

Harald Ibach

List of Publications by Year in descending order

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93
papers

5,519
citations

109137

35
h-index

79541

73
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93
all docs

93
docs citations

93
times ranked

2672
citing authors

#	ARTICLE	IF	CITATIONS
1	The role of surface stress in reconstruction, epitaxial growth and stabilization of mesoscopic structures. Surface Science Reports, 1997, 29, 195-263.	3.8	783
2	Magnetic live surface layers in Fe/Cu(100). Physical Review Letters, 1992, 69, 3831-3834.	2.9	471
3	Optical Surface Phonons in Zinc Oxide Detected by Slow-Electron Spectroscopy. Physical Review Letters, 1970, 24, 1416-1418.	2.9	342
4	CH Vibration Softening and the Dehydrogenation of Hydrocarbon Molecules on Ni(111) and Pt(111). Physical Review Letters, 1978, 40, 1044-1047.	2.9	249
5	The bonding of water molecules to platinum surfaces. Surface Science, 1980, 91, 187-197.	0.8	248
6	The preexponential factor in desorption of CO on Ni(111). Surface Science, 1980, 92, 29-42.	0.8	182
7	Spin-Polarized Electron Energy Loss Spectroscopy of High Energy, Large Wave Vector Spin Waves in Ultrathin fcc Co Films on Cu(001). Physical Review Letters, 2003, 91, 147201.	2.9	160
8	Stress Relief in Reconstruction. Physical Review Letters, 1997, 78, 4225-4228.	2.9	147
9	Surface Self-Diffusion by Vacancy Motion: Island Ripening on Cu(001). Physical Review Letters, 1997, 79, 2506-2509.	2.9	144
10	Electron Energy Loss Spectrometers. Springer Series in Optical Sciences, 1991, , .	0.5	142
11	Experimental determination of adsorbate-induced surface stress: Oxygen on Si(111) and Si(100). Physical Review B, 1991, 43, 4263-4267.	1.1	115
12	Surface Sites of H on W(100). Physical Review Letters, 1976, 36, 1549-1551.	2.9	114
13	What does one learn from equilibrium shapes of two-dimensional islands on surfaces?. Surface Science, 2001, 471, 80-100.	0.8	113
14	Potential-induced stress in the solid-liquid interface: Au(111) and Au(100) in an HClO ₄ electrolyte. Surface Science, 1997, 375, 107-119.	0.8	107
15	Energy Dependence of Inelastic Electron Scattering Cross Section by Surface Vibrations: Experimental Measurement and Theoretical Interpretation. Physical Review Letters, 1985, 54, 1171-1174.	2.9	103
16	Bending of crystalline plates under the influence of surface stress – a finite element analysis. Surface Science, 2000, 446, 161-173.	0.8	96
17	Giant Surface Stress in Heteroepitaxial Films: Invalidation of a Classical Rule in Epitaxy. Physical Review Letters, 1996, 77, 127-130.	2.9	91
18	Hydrogen adsorption and the adsorbate-induced Ni(110) reconstruction- an EELS study. Surface Science, 1989, 208, 113-135.	0.8	87

#	ARTICLE	IF	CITATIONS
19	The thermodynamics of electrochemical annealing. Surface Science, 2005, 595, 127-137.	0.8	87
20	Decay of Cu adatom islands on Cu(111). Surface Science, 1998, 398, 37-48.	0.8	80
21	Electron energy loss spectroscopy with resolution below 1 meV. Journal of Electron Spectroscopy and Related Phenomena, 1993, 64-65, 819-823.	0.8	73
22	Electron energy loss spectroscopy: the vibration spectroscopy of surfaces. Surface Science, 1994, 299-300, 116-128.	0.8	61
23	Experimental determination of step energies from island shape fluctuations: a comparison to the equilibrium shape method for Cu(100), Cu(111), and Ag(111). Physical Review B, 2001, 64, .	1.1	59
24	Step fluctuations on metals in contact with an electrolyte: a new access to dynamical processes at the solid/liquid interface. Surface Science, 1997, 384, 168-178.	0.8	58
25	Interlayer Mass Transport and Quantum Confinement of Electronic States. Physical Review Letters, 1999, 82, 3101-3104.	2.9	58
26	Step edge barrier controlled decay of multilayer islands on Cu(111). Surface Science, 1999, 431, 109-115.	0.8	58
27	Novel Method for the Experimental Determination of Step Energies. Physical Review Letters, 1999, 83, 3880-3883.	2.9	57
28	EELS study of the clean and hydrogen-covered Mo(110) surface. Physical Review B, 1997, 55, 10895-10904.	1.1	54
29	EELS study of the dynamics of clean Ni(100): Surface phonons and surface resonances. Surface Science, 1986, 171, 632-642.	0.8	51
30	A novel spectrometer for spin-polarized electron energy-loss spectroscopy. Review of Scientific Instruments, 2003, 74, 4089-4095.	0.6	50
31	Adsorbate-induced surface stress and surface reconstruction: oxygen, sulfur and carbon on Ni(111). Surface Science, 1995, 337, 183-189.	0.8	47
32	Hydrogen Covered W(110) Surface: A Hydrogen Liquid with a Propensity for One-Dimensional Order. Physical Review Letters, 1994, 73, 854-857.	2.9	43
33	Frizzed appearance of steps in tunnel microscopy on Cu(100) and vicinal Cu(11n) surfaces. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1992, 10, 2597-2599.	0.9	39
34	The growth of cobalt films on vicinal copper surfaces. Surface Science, 1995, 336, 269-279.	0.8	39
35	Occupation of adsorption sites controlled by phonon entropy. Physical Review Letters, 1993, 71, 2078-2081.	2.9	36
36	A finite element analysis of the bending of crystalline plates due to anisotropic surface and film stress applied to magnetoelasticity. Journal of Magnetism and Magnetic Materials, 2001, 231, 74-84.	1.0	36

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37	Step Line Tension on a Metal Electrode. <i>Physical Review Letters</i> , 2003, 91, 016106.	2.9	36
38	Step dynamics on Cu (100) and Ag (111) electrodes in an aqueous electrolyte. <i>Electrochimica Acta</i> , 1999, 45, 527-536.	2.6	35
39	Activation energy for the decay of two-dimensional islands on Cu(100). <i>Physical Review B</i> , 1998, 58, R7556-R7559.	1.1	34
40	Adsorbate-induced surface stress: CO on Ni(100) and Ni(111). <i>Surface Science</i> , 1994, 313, 209-214.	0.8	33
41	Recent advances in electron energy loss spectroscopy of surface vibrations. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1996, 92, 4771.	1.7	29
42	Surface spin waves of fcc cobalt films on Cu(100): High-resolution spectra and comparison to theory. <i>Physical Review B</i> , 2012, 86, .	1.1	28
43	Stress in densely packed adsorbate layers and stress at the solid-liquid interface is the stress due to repulsive interactions between the adsorbed species?. <i>Electrochimica Acta</i> , 1999, 45, 575-581.	2.6	25
44	Vibration spectroscopy of water on stepped gold surfaces. <i>Surface Science</i> , 2010, 604, 377-385.	0.8	24
45	Measurement of step and kink energies and of the step-edge stiffness from island studies on Pt(111). <i>Physical Review B</i> , 2007, 75, .	1.1	23
46	Comments on the article entitled "Incompatibility of the Shuttleworth equation with Herman's mathematical structure of thermodynamics" by D.J. Bottomley, Lasse Makkonen and Kari Kolari [<i>Surface Science</i> 603 (2009) 97]. <i>Surface Science</i> , 2009, 603, 2352-2355.	0.8	23
47	Potential dependence of the step line tension on surfaces in contact with an electrolyte. <i>Journal of Electroanalytical Chemistry</i> , 2003, 544, 13-23.	1.9	22
48	Steady-state surface stress induced in noble gas sputtering. <i>Thin Solid Films</i> , 2003, 428, 6-10.	0.8	22
49	A novel approach to measure the step line tension and the step dipole moment on vicinal Au(001) electrodes. <i>Surface Science</i> , 2007, 601, 1876-1885.	0.8	22
50	Anomalous Helmholtz-capacitance on stepped surfaces of silver and gold. <i>Electrochimica Acta</i> , 2009, 54, 4305-4311.	2.6	21
51	An electron energy loss spectrometer designed for studies of electronic energy losses and spin waves in the large momentum regime. <i>Review of Scientific Instruments</i> , 2011, 82, 123904.	0.6	21
52	Electron energy loss spectrometers: An advanced operation mode for the lens system and the quantitative calculation of solid angle and transmission. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2012, 185, 61-70.	0.8	21
53	Spin-wave excitation observed by spin-polarized electron energy loss spectroscopy: a new method for the investigation of surface- and thin-film spin waves on the atomic scale. <i>Thin Solid Films</i> , 2004, 464-465, 42-47.	0.8	20
54	Spin waves in ultrathin Co-films measured by spin polarized electron energy loss spectroscopy. <i>Surface Science</i> , 2004, 566-568, 241-245.	0.8	20

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55	Electron energy loss spectroscopy of the vibration modes of water on Ag(100) and Ag(115) surfaces and comparison to Au(100), Au(111) and Au(115). <i>Surface Science</i> , 2012, 606, 1534-1541.	0.8	20
56	The relation between the strain-dependence of the heat of adsorption and the coverage dependence of the adsorbate induced surface stress. <i>Surface Science</i> , 2004, 556, 71-77.	0.8	19
57	Standing Spin Waves in Ultrathin Magnetic Films: A Method to Test for Layer-Dependent Exchange Coupling. <i>Physical Review Letters</i> , 2014, 112, 127202.	2.9	18
58	Spin waves in ultrathin hexagonal cobalt films on W(110), Cu(111), and Au(111) surfaces. <i>Physical Review B</i> , 2015, 92, .	1.1	18
59	Entropy-controlled site occupation of CO adsorbed on Ni(100). <i>Applied Physics A: Solids and Surfaces</i> , 1993, 57, 499-505.	1.4	17
60	Site occupation of CO adsorbed on Ni(100) at high CO pressures. <i>Surface Science</i> , 1995, 330, L646-L650.	0.8	17
61	Potential dependence of step and kink energies on Au(100) electrodes in sulfuric acid. <i>Faraday Discussions</i> , 2002, 121, 27-42.	1.6	16
62	Determination of the step dipole moment and the step line tension on Ag(001) electrodes. <i>Electrochimica Acta</i> , 2008, 53, 6818-6823.	2.6	16
63	A simulation of two-dimensional Ostwald ripening on silver electrodes. <i>Electrochimica Acta</i> , 2010, 55, 5411-5413.	2.6	15
64	The instability of vicinal electrode surfaces against step bunching II: Theory. <i>Surface Science</i> , 2004, 573, 24-31.	0.8	14
65	Adsorbate-induced surface stress and self-assembly of $(2\sqrt{3}-1)\text{O}$ on Cu(110) measured with an STM. <i>Physical Review B</i> , 2005, 72, .	1.1	14
66	Electron energy loss spectroscopy with parallel readout of energy and momentum. <i>Review of Scientific Instruments</i> , 2017, 88, 033903.	0.6	14
67	High resolution electron energy loss spectroscopy of spin waves in ultra-thin film "The return of the adiabatic approximation?". <i>Surface Science</i> , 2014, 630, 301-310.	0.8	12
68	Lifetime and mean free path of spin waves in ultrathin cobalt films. <i>Physical Review B</i> , 2016, 94, .	1.1	12
69	Substrate surface phonons in the cases of saturated $(1\sqrt{3}-1)\text{H}/\text{Mo}(110)$ and $p(2\sqrt{3}-2)\text{O}/\text{Mo}(110)$: a critical comparison. <i>Surface Science</i> , 1998, 402-404, 496-501.	0.8	11
70	The instability of vicinal electrode surfaces against step bunching I: Experiment. <i>Surface Science</i> , 2004, 573, 17-23.	0.8	11
71	Reconstruction on Au(001) vicinal surfaces in UHV and in sulfuric acid solution. <i>Surface Science</i> , 2009, 603, 670-675.	0.8	11
72	Large wave vector surface spin waves of the nanomartensitic phase in ultrathin iron films on Cu(100). <i>Europhysics Letters</i> , 2013, 101, 17003.	0.7	11

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73	Observation of large wave vector interface spin waves: Ni(100)/fcc Co(100) and Cu(100)/Co(100). Physical Review B, 2013, 87, .	1.1	11
74	Island equilibrium shape and shape fluctuations on the reconstructed Au(100) surface. Surface Science, 2004, 564, 201-210.	0.8	10
75	CO on Ni(100): observation of a high-frequency IR band at 2200 cm ⁻¹ . Surface Science, 1996, 355, L331-L334.	0.8	9
76	Localized theory of adsorbate-induced surface stress: Application to the Li/Mo(110) system. Physical Review B, 2002, 66, .	1.1	9
77	Electron spectrometers for inelastic scattering from magnetic surface excitations. Surface and Interface Analysis, 2006, 38, 1615-1617.	0.8	9
78	Estimation of the electron-phonon coupling parameter of Mo(110)-H and W(110)-H. Physical Review B, 2004, 69, .	1.1	8
79	High resolution electron energy loss spectroscopy of spin waves in ultra-thin cobalt films. Surface and Interface Analysis, 2016, 48, 1104-1107.	0.8	8
80	4.4 Surface free energy and surface stress. Landolt-Börnstein - Group III Condensed Matter, 2002, , 303-312.	0.0	8
81	Shear horizontal surface phonons on Ni(110). Journal of Electron Spectroscopy and Related Phenomena, 1993, 64-65, 739-745.	0.8	6
82	Dynamical Processes at the Solid / Liquid Interface. Materials Research Society Symposia Proceedings, 1996, 451, 9.	0.1	6
83	Comment on: "Surface-embedded-atom model of the potential-induced lifting of the reconstruction of Au(100)" by M.I. Haftel and M. Rosen. Surface Science, 2003, 540, 504-507.	0.8	6
84	Quest for magnons in ultrathin nickel films. Physical Review B, 2018, 98, .	1.1	5
85	Intensities of surface spin wave excitations in inelastic electron scattering. Physical Review B, 2014, 89, .	1.1	4
86	Magnon dispersion in Ni/Co multilayers grown on Cu(100). Physical Review B, 2019, 99, .	1.1	4
87	Anomalies in the phonon dispersion of Mo()/Li" a Kohn anomaly or a stress induced effect?. Surface Science, 2002, 502-503, 417-421.	0.8	3
88	Electrical and structural properties of stepped, partially reconstructed Au(11n) surfaces in HClO ₄ and H ₂ SO ₄ electrolytes. Surface Science, 2011, 605, 232-239.	0.8	3
89	Interface capacitance of nano-patterned electrodes. Surface Science, 2011, 605, 240-247.	0.8	2
90	Repulsive Interactions Induced by Specific Adsorption: Anomalous Step Diffusivity and Inadequacy of Nearest-Neighbor Ising Model (Part II Theory). Surface Science, 2017, 659, 52-57.	0.8	2

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91	Quantum motion of hydrogen on Ni(100) surfaces. Physical Review B, 2020, 102, .	1.1	1
92	References for 4.4. Landolt-Börnstein - Group III Condensed Matter, 2002, , 346-351.	0.0	0
93	4.4.4 Experimental determination of changes of surface stress due to adsorption - 4.4.5 Calculations of surface free energy and surface stress. Landolt-Börnstein - Group III Condensed Matter, 2002, , 312-319.	0.0	0