139.	0.5	2
65	Partikelâ€Morphologien und FestkÃ¶rperâ€Eigenschaften. Gestalten in der Nanowelt. Chemie in Unserer Zeit, 2009, 43, 84-92.	0.1	0
66	Functional Interfaces in Pure and Blended Oxide Nanoparticle Networks: Recombination versus Separation of Photogenerated Charges. Journal of Physical Chemistry C, 2009, 113, 15792-15795.	3.1	39
67	Stability and Photoelectronic Properties of Layered Titanate Nanostructures. Journal of the American Chemical Society, 2009, 131, 6198-6206.	13.7	101
68	When Fewer Photons Do More: A Comparative O₂Photoadsorption Study on Vapor-Deposited TiO₂and ZrO₂Nanocrystal Ensembles. Journal of Physical Chemistry C, 2009, 113, 9175-9181.	3.1	14
69	Charge Separation in Layered Titanate Nanostructures: Effect of Ion Exchange Induced Morphology Transformation. Angewandte Chemie - International Edition, 2008, 47, 1496-1499.	13.8	43
70	Photoluminescent Nanoparticle Surfaces: The Potential of Alkaline Earth Oxides for Optical Applications. Advanced Materials, 2008, 20, 4840-4844.	21.0	28
71	Energy and site selectivity in O-atom photodesorption from nanostructured MgO. Surface Science, 2008, 602, 1968-1973.	1.9	22
72	Nanoparticles as a Support: CaO Deposits on MgO Cubes. Journal of Physical Chemistry C, 2008, 112, 9120-9123.	3.1	16

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73	Chemical Control of Photoexcited States in Titanate Nanostructures. Nano Letters, 2007, 7, 433-438.	9.1	65
74	Effect of Protons on the Optical Properties of Oxide Nanostructures. Journal of the American Chemical Society, 2007, 129, 12491-12496.	13.7	45
75	Photoexcitation of Local Surface Structures on Strontium Oxide Grains. Journal of Physical Chemistry C, 2007, 111, 8069-8074.	3.1	12
76	Hydrogen activation at TiO2 anatase nanocrystals. Chemical Physics, 2007, 339, 138-145.	1.9	49
77	Lithium ion induced surface reactivity changes on MgO nanoparticles. Journal of Catalysis, 2007, 247, 61-67.	6.2	61
78	Ozonide ions on the surface of MgO nanocrystals. Topics in Catalysis, 2007, 46, 111-119.	2.8	15
79	Optical Surface Properties and Morphology of MgO and CaO Nanocrystals. Journal of Physical Chemistry B, 2006, 110, 13866-13871.	2.6	81
80	UV induced local heating effects in TiO2nanocrystals. Physical Chemistry Chemical Physics, 2006, 8, 1822-1826.	2.8	46
81	Particles Coming Together:â€‰ Electron Centers in Adjoined TiO2 Nanocrystals. Journal of Physical Chemistry B, 2006, 110, 7605-7608.	2.6	52
82	Trapping of photogenerated charges in oxide nanoparticles. Materials Science and Engineering C, 2005, 25, 664-668.	7.3	30
83	Charge Trapping and Photoadsorption of O2 on Dehydroxylated TiO2 Nanocrystalsâ€”An Electron Paramagnetic Resonance Study. ChemPhysChem, 2005, 6, 2104-2112.	2.1	127
84	Size-Dependent Optical Properties of MgO Nanocubes. Angewandte Chemie - International Edition, 2005, 44, 4917-4920.	13.8	205
85	Novel Optical Surface Properties of Ca2+-Doped MgO Nanocrystals. Nano Letters, 2005, 5, 1889-1893.	9.1	69
86	Ultraviolet Light-Induced Hydrophilicity Effect on TiO2(110)(1Ã—1). Dominant Role of the Photooxidation of Adsorbed Hydrocarbons Causing Wetting by Water Droplets. Journal of Physical Chemistry B, 2005, 109, 15454-15462.	2.6	288
87	Light-Induced Charge Separation in Anatase TiO2 Particles. Journal of Physical Chemistry B, 2005, 109, 6061-6068.	2.6	569
88	Chemistry at corners and edges: Generation and adsorption of H atoms on the surface of MgO nanocubes. Journal of Chemical Physics, 2005, 123, 064714.	3.0	33
89	Spectroscopic Properties of Trapped Electrons on the Surface of MgO Nanoparticles. ChemPhysChem, 2004, 5, 1695-1703.	2.1	15
90	Photochemical Activity of Nitrogen-Doped Rutile TiO2(110) in Visible Light.. ChemInform, 2004, 35, no.	0.0	3

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91	Molecular oxygen-mediated vacancy diffusion on TiO2(1 1 0)-new studies of the proposed mechanism. Chemical Physics Letters, 2004, 393, 28-30.	2.6	25
92	The Color of the MgO SurfaceA UV/Vis Diffuse Reflectance Investigation of Electron Traps. Journal of Physical Chemistry B, 2004, 108, 7280-7285.	2.6	35
93	Synthesis of Analogue Structures of thep-Quinone Methide Moiety of Kendomycin. Organic Letters, 2004, 6, 3131-3134.	4.6	20
94	Photochemical Activity of Nitrogen-Doped Rutile TiO2(110) in Visible Light. Journal of Physical Chemistry B, 2004, 108, 6004-6008.	2.6	699
95	The Effect of Nitrogen Ion Implantation on the Photoactivity of TiO2Rutile Single Crystals. Journal of Physical Chemistry B, 2004, 108, 52-57.	2.6	356
96	STM studies of defect production on the (110)-(1Ã—1) and (110)-(1Ã—2) surfaces induced by UV irradiation. Chemical Physics Letters, 2003, 369, 152-158.	2.6	109
97	CO2as a Probe for Monitoring the Surface Defects on TiO2(110)Temperature-Programmed Desorption. Journal of Physical Chemistry B, 2003, 107, 11700-11704.	2.6	136
98	Energy Transfer on the MgO Surface, Monitored by UVâˆ' Induced H2Chemisorption. Journal of the American Chemical Society, 2003, 125, 195-199.	13.7	112
99	Wavelength selective excitation of surface oxygen anions on highly dispersed MgO. Journal of Chemical Physics, 2002, 116, 1707-1712.	3.0	62
100	Intermolecular Electron Transfer on the Surface of MgO Nanoparticles. Journal of Physical Chemistry B, 2002, 106, 3495-3502.	2.6	39
101	Energies and Dynamics of Photoinduced Electron and Hole Processes on MgO Powders. Journal of Physical Chemistry B, 2002, 106, 12478-12482.	2.6	54
102	Site selective hydroxylation of the MgO surface. Physical Chemistry Chemical Physics, 2002, 4, 2811-2817.	2.8	57
103	Oâˆ' radical ions on MgO as a tool to unravel structure and location of ionic vacancies at the surface of oxides: a coupled experimental and theoretical investigation. Surface Science, 2001, 494, 95-110.	1.9	44
104	UV induced surface reactions on MgO nanoparticles. Radiation Effects and Defects in Solids, 2001, 156, 123-128.	1.2	0
105	Chemical vapour deposition â€" a new approach to reactive surface defects of uniform geometry on high surface area magnesium oxide. Journal of Molecular Catalysis A, 2000, 162, 83-95.	4.8	60
106	Vacancies and Electron Deficient Surface Anions on the Surface of MgO Nanoparticles. Journal of Physical Chemistry B, 2000, 104, 3601-3607.	2.6	88
107	H2 chemisorption and consecutive UV stimulated surface reactions on nanostructured MgO. Physical Chemistry Chemical Physics, 1999, 1, 713-721.	2.8	36
108	Surface color centers as novel hydrogen bond acceptors. Journal of Chemical Physics, 1999, 111, 6668-6670.	3.0	19