

Reinhold Koch

List of Publications by Year in descending order

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132
papers

4,044
citations

136885

32
h-index

133188

59
g-index

134
all docs

134
docs citations

134
times ranked

3385
citing authors

#	ARTICLE	IF	CITATIONS
1	Identifying On-Surface Site-Selective Chemical Conversions by Theory-Aided NEXAFS Spectroscopy: The Case of Free-Base Corroles on Ag(111). <i>Chemistry - A European Journal</i> , 2018, 24, 6787-6797.	1.7	8
2	Interface structure and composition of MoO ₃ /GaAs(001). <i>Journal of Physics Condensed Matter</i> , 2018, 30, 155001.	0.7	5
3	Single-molecule chemical reduction induced by low-temperature scanning tunneling microscopy: A case study of gold-porphyrin on Au(111). <i>Surface Science</i> , 2018, 678, 157-162.	0.8	2
4	Temperature-dependent interface stability of MoO ₃ /GaAs(001) hybrid structures. <i>Journal of Applied Physics</i> , 2018, 124, 215301.	1.1	3
5	On-Surface Site-Selective Cyclization of Corrole Radicals. <i>ACS Nano</i> , 2017, 11, 3383-3391.	7.3	24
6	X-ray Spectroscopy of Thin Film Free-Base Corroles: A Combined Theoretical and Experimental Characterization. <i>Journal of Physical Chemistry C</i> , 2017, 121, 2192-2200.	1.5	14
7	Radio frequency surface plasma oscillations: electrical excitation and detection by Ar/Ag(111). <i>Scientific Reports</i> , 2017, 7, 9708.	1.6	1
8	Mechanical and Magnetic Single-Molecule Excitations by Radio-Frequency Scanning Tunneling Microscopy. <i>Advances in Atom and Single Molecule Machines</i> , 2017, , 187-218.	0.0	1
9	A Bifunctional Electrocatalyst for Oxygen Evolution and Oxygen Reduction Reactions in Water. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 2350-2355.	7.2	124
10	Bilayer of Terbium Double-Decker Single-Molecule Magnets. <i>Journal of Physical Chemistry C</i> , 2016, 120, 13581-13586.	1.5	22
11	Manipulation resolves non-trivial structure of corrole monolayer on Ag(111). <i>Nanotechnology</i> , 2016, 27, 025704.	1.3	10
12	Mechanism for nuclear and electron spin excitation by radio frequency current. <i>Physical Review B</i> , 2015, 92, .	1.1	8
13	Growth, structure and morphology of epitaxial Fe(001) films on GaAs(001) (4 Å – 4). <i>Journal of Physics Condensed Matter</i> , 2015, 27, 036001.	0.7	6
14	Ultrathin MgO diffusion barriers for ferromagnetic electrodes on GaAs(001). <i>Nanotechnology</i> , 2015, 26, 165203.	1.3	6
15	Radio-frequency excitation of single molecules by scanning tunnelling microscopy. <i>Nanotechnology</i> , 2014, 25, 135705.	1.3	9
16	Molekülketten als kleinste mechanische Resonatoren. <i>Physik in Unserer Zeit</i> , 2014, 45, 162-163.	0.0	0
17	Radio-Wave Oscillations of Molecular-Chain Resonators. <i>Physical Review Letters</i> , 2014, 112, 117201.	2.9	14
18	Radio Frequency Scanning Tunneling Spectroscopy for Single-Molecule Spin Resonance. <i>Physical Review Letters</i> , 2014, 113, 133001.	2.9	56

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19	Surface-Supported Hydrocarbon Radicals Show Kondo Behavior. Journal of Physical Chemistry C, 2013, 117, 5718-5721.	1.5	47
20	Epitaxy and stress of MgO/GaAs(001) heterostructures. Journal of Applied Physics, 2013, 114, 154511.	1.1	5
21	Nanopatterning of Si(001) for bottom-up fabrication of nanostructures. Nanotechnology, 2012, 23, 165301.	1.3	0
22	Interactions and Self-Assembly of Stable Hydrocarbon Radicals on a Metal Support. Journal of Physical Chemistry C, 2012, 116, 22587-22594.	1.5	29
23	Spectroscopic Scanning Tunneling Microscopy Studies of Single Surface-Supported Free-Base Corroles. Journal of the American Chemical Society, 2012, 134, 91-94.	6.6	16
24	Preserving Charge and Oxidation State of Au(III) Ions in an Agent-Functionalized Nanocrystal Model System. ACS Nano, 2011, 5, 6480-6486.	7.3	26
25	Asymmetric saddling of single porphyrin molecules on Au(111). Physical Review B, 2011, 83, .	1.1	26
26	Stress and interdiffusion during molecular beam epitaxy of Fe on As-rich GaAs(001). Journal of Physics Condensed Matter, 2011, 23, 042001.	0.7	9
27	Interdiffusion in Heusler film epitaxy on GaAs(001). Physical Review B, 2011, 83, .	1.1	23
28	Magnetic anisotropy of epitaxial Fe _{1-x} Si _x films on GaAs(001). Physical Review B, 2011, 84, .	1.1	5
29	Stress in Evaporated and Sputtered Thin Films – A Comparison. Surface and Coatings Technology, 2010, 204, 1973-1982.	2.2	98
30	Spectroscopic STM Studies of Single Gold(III) Porphyrin Molecules. Journal of the American Chemical Society, 2009, 131, 17740-17741.	6.6	35
31	<i>In situ</i> stress evolution during and after sputter deposition of Al thin films. Journal of Physics Condensed Matter, 2009, 21, 225008.	0.7	17
32	Bottom-up Approach to the Nanopatterning of Si(001). Nanoscience and Technology, 2008, , 87-96.	1.5	0
33	Stress evolution during and after sputter deposition of thin Cu-Al alloy films. Journal of Physics Condensed Matter, 2008, 20, 255215.	0.7	11
34	In situ stress evolution during sputter deposition of Cu-Co bilayers and multilayers. Journal of Applied Physics, 2007, 101, 073511.	1.1	13
35	Preface: phys. stat. sol. (b) 244/8. Physica Status Solidi (B): Basic Research, 2007, 244, 2679-2679.	0.7	0
36	In situ stress evolution of Co films sputtered onto oxidized Si (100) substrates. Journal of Applied Physics, 2006, 99, 033509.	1.1	12

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37	Selforganized nanopatterning of Si(001). Surface Science, 2006, 600, 4694-4701.	0.8	2
38	Stress evolution during growth of bilayer self-assembled InAs/GaAs quantum dots. Applied Physics A: Materials Science and Processing, 2006, 83, 267-269.	1.1	5
39	Extending the magnetic order of MnAs films on GaAs to higher temperatures. Journal of Magnetism and Magnetic Materials, 2005, 288, 173-177.	1.0	5
40	Morphware. Scientific American, 2005, 293, 56-63.	1.0	5
41	From ferro- to antiferromagnetism via exchange-striction of MnAs/GaAs(001). Europhysics Letters, 2005, 72, 479-485.	0.7	23
42	Nanoscale imaging of surface acoustic waves by scanning tunneling microscopy. Journal of Applied Physics, 2005, 97, 104321.	1.1	2
43	Koch, Hu, and Das Reply:. Physical Review Letters, 2005, 95, .	2.9	11
44	Compressive Stress in Polycrystalline Volmer-Weber Films. Physical Review Letters, 2005, 94, 146101.	2.9	140
45	Nature of the magnetic and structural phase transition in MnAs/GaAs(001). Physical Review B, 2004, 69, .	1.1	25
46	Quantum Confinement in Monatomic Cu Chains on Cu(111). Physical Review Letters, 2004, 92, 056803.	2.9	186
47	Strain Relief of Heteroepitaxial bcc-Fe(001) Films. Physical Review Letters, 2004, 93, 236101.	2.9	29
48	Magnetic coupling and exchange stiffness in striped MnAs films. Europhysics Letters, 2004, 68, 726-732.	0.7	6
49	Programmable magnetologic full adder. Applied Physics A: Materials Science and Processing, 2004, 79, 415-416.	1.1	7
50	Morphological evolution of erbium disilicide nanowires on Si(001). Surface and Interface Analysis, 2004, 36, 104-108.	0.8	9
51	Reconfigurable logic with single magnetoresistive elements. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 3244-3251.	0.8	3
52	Magnetic anisotropy of MnAs-films on GaAs(001) studied with ferromagnetic resonance. Journal of Magnetism and Magnetic Materials, 2004, 277, 159-164.	1.0	29
53	Evolution of stress and magnetism during the first-order phase transition of MnAs/GaAs(001). Journal of Magnetism and Magnetic Materials, 2004, 272-276, 1924-1925.	1.0	1
54	Quantum wire behavior in a one-component metallic system: monatomic Cu chains on Cu(111). Physica E: Low-Dimensional Systems and Nanostructures, 2004, 24, 111-114.	1.3	3

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55	Unusual magnetic properties of MnAs thin films: A new approach to magnetologic computing. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 25, 181-188.	1.3	3
56	Perpendicular magnetic fields in cantilever beam magnetometry. Journal of Applied Physics, 2004, 96, 2773-2778.	1.1	8
57	Magnetoelastic coupling of MnAs/GaAs(001) close to the phase transition. Physical Review B, 2004, 70, .	1.1	12
58	A universal gate for magnetologic computers. Europhysics Letters, 2004, 66, 895-901.	0.7	6
59	Initial stages of erbium disilicide formation on Si(). Surface Science, 2003, 526, 291-296.	0.8	24
60	Programmable computing with a single magnetoresistive element. Nature, 2003, 425, 485-487.	13.7	353
61	Magnetic out-of-plane component in MnAs/GaAs(001). Applied Physics Letters, 2003, 83, 2850-2852.	1.5	24
62	Nanoscale investigation of longitudinal surface acoustic waves. Applied Physics Letters, 2003, 82, 1866-1868.	1.5	3
63	Effect of strain on the local phase transition temperature of MnAs/GaAs(001). Applied Physics Letters, 2003, 83, 2829-2831.	1.5	17
64	Ferromagnetism of MnAs Studied by Heteroepitaxial Films on GaAs(001). Physical Review Letters, 2003, 91, 087203.	2.9	94
65	Magnetologic with MnAs Thin Films. Physical Review Letters, 2003, 91, 147203.	2.9	54
66	Quantitative geometry of the Rayleigh wave oscillation ellipse by surface acoustic wave scanning tunneling microscopy. Journal of Applied Physics, 2002, 92, 7160-7167.	1.1	10
67	Magnetoelastic coupling of compressively stressed Fe/GaAs(001). Physical Review B, 2002, 66, .	1.1	13
68	Evolution of stress and strain relaxation of Ge and SiGe alloy films on Si(001). Applied Surface Science, 2002, 190, 422-427.	3.1	4
69	Stress-driven self-assembly on Ir: stripes, droplets, and missing-row-type reconstructions. Surface Science, 2002, 519, 192-200.	0.8	7
70	Atomic structure of low temperature prepared Si(001) substrates. Surface Science, 2002, 520, L633-L638.	0.8	4
71	Stress evolution during Fe(001) epitaxy on GaAs(001). Applied Physics Letters, 2001, 78, 1270-1272.	1.5	32
72	Minute SiGe Quantum Dots on Si(001) by a Kinetic 3D Island Mode. Physical Review Letters, 2001, 87, 136104.	2.9	22

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73	Surface acoustic wave investigation by ultrahigh vacuum scanning tunneling microscopy. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 1817-1821.	0.9	8
74	Koch and Schulz Reply:. Physical Review Letters, 2001, 87, .	2.9	2
75	Scanning tunneling microscope controlled diffusion on Ag(110). Chemical Physics Letters, 2000, 331, 119-124.	1.2	5
76	Acoustoelastic effect in anisotropic layered structures. Physical Review B, 2000, 62, 13963-13969.	1.1	41
77	Illuminating structural transformation of Ir(110): A high-temperature scanning tunneling microscopy study. Physical Review B, 2000, 62, 15402-15405.	1.1	19
78	New Mechanism for Single Atom Manipulation. Physical Review Letters, 2000, 84, 4597-4600.	2.9	31
79	The magnetoelastic coupling constant B2 of epitaxial Fe(001) films. Surface Science, 2000, 454-456, 896-899.	0.8	12
80	High-temperature STM investigation of Au(110), Pt(110) and Ag(110). Surface Science, 2000, 454-456, 543-551.	0.8	30
81	Stress dependence of the magnetoelastic coupling constants B1 and B2 of epitaxial Fe(001). Physical Review B, 1999, 60, R11313-R11316.	1.1	45
82	Si in-diffusion during the 3D islanding of Ge/Si(001) at high temperatures. Applied Physics A: Materials Science and Processing, 1999, 69, 467-470.	1.1	4
83	Intrinsic stress of ultrathin epitaxial films. Applied Physics A: Materials Science and Processing, 1999, 69, 529-536.	1.1	24
84	Scanning tunneling microscopy artifact and real structure: Steps of Ag(110). Europhysics Letters, 1999, 48, 554-560.	0.7	22
85	Pyramidal growth on bcc(001) stabilises facets close to {012}: A Monte Carlo study. Surface Science, 1998, 395, 12-22.	0.8	12
86	Intrinsic stress upon Stranski-Krastanov growth of Ge on Si(001). Surface Science, 1998, 402-404, 290-294.	0.8	3
87	High-temperature STM of the phase transitions of Au(110) and Pt(110). Surface Science, 1998, 402-404, 861-865.	0.8	8
88	Stress and Relief of Misfit Strain of Ge/Si(001). Physical Review Letters, 1998, 80, 2382-2385.	2.9	64
89	Stress and relief of misfit strain of Ge/Si(111). Applied Physics Letters, 1998, 73, 2579-2581.	1.5	20
90	Real space investigation of the Ising transition of Pt(110). Surface Science, 1997, 385, L997-L1001.	0.8	3

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91	Magnetoelastic coupling of Fe at high stress investigated by means of epitaxial Fe(001) films. Journal of Magnetism and Magnetic Materials, 1996, 159, L11-L16.	1.0	65
92	Real Space Investigation of the Roughening and Deconstruction Transitions of Au(110). Physical Review Letters, 1996, 77, 5071-5074.	2.9	47
93	Dynamic Evolution of Pyramid Structures during Growth of Epitaxial Fe(001) Films. Physical Review Letters, 1995, 75, 1767-1770.	2.9	154
94	Magnetization, magnetostriction and intrinsic stress of polycrystalline Fe films measured by a UHV cantilever beam technique. Surface Science, 1995, 331-333, 1398-1403.	0.8	16
95	OXYGEN ADSORPTION ON $\{m\text{Co}\}(10\bar{1}0)$, A STRUCTURAL HCP-ANALOGUE TO FCC(110). Modern Physics Letters B, 1994, 08, 571-589.	1.0	3
96	Oxygen adsorption on Co (1010). The structure of $p(2\sqrt{3}\times 1)2O$. Chemical Physics Letters, 1994, 220, 172-176.	1.2	16
97	The intrinsic stress of polycrystalline and epitaxial thin metal films. Journal of Physics Condensed Matter, 1994, 6, 9519-9550.	0.7	375
98	UHV Cantilever Beam Technique for Quantitative Measurements of Magnetization, Magnetostriction, and Intrinsic Stress of Ultrathin Magnetic Films. Physical Review Letters, 1994, 73, 1166-1169.	2.9	132
99	Intrinsic stress of epitaxial thin films. Physica Scripta, 1993, T49B, 539-543.	1.2	25
100	Intrinsic Stress and Growth of Ag on p-Doped Si(001)($2\sqrt{3}\times 1$): Influence of Dopant Concentration. Europhysics Letters, 1993, 21, 213-219.	0.7	17
101	Oxygen adsorption on Co($10\bar{1}0$): Different reconstruction behavior of hcp ($10\bar{1}0$) and fcc(110). Physical Review Letters, 1993, 71, 1047-1050.	2.9	34
102	Probing of surface acoustic wave fields by a novel scanning tunneling microscopy technique: Effects of topography. Applied Physics Letters, 1992, 61, 3107-3109.	1.5	37
103	Intrinsic stress of Ag and Au electrical contact films for high temperature superconductor thin films. Applied Physics Letters, 1992, 61, 279-281.	1.5	10
104	Atomistic versus collective phenomena in catalysis: Carbide and graphitic carbon on Ni(771). Physical Review B, 1992, 45, 1525-1528.	1.1	17
105	Can oxygen modify step arrangements? STM and LEED investigations on Ni(771). Surface Science, 1992, 272, 17-26.	0.8	17
106	Reconstruction behaviour of fcc(110) transition metal surfaces and their vicinals. Applied Physics A: Solids and Surfaces, 1992, 55, 417-429.	1.4	45
107	The influence of steps on missing-row reconstructions of Au (110) and Ni (110). Vacuum, 1992, 43, 431-435.	1.6	0
108	Intrinsic stress of polycrystalline and epitaxial Ag, Cu and Au films on mica (001). Vacuum, 1992, 43, 521-523.	1.6	21

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109	Growth mode related intrinsic stress of thin nickel and iron films under the influence of oxygen. Vacuum, 1992, 43, 525-527.	1.6	1
110	Carbide and graphitic carbon on Ni(771): aspects for catalysis. Ultramicroscopy, 1992, 42-44, 541-545.	0.8	7
111	Competition between oxygen-induced (3 \times 1) and (2 \times 1) missing row reconstructions on regularly stepped Ni(110). Chemical Physics Letters, 1992, 190, 621-625.	1.2	4
112	Growth-mode-specific intrinsic stress of thin silver films. Physical Review B, 1991, 44, 3369-3372.	1.1	43
113	Film growth studies with intrinsic stress measurement: Polycrystalline and epitaxial Ag, Cu, and Au films on mica(001). Journal of Applied Physics, 1991, 70, 3081-3087.	1.1	71
114	The influence of steps on the formation of missing row reconstructions: STM and LEED investigations of Au(991). Surface Science Letters, 1991, 249, L317-L321.	0.1	1
115	New aspects on the Ir(110) reconstruction: Surface stabilization on mesoscopic scale via (331) facets. Physical Review Letters, 1991, 67, 3416-3419.	2.9	64
116	Role of regular steps on the formation of missing-row reconstructions: Oxygen chemisorption on Ni(771). Physical Review Letters, 1991, 66, 1725-1728.	2.9	37
117	The influence of oxygen on intrinsic stress and growth of iron and nickel films. Applied Physics Letters, 1991, 59, 1072-1074.	1.5	14
118	Comparative LEED and STM study of Au(430). Vacuum, 1990, 41, 321-324.	1.6	13
119	A UHV-compatible thin film stress measuring apparatus based on the cantilever beam principle. Review of Scientific Instruments, 1990, 61, 3859-3862.	0.6	50
120	A novel ultrahigh vacuum scanning tunneling microscope for surface science studies. Review of Scientific Instruments, 1990, 61, 1480-1483.	0.6	28
121	The influence of the mica surface composition on the growth morphology of discontinuous epitaxial palladium vapor deposits. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1987, 5, 1845-1848.	0.9	17
122	The effect of mica surface α -hydroxylation on particulate palladium vapor deposits. Thin Solid Films, 1987, 151, 365-371.	0.8	19
123	Microstructural changes in vapour-deposited silver, copper and gold films investigated by internal stress measurements. Thin Solid Films, 1986, 140, 217-226.	0.8	34
124	In situ study of thin film growth by internal stress measurement under ultrahigh vacuum conditions: Silver and copper under the influence of oxygen. Thin Solid Films, 1986, 142, 65-76.	0.8	38
125	On the influence of thermal effects on internal stress measurements during and after deposition of silver, gold and copper films. Thin Solid Films, 1985, 129, 63-70.	0.8	31
126	The internal stress in thin silver, copper and gold films. Thin Solid Films, 1985, 129, 71-78.	0.8	157

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127	Internal stress of thin silver, copper, gold and chromium films—a comparison. Vacuum, 1983, 33, 871-873.	1.6	19
128	The influence of O ₂ , H ₂ , H ₂ O, N ₂ , CO and CH ₄ on the structure of thin silver films investigated by ultrahigh vacuum internal stress measurements. Thin Solid Films, 1982, 89, 117-124.	0.8	21
129	In situ determination of the structure of thin metal films by internal stress measurements: Structure dependence of silver and copper films on oxygen pressure during deposition. Thin Solid Films, 1980, 66, 217-232.	0.8	36
130	Electron microscope structure and internal stress in thin silver and gold films deposited onto MgF ₂ and SiO substrates. Thin Solid Films, 1979, 58, 365-370.	0.8	58
131	Internal stress of thin silver and gold films and its dependence on gas adsorption. Thin Solid Films, 1979, 62, 195-208.	0.8	29
132	Epitaxial MnAs Films Studied by Ferromagnetic and Spin Wave Resonance. , 0, , 97-109.		2