Markus Heyde

List of Publications by Year
in descending order

111 papers	4,007 citations	117571 34 h-index	123376 61 g-index
118 all docs	118 docs citations	118 times ranked	3079 citing authors

#	Article	IF	Citations
1	Control of the Charge State of Metal Atoms on Thin MgO Films. Physical Review Letters, 2007, 98, 096107.	2.9	310
2	Crossover from Three-Dimensional to Two-Dimensional Geometries of Au Nanostructures on Thin MgO(001) Films: A Confirmation of Theoretical Predictions. Physical Review Letters, 2007, 98, 206103.	2.9	211
3	The Atomic Structure of a Metalâ€Supported Vitreous Thin Silica Film. Angewandte Chemie - International Edition, 2012, 51, 404-407.	7.2	207
4	Growth and Structure of Crystalline Silica Sheet on Ru(0001). Physical Review Letters, 2010, 105, 146104.	2.9	198
5	Interaction of Gold Clusters with Color Centers on MgO(001) Films. Angewandte Chemie - International Edition, 2006, 45, 2630-2632.	7.2	154
6	Identification of Color Centers on MgO(001) Thin Films with Scanning Tunneling Microscopy. Journal of Physical Chemistry B, 2006, 110, 46-49.	1.2	143
7	Binding of Single Gold Atoms on Thin MgO(001) Films. Physical Review Letters, 2006, 96, 146804.	2.9	120
8	Thin silica films on Ru(0001): monolayer, bilayer and three-dimensional networks of [SiO4] tetrahedra. Physical Chemistry Chemical Physics, 2012, 14, 11344.	1.3	106
9	Work Function Measurements of Thin Oxide Films on Metalsâ€"MgO on Ag(001). Journal of Physical Chemistry C, 2009, 113, 11301-11305.	1.5	102
10	Contact-area dependence of frictional forces:â€ƒMoving adsorbed antimony nanoparticles. Physical Review B, 2005, 71, .	1.1	98
11	Measuring the Charge State of Point Defects on MgO/Ag(001). Journal of the American Chemical Society, 2009, 131, 17544-17545.	6.6	95
12	Dynamic plowing nanolithography on polymethylmethacrylate using an atomic force microscope. Review of Scientific Instruments, 2001, 72, 136-141.	0.6	93
13	Crystalline-Vitreous Interface in Two Dimensional Silica. Physical Review Letters, 2012, 109, 106101.	2.9	92
14	Atomic Arrangement in Two-Dimensional Silica: From Crystalline to Vitreous Structures. Journal of Physical Chemistry C, 2012, 116, 20426-20432.	1.5	82
15	Carbon Dioxide Activation and Reaction Induced by Electron Transfer at an Oxideâ€"Metal Interface. Angewandte Chemie - International Edition, 2015, 54, 12484-12487.	7.2	80
16	Two-dimensional silica opens new perspectives. Progress in Surface Science, 2017, 92, 341-374.	3.8	71
17	Recipes for cantilever parameter determination in dynamic force spectroscopy: spring constant and amplitude. Nanotechnology, 2007, 18, 255503.	1.3	68
18	Identifying Structureâ€"Selectivity Correlations in the Electrochemical Reduction of CO₂: A Comparison of Wellâ€Ordered Atomically Clean and Chemically Etched Copper Singleâ€Crystal Surfaces. Angewandte Chemie - International Edition, 2021, 60, 19169-19175.	7.2	67

#	ARTICLE	IF	CITATIONS
19	Combined low-temperature scanning tunneling/atomic force microscope for atomic resolution imaging and site-specific force spectroscopy. Review of Scientific Instruments, 2008, 79, 033704.	0.6	64
20	Charge-induced formation of linear Au clusters on thin MgO films: Scanning tunneling microscopy and density-functional theory study. Physical Review B, 2008, 78, .	1.1	64
21	Au Dimers on Thin MgO(001) Films: Flat and Charged or Upright and Neutral?. Journal of the American Chemical Society, 2008, 130, 7814-7815.	6.6	62
22	Two-dimensional silica: Crystalline and vitreous. Chemical Physics Letters, 2012, 550, 1-7.	1.2	61
23	Probing adsorption sites on thin oxide films by dynamic force microscopy. Applied Physics Letters, 2006, 89, 263107.	1.5	59
24	Controlled Translational Manipulation of Small Latex Spheres by Dynamic Force Microscopy. Langmuir, 2002, 18, 7798-7803.	1.6	58
25	Double quartz tuning fork sensor for low temperature atomic force and scanning tunneling microscopy. Review of Scientific Instruments, 2004, 75, 2446-2450.	0.6	56
26	Atomic resolution on MgO(001) by atomic force microscopy using a double quartz tuning fork sensor at low-temperature and ultrahigh vacuum. Applied Physics Letters, 2005, 87, 083104.	1.5	52
27	Electron Paramagnetic Resonance and Scanning Tunneling Microscopy Investigations on the Formation of F+and F0Color Centers on the Surface of Thin MgO(001) Films. Journal of Physical Chemistry B, 2006, 110, 8665-8669.	1.2	51
28	Ultrathin Silica Films: The Atomic Structure of Twoâ€Dimensional Crystals and Glasses. Chemistry - A European Journal, 2014, 20, 9176-9183.	1.7	51
29	Surface Species Formed by the Adsorption and Dissociation of Water Molecules on a Ru(0001) Surface Containing a Small Coverage of Carbon Atoms Studied by Scanning Tunneling Microscopy. Journal of Physical Chemistry C, 2008, 112, 7445-7454.	1.5	50
30	A Large-Area Transferable Wide Band Gap 2D Silicon Dioxide Layer. ACS Nano, 2016, 10, 7982-7989.	7.3	47
31	Adsorption of Au and Pd on Ruthenium-Supported Bilayer Silica. Journal of Physical Chemistry C, 2014, 118, 20959-20969.	1.5	46
32	Interaction of CO molecules with surface state electrons on Ag(111). Surface Science, 2005, 590, L253-L258.	0.8	42
33	Understanding surface core-level shifts using the Auger parameter: A study of Pd atoms adsorbed on ultrathin SiO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>films. Physical Review B, 2014, 89, .	1.1	38
34	Building block analysis of 2D amorphous networks reveals medium range correlation. Journal of Non-Crystalline Solids, 2016, 435, 40-47.	1.5	36
35	Signal electronics for an atomic force microscope equipped with a double quartz tuning fork sensor. Review of Scientific Instruments, 2006, 77, 043710.	0.6	32
36	Palladium Monomers, Dimers, and Trimers on the MgO(001) Surface Viewed Individually. Angewandte Chemie - International Edition, 2007, 46, 8703-8706.	7.2	32

#	Article	IF	Citations
37	Direct Measurement of the Attractive Interaction Forces on F⁰ Color Centers on MgO(001) by Dynamic Force Microscopy. ACS Nano, 2010, 4, 2510-2514.	7.3	29
38	Charge Control in Model Catalysis: The Decisive Role of the Oxideâ€"Nanoparticle Interface. Chemistry - A European Journal, 2018, 24, 2317-2327.	1.7	28
39	Modelling the atomic arrangement of amorphous 2D silica: a network analysis. Physical Chemistry Chemical Physics, 2018, 20, 14725-14739.	1.3	28
40	Model studies on heterogeneous catalysts at the atomic scale: From supported metal particles to two-dimensional zeolites. Journal of Catalysis, 2013, 308, 154-167.	3.1	27
41	Atomic structure of the ultrathin alumina on NiAl(110) and its antiphase domain boundaries as seen by frequency modulation dynamic force microscopy. New Journal of Physics, 2009, 11, 093009.	1.2	26
42	Atomically resolved force microscopy images of complex surface unit cells: Ultrathin alumina film on NiAl(110). Physical Review B, 2008, 78, .	1.1	24
43	Assessing the amorphousness and periodicity of common domain boundaries in silica bilayers on Ru(0â€‰0â€‰0â€‰1). Journal of Physics Condensed Matter, 2017, 29, 035002.	0.7	22
44	Defects in oxide surfaces studied by atomic force and scanning tunneling microscopy. Beilstein Journal of Nanotechnology, 2011, 2, 1-14.	1.5	21
45	Probing the properties of metalâ€"oxide interfaces: silica films on Mo and Ru supports. Journal of Physics Condensed Matter, 2012, 24, 354010.	0.7	20
46	Topological Investigation of Two-Dimensional Amorphous Materials. Zeitschrift Fur Physikalische Chemie, 2014, 228, 587-607.	1.4	19
47	Atomic resolution on a metal single crystal with dynamic force microscopy. Applied Physics Letters, 2009, 95, .	1.5	18
48	MgO on Mo(001): Local Work Function Measurements above Pristine Terrace and Line Defect Sites. Journal of Physical Chemistry C, 2015, 119, 12283-12290.	1.5	18
49	Dislocation of antimony clusters on graphite by means of dynamic plowing nanolithography. Surface Science, 2001, 476, 54-62.	0.8	17
50	Atomic structure of surface defects in alumina studied by dynamic force microscopy: strain-relief-, translation- and reflection-related boundaries, including their junctions. New Journal of Physics, 2011, 13, 123028.	1.2	17
51	Structure and Motion of a 2D Glass. Science, 2013, 342, 201-202.	6.0	17
52	Bending Rigidity of 2D Silica. Physical Review Letters, 2018, 120, 226101.	2.9	17
53	Substrate-mediated interaction and electron-induced diffusion of single lithium atoms on Ag(001). Physical Review B, 2007, 75, .	1.1	16
54	A Scanning Tunneling Microscopy Observation of ($sqrt{3}imessqrt{3}$) R30Â° Reconstructed Ni2P(0001). Japanese Journal of Applied Physics, 2008, 47, 6088-6091.	0.8	16

#	Article	IF	Citations
55	Structure and electronic properties of step edges in the aluminum oxide film on NiAl(110). Physical Review B, 2010, 82, .	1.1	16
56	Resolving amorphous solid-liquid interfaces by atomic force microscopy. Applied Physics Letters, 2016, 108, .	1.5	16
57	Atomic structure of a metal-supported two-dimensional germania film. Physical Review B, 2018, 97, .	1.1	16
58	A Silica Bilayer Supported on Ru(0001): Following the Crystallineâ€to Vitreous Transformation in Real Time with Spectroâ€microscopy. Angewandte Chemie - International Edition, 2020, 59, 10587-10593.	7.2	15
59	Frequency modulated atomic force microscopy on MgO(001) thin films: interpretation of atomic image resolution and distance dependence of tipâ€“sample interaction. Nanotechnology, 2006, 17, S101-S106.	1.3	14
60	A Two-Dimensional â€˜Zigzagâ€™ Silica Polymorph on a Metal Support. Journal of the American Chemical Society, 2018, 140, 6164-6168.	6.6	14
61	Determination of Silica and Germania Film Network Structures on Ru(0001) at the Atomic Scale. Journal of Physical Chemistry C, 2019, 123, 7889-7897.	1.5	14
62	Chapter model systems in heterogeneous catalysis at the atomic level: a personal view. Science China Chemistry, 2020, 63, 426-447.	4.2	14
63	Local Work Function Differences at Line Defects in Aluminium Oxide on NiAl(110). ChemPhysChem, 2010, 11, 2085-2087.	1.0	13
64	Growth and Atomicâ€Scale Characterization of Ultrathin Silica and Germania Films: The Crucial Role of the Metal Support. Chemistry - A European Journal, 2021, 27, 1870-1885.	1.7	13
65	Growth of Nâ€Heterocyclic Carbene Assemblies on Cu(100) and Cu(111): From Single Molecules to Magicâ€Number Islands. Angewandte Chemie - International Edition, 2022, 61, .	7.2	13
66	Submicrosecond range surface heating and temperature measurement for efficient sensor reactivation. Thin Solid Films, 2001, 391, 143-148.	0.8	12
67	Aktivierung und Elektronentransferâ€induzierte Reaktion von Kohlendioxid an einer Oxidâ€Metallâ€GrenzflÃche. Angewandte Chemie, 2015, 127, 12661-12665.	1.6	12
68	Interaction of water with oxide thin film model systems. Journal of Materials Research, 2019, 34, 360-378.	1.2	12
69	Spiral high-speed scanning tunneling microscopy: Tracking atomic diffusion on the millisecond timescale. Applied Physics Letters, 2021, 119, .	1.5	12
70	Nonuniform friction-area dependency for antimony oxide surfaces sliding on graphite. Physical Review B, 2013, 88, .	1.1	11
71	Resolving oxide surfaces â€“ From point and line defects to complex network structures. Physica Status Solidi (B): Basic Research, 2013, 250, 895-921.	0.7	11
72	From Crystalline to Amorphous Germania Bilayer Films at the Atomic Scale: Preparation and Characterization. Angewandte Chemie - International Edition, 2019, 58, 10903-10908.	7.2	10

#	Article	IF	Citations
73	STM studies of ordered(31Ã—31)R9Â°CO islands on Ag(111). Physical Review B, 2005, 71, .	1.1	9
74	Frequency-modulated atomic force spectroscopy on NiAl(110) partially covered with a thin alumina film. Physical Review B, 2006, 73, .	1.1	9
75	Atomic Scale Characterization of Defects on Oxide Surfaces. Springer Series in Surface Sciences, 2015, , 29-80.	0.3	9
76	Structure of a Silica Thin Film on Oxidized Cu(111): Conservation of the Honeycomb Lattice and Role of the Interlayer. Journal of Physical Chemistry C, 2020, 124, 20942-20949.	1.5	9
77	A portable microevaporator for low temperature single atom studies by scanning tunneling and dynamic force microscopy. Review of Scientific Instruments, 2009, 80, 113705.	0.6	8
78	New application for the calibration of scanning probe microscopy piezos. , 1999, 27, 291-295.		7
79	The Atomic Structure of Two-Dimensional Silica. Nanoscience and Technology, 2015, , 327-353.	1.5	7
80	Imaging and manipulation of adatoms on an alumina surface by noncontact atomic force microscopy. Journal of Physics Condensed Matter, 2012, 24, 084007.	0.7	6
81	Continuous network structure of two-dimensional silica across a supporting metal step edge: An atomic scale study. Physical Review Materials, 2021, 5, .	0.9	6
82	Enhanced atomic corrugation in dynamic force microscopyâ€"The role of repulsive forces. Applied Physics Letters, 2012, 100, 123105.	1.5	5
83	Characterizing Crystalline-Vitreous Structures: From Atomically Resolved Silica to Macroscopic Bubble Rafts. Journal of Chemical Education, 2015, 92, 1896-1902.	1.1	5
84	Apparatus for low temperature thermal desorption spectroscopy of portable samples. Review of Scientific Instruments, 2016, 87, 045103.	0.6	5
85	Mesoscopic Structures and Coexisting Phases in Silica Films. Journal of Physical Chemistry C, 2022, 126, 3736-3742.	1.5	5
86	Direct Observation of Platinum Etching during the Fluorination of a Pt/LaF3/Si Structure. Physica Status Solidi A, 1999, 176, 943-952.	1.7	4
87	Imaging of individual adatoms on oxide surfaces by dynamic force microscopy. Physical Review B, 2010, 81, .	1.1	4
88	Assessing the film-substrate interaction in germania films on reconstructed Au(111). Physical Review B, 2019, 100, .	1.1	4
89	A Silica Bilayer Supported on Ru(0001): Following the Crystallineâ€to Vitreous Transformation in Real Time with Spectroâ€microscopy. Angewandte Chemie, 2020, 132, 10674-10680.	1.6	4
90	Development of a single crystal sample holder for interfacing ultrahigh vacuum and electrochemical experimentation. Review of Scientific Instruments, 2021, 92, 074104.	0.6	4

#	Article	IF	Citations
91	Resolving atomic diffusion in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Ru</mml:mi><mml:mrow><mml:mo>(</mml:mo><mm mathvariant="normal">O</mml:mi><mml:mo>(</mml:mo><mml:mn>2</mml:mn><mml:mo>Ã—</mml:mo><mml:mn>2</mml:mn>< with spiral high-speed scanning tunneling microscopy. Physical Review B, 2022, 105, .	1.1	4
92	A high-speed variable-temperature ultrahigh vacuum scanning tunneling microscope with spiral scan capabilities. Review of Scientific Instruments, 2022, 93, .	0.6	4
93	A reverse pendulum bath cryostat design suitable for low temperature scanning probe microscopy. Measurement Science and Technology, 2005, 16, 859-864.	1.4	3
94	Three-dimensional electrostatic interactions in dynamic force microscopy: Experiment and theory. Physical Review B, 2011, 83, .	1.1	3
95	Nanotribological Studies by Nanoparticle Manipulation. Nanoscience and Technology, 2007, , 561-582.	1.5	3
96	Dynamics in the O(2 Ã— 1) adlayer on Ru(0001): bridging timescales from milliseconds to minutes by scanning tunneling microscopy. Physical Chemistry Chemical Physics, 2022, 24, 15265-15270.	1.3	3
97	A portable quartz micro balance for physical vapor deposition techniques. Review of Scientific Instruments, 2013, 84, 085118.	0.6	2
98	From Crystalline to Amorphous Germania Bilayer Films at the Atomic Scale: Preparation and Characterization. Angewandte Chemie, 2019, 131, 11019-11024.	1.6	2
99	Growth of Nâ€Heterocyclic Carbene Assemblies on Cu(100) and Cu(111): from Single Molecules to Magicâ€Number Islands. Angewandte Chemie, 0, , .	1.6	2
100	Variation of bending rigidity with material density: bilayer silica with nanoscale holes. Physical Chemistry Chemical Physics, 0, , .	1.3	2
101	Superlattice structure of an Ar monolayer on Ag(111) observed by low-temperature scanning tunneling microscopy. Physical Review B, 2008, 78, .	1.1	1
102	Transfer of 2D Silica Films. , 2018, , 360-366.		1
103	Binding Behavior of Carbonmonoxide to Gold Atoms on Ag(001). Topics in Catalysis, 2020, 63, 1578-1584.	1.3	1
104	Thin Oxide Films as Model Systems for Heterogeneous Catalysts. Springer Handbooks, 2020, , 267-328.	0.3	1
105	Measuring SPM Piezo Displacement Responses. Microscopy Today, 1999, 7, 24-26.	0.2	0
106	The Use of a Fibre-Based Light Sensor for the Calibration of Scanning Probe Microscopy Piezos. Physica Status Solidi A, 1999, 173, 225-234.	1.7	0
107	Back Cover: Resolving oxide surfaces â€“ From point and line defects to complex network structures (Phys. Status Solidi B 5/2013). Physica Status Solidi (B): Basic Research, 2013, 250, .	0.7	0
108	From Ordered to Vitreous Oxide Films. , 2014, , 641-690.		0

#	Article	IF	Citations
109	Frontispiece: Charge Control in Model Catalysis: The Decisive Role of the Oxideâ€"Nanoparticle Interface. Chemistry - A European Journal, 2018, 24, .	1.7	0
110	Frontispiece: Growth and Atomicâ€Scale Characterization of Ultrathin Silica and Germania Films: The Crucial Role of the Metal Support. Chemistry - A European Journal, 2021, 27, .	1.7	0
111	Study of Thin Oxide Films with NC-AFM: Atomically Resolved Imaging and Beyond. Nanoscience and Technology, 2009, , 143-167.	1.5	0