

Philipp Ebert

List of Publications by Year in descending order

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126907

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50
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131
all docs

131
docs citations

131
times ranked

2112
citing authors

#	ARTICLE	IF	CITATIONS
1	Nano-scale properties of defects in compound semiconductor surfaces. Surface Science Reports, 1999, 33, 121-303.	7.2	165
2	Evidence for a Cluster-Based Structure of AlPdMn Single Quasicrystals. Physical Review Letters, 1996, 77, 3827-3830.	7.8	161
3	Quasicrystalline Epitaxial Single Element Monolayers on Icosahedral Al-Pd-Mn and Decagonal Al-Ni-Co Quasicrystal Surfaces. Physical Review Letters, 2002, 89, 156104.	7.8	124
4	Microscopic identification of the compensation mechanisms in Si-doped GaAs. Physical Review B, 1996, 54, 10288-10291.	3.2	115
5	Charge state dependent structural relaxation around anion vacancies on InP(110) and GaP(110) surfaces. Physical Review Letters, 1994, 72, 840-843.	7.8	79
6	Contribution of Surface Resonances to Scanning Tunneling Microscopy Images: (110) Surfaces of III-V Semiconductors. Physical Review Letters, 1996, 77, 2997-3000.	7.8	78
7	Comparison between ab initio theory and scanning tunneling microscopy for (110) surfaces of III-V semiconductors. Physical Review B, 1998, 58, 7799-7815.	3.2	71
8	Identification and Quantification of Defects in Highly Si-Doped GaAs by Positron Annihilation and Scanning Tunneling Microscopy. Physical Review Letters, 1997, 78, 3334-3337.	7.8	66
9	Direct Determination of the Interaction between Vacancies on InP(110) Surfaces. Physical Review Letters, 1996, 76, 2089-2092.	7.8	64
10	Surface structures of cleaved icosahedral Al-Pd-Mn single quasicrystals after heat treatment. Physical Review B, 1998, 57, 2821-2825.	3.2	60
11	Direct Evidence for Shallow Acceptor States with Nonspherical Symmetry in GaAs. Physical Review Letters, 2005, 94, 026407.	7.8	60
12	Thermal formation of Zn-dopant-vacancy defect complexes on InP(110) surfaces. Physical Review B, 1996, 53, 4580-4590.	3.2	59
13	Scanning-tunneling-microscope tip-induced migration of vacancies on GaP(110). Physical Review Letters, 1993, 70, 1437-1440.	7.8	58
14	Surface states and origin of the Fermi level pinning on nonpolar GaN(110) surfaces. Applied Physics Letters, 2008, 93, 192110.	3.3	57
15	Formation of anion vacancies by Langmuir evaporation from InP and GaAs (110) surfaces at low temperatures. Physical Review B, 1995, 51, 9696-9701.	3.2	56
16	Building Pb Nanomesas with Atomic-Layer Precision. Physical Review Letters, 2004, 92, 106104.	7.8	52
17	Hidden surface states at non-polar GaN (101) facets: Intrinsic pinning of nanowires. Applied Physics Letters, 2013, 103, .	3.3	45
18	Enhanced surface metallic density of states in icosahedral quasicrystals. Physical Review B, 1998, 58, 734-738.	3.2	44

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19	Symmetric Versus Nonsymmetric Structure of the Phosphorus Vacancy on InP(110). Physical Review Letters, 2000, 84, 5816-5819.	7.8	44
20	Atomic-scale structure of the fivefold surface of an AlPdMn quasicrystal: A quantitative x-ray photoelectron diffraction analysis. Physical Review B, 2004, 69, .	3.2	43
21	Direct measurement of the band gap and Fermi level position at InN(112 \hat{A}). Applied Physics Letters, 2011, 98, .	3.3	42
22	Importance of Many-Body Effects in the Clustering of Charged Zn Dopant Atoms in GaAs. Physical Review Letters, 1999, 83, 757-760.	7.8	41
23	Quantitative Determination of the Metastability of Flat Ag Overlayers on GaAs(110). Physical Review Letters, 2001, 88, 016102.	7.8	41
24	Determination of the Gibbs free energy of formation of Ga vacancies in GaAs by positron annihilation. Physical Review B, 2003, 67, .	3.2	39
25	Importance of carrier dynamics and conservation of momentum in atom-selective STM imaging and band gap determination of GaAs(110). Physical Review B, 2003, 67, .	3.2	38
26	Photodrive Dipole Reordering: Key to Carrier Separation in Metalorganic Halide Perovskites. ACS Nano, 2019, 13, 4402-4409.	14.6	38
27	Phosphorus vacancies and adatoms on GaP(110) surfaces studied by scanning tunneling microscopy. Ultramicroscopy, 1993, 49, 344-353.	1.9	37
28	Evolution of the composition and structure of cleaved and heat-treated icosahedral Al-Pd-Mn quasicrystal surfaces. Physical Review B, 1999, 60, 874-880.	3.2	37
29	Atomic structure of point defects in compound semiconductor surfaces. Current Opinion in Solid State and Materials Science, 2001, 5, 211-250.	11.5	36
30	Direct measurement and analysis of the conduction band density of states in diluted $\text{GaAs}_{1-x}\text{Mn}_x$. Physical Review B, 2010, 82, .	3.2	35
31	Oscillating contrast in room-temperature scanning tunneling microscope images of localized charges in III-V semiconductor cleavage surfaces. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1998, 16, 2825.	1.6	34
32	Coulomb Energy Determination of a Single Si Dangling Bond. Physical Review Letters, 2010, 105, 226404.	7.8	34
33	Electronic structure of wurtzite II-VI compound semiconductor cleavage surfaces studied by scanning tunneling microscopy. Physical Review B, 1997, 56, 12321-12326.	3.2	33
34	Electronic properties of dislocations in GaN investigated by scanning tunneling microscopy. Applied Physics Letters, 2009, 94, 062104.	3.3	33
35	Tuning Band Gap and Work Function Modulations in Monolayer hBN/Cu(111) Heterostructures with Moiré Patterns. ACS Nano, 2018, 12, 9355-9362.	14.6	33
36	Charged steps on III-V compound semiconductor surfaces. Physical Review B, 1996, 53, 10894-10897.	3.2	30

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37	Temperature dependent vacancy concentrations on InP(110) surfaces. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1995, 13, 1714-1718.	2.1	28
38	Band offsets at zincblende-wurtzite GaAs nanowire sidewall surfaces. Applied Physics Letters, 2013, 103, .	3.3	28
39	The electronic structure of the InP(110) surface studied by scanning tunneling microscopy and spectroscopy. Surface Science, 1992, 271, 587-595.	1.9	27
40	A STM study of the InP (110) surface. Ultramicroscopy, 1992, 42-44, 871-877.	1.9	27
41	Scanning tunneling microscopy and spectroscopy of semi-insulating GaAs. Physical Review B, 2002, 65, .	3.2	27
42	Physics of imaging p-n junctions by scanning tunneling microscopy and spectroscopy. Physical Review B, 2003, 67, .	3.2	27
43	Nanoscale dopant-induced dots and potential fluctuations in GaAs. Applied Physics Letters, 2003, 82, 2700-2702.	3.3	27
44	Direct observation of electrical charges at dislocations in GaAs by cross-sectional scanning tunneling microscopy. Applied Physics Letters, 2001, 78, 480-482.	3.3	26
45	Defects in III-V semiconductor surfaces. Applied Physics A: Materials Science and Processing, 2002, 75, 101-112.	2.3	26
46	Compensation mechanisms in low-temperature-grown Ga _{1-x} Mn _x As investigated by scanning tunneling spectroscopy. Applied Physics Letters, 2003, 82, 712-714.	3.3	26
47	Scanning tunneling spectroscopy of quantum well and surface states of thin Ag films grown on GaAs(110). Physical Review B, 2001, 64, .	3.2	24
48	Determination of the charge carrier compensation mechanism in Te-doped GaAs by scanning tunneling microscopy. Applied Physics Letters, 2003, 82, 2059-2061.	3.3	24
49	Atomic-scale properties of the amphoteric dopant Si in GaAs(110) surfaces. Surface Science, 1998, 415, 285-298.	1.9	23
50	Changes of defect and active-dopant concentrations induced by annealing of highly Si-doped GaAs. Physical Review B, 1998, 57, 4482-4485.	3.2	23
51	Substrate effects on the formation of flat Ag films on (110) surfaces of III-V compound semiconductors. Physical Review B, 1999, 60, 4988-4991.	3.2	23
52	Effect of the Si substrate structure on the growth of two-dimensional thin Ag films. Surface Science, 2002, 518, 63-71.	1.9	23
53	Surface structure of Al-Pd-Mn quasicrystals: Existence of supersaturated bulk vacancy concentrations. Physical Review B, 2003, 67, .	3.2	22
54	Scanning tunneling microscopy on unpinned GaN GaN Invisibility of valence-band states. Physical Review B, 2009, 80, .	3.2	22

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55	Non-polar group-III nitride semiconductor surfaces. <i>Physica Status Solidi - Rapid Research Letters</i> , 2012, 6, 359-369.	2.4	22
56	Growth and electronic structure of alkali-metal adlayers on icosahedral Al _{70.5} Pd ₂₁ Mn _{8.5} . <i>Physical Review B</i> , 2006, 73, .	3.2	21
57	Identification of surface anion antisite defects in (110) surfaces of III-V semiconductors. <i>Applied Physics Letters</i> , 2001, 79, 2877-2879.	3.3	20
58	Origin of nanoscale potential fluctuations in two-dimensional semiconductors. <i>Applied Physics Letters</i> , 2009, 95, .	3.3	20
59	Dislocations, Phason Defects, and Domain Walls in a One-Dimensional Quasiperiodic Superstructure of a Metallic Thin Film. <i>Physical Review Letters</i> , 1999, 83, 3222-3225.	7.8	19
60	Quantitative description of photoexcited scanning tunneling spectroscopy and its application to the GaAs(110) surface. <i>Physical Review B</i> , 2015, 91, .	3.2	18
61	Three- to two-dimensional transition in electrostatic screening of point charges at semiconductor surfaces studied by scanning tunneling microscopy. <i>Physical Review B</i> , 2009, 80, .	3.2	17
62	Structure and electronic spectroscopy of steps on GaAs(110) surfaces. <i>Surface Science</i> , 2012, 606, 28-33.	1.9	17
63	Polarity-dependent pinning of a surface state. <i>Physical Review B</i> , 2015, 91, .	3.2	17
64	Imaging defects and dopants. <i>Materials Today</i> , 2003, 6, 36-43.	14.2	16
65	Core and valence level photoemission and photoabsorption study of icosahedral Al-Pd-Mn quasicrystals. <i>Journal of Physics Condensed Matter</i> , 2006, 18, 435-448.	1.8	16
66	Temperature dependent compensation of Zn-dopant atoms by vacancies in III-V semiconductor surfaces. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1996, 14, 1807-1811.	2.1	15
67	Direct identification of As vacancies in GaAs using positron annihilation calibrated by scanning tunneling microscopy. <i>Physical Review B</i> , 2001, 63, .	3.2	15
68	Steps on CdSe (112̂0) and (101̂0) cleavage surfaces: Evidence for crack propagation in competing cleavage planes. <i>Physical Review B</i> , 1999, 59, 3000-3007.	3.2	14
69	Imaging individual dopant atoms on cleavage surfaces of wurtzite-structure compound semiconductors. <i>Physical Review B</i> , 1999, 59, 2995-2999.	3.2	14
70	Stoichiometry changes by selective vacancy formation on (110) surfaces of III-V semiconductors: Influence of electronic effects. <i>Journal of Chemical Physics</i> , 2001, 114, 445.	3.0	14
71	Quantum size effect induced dilute atomic layers in ultrathin Al films. <i>Physical Review B</i> , 2007, 76, .	3.2	14
72	Electronic properties of the Ga vacancy in GaP(110) surfaces determined by scanning tunneling microscopy. <i>Physical Review B</i> , 1998, 58, 1401-1404.	3.2	13

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73	Effect of dopant atoms on the roughness of III-V semiconductor cleavage surfaces. Applied Physics Letters, 2000, 76, 300-302.	3.3	13
74	Structure and composition of cleaved and heat-treated tenfold surfaces of decagonal Al-Ni-Co quasicrystals. Surface Science, 2003, 523, 298-306.	1.9	13
75	Reverse mass transport during capping of In _{0.5} Ga _{0.5} As/GaAs quantum dots. Applied Physics Letters, 2012, 101, .	3.3	13
76	Importance of quantum correction for the quantitative simulation of photoexcited scanning tunneling spectra of semiconductor surfaces. Physical Review B, 2016, 93, .	3.2	13
77	Atomically Resolved Electronic States and Correlated Magnetic Order at Termination Engineered Complex Oxide Heterointerfaces. ACS Nano, 2018, 12, 1089-1095.	14.6	13
78	Influence of grown-in voids on the structure of cleaved icosahedral Al-Pd-Mn quasicrystal surfaces. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2000, 294-296, 874-877.	5.6	12
79	Effect of charge carriers on the barrier height for vacancy formation on InP(110) surfaces. Applied Physics Letters, 2000, 77, 61-63.	3.3	12
80	Electron affinity and surface states of GaN m -plane facets: Implication for electronic self-passivation. Physical Review B, 2018, 97, .	3.2	12
81	Influence of growth kinetics and chemical composition on the shape of voids in quasi-crystals. Surface Science, 2002, 519, 33-39.	1.9	11
82	Doping modulation in GaN imaged by cross-sectional scanning tunneling microscopy. Applied Physics Letters, 2009, 94, 162110.	3.3	11
83	Atomic resolution in tunneling induced light emission from GaAs(110). Applied Physics Letters, 2010, 96, 152107.	3.3	11
84	Quantum size effects in the nonmetal to metal transition of two-dimensional Al islands. Physical Review B, 2007, 76, .	3.2	10
85	Dopant atom clustering and charge screening induced roughness of electronic interfaces in GaAs-nmultilayers. Physical Review B, 2002, 65, .	3.2	9
86	Nanoscale fluctuations in the distribution of dopant atoms: Dopant-induced dots and roughness of electronic interfaces. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 2018.	1.6	9
87	Nonicosahedral Equilibrium Overlayers of Icosahedral Quasicrystals. Physical Review Letters, 2005, 95, 256105.	7.8	9
88	Manganese adlayers on i-Al-Pd-Mn quasicrystal: growth and electronic structure. Journal of Physics Condensed Matter, 2009, 21, 405005.	1.8	9
89	Cross-sectional scanning tunneling microscopy and spectroscopy of nonpolar GaN(11 $\bar{0}0$) surfaces. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2010, 28, C5G11-C5G18.	1.2	9
90	Repulsive interactions between dislocations and overgrown v-shaped defects in epitaxial GaN layers. Applied Physics Letters, 2013, 103, 142105.	3.3	9

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91	Correction of nonlinear lateral distortions of scanning probe microscopy images. Ultramicroscopy, 2014, 136, 86-90.	1.9	9
92	Probing the step structure of buried metal/semiconductor interfaces using quantized electron states: The case of Pb on Si(111) 6Å–6-Au. Applied Physics Letters, 2002, 81, 2005-2007.	3.3	8
93	Evidence of deep traps in overgrown v-shaped defects in epitaxial GaN layers. Applied Physics Letters, 2013, 103, .	3.3	8
94	Intrinsic bandgap of cleaved ZnO(112 $\bar{0}$) surfaces. Applied Physics Letters, 2013, 102, 021608.	3.3	8
95	Intrinsic electronic properties of high-quality wurtzite InN. Physical Review B, 2016, 94, .	3.2	8
96	Step smoothing and surface vacancy reactions on InP(110) and GaP(110) observed by scanning tunneling microscopy. Surface Science, 1993, 287-288, 891-895.	1.9	7
97	Evidence for a two-step evolution of the surface structure during heat treatment of cleaved icosahedral Al \bar{c} Pd \bar{c} Mn single quasicrystals. Surface Science, 1999, 433-435, 312-316.	1.9	7
98	Dopant mapping of Be δ -doped layers in GaAs tailored by counterdoping using scanning tunneling microscopy. Applied Physics Letters, 2012, 101, .	3.3	7
99	Lazarevicite-type short-range ordering in ternary III-V nanowires. Physical Review B, 2016, 94, .	3.2	7
100	Growing extremely thin bulklike metal film on a semiconductor surface: Monolayer Al(111) on Si(111). Applied Physics Letters, 2007, 91, .	3.3	6
101	Quantitative determination of local potential values in inhomogeneously doped semiconductors by scanning tunneling microscopy. Physical Review B, 2011, 84, .	3.2	6
102	Probing defect states in polycrystalline GaN grown on Si(111) by sub-bandgap laser-excited scanning tunneling spectroscopy. Journal of Applied Physics, 2017, 121, 015701.	2.5	5
103	Fermi-level pinning and intrinsic surface states of Al $\bar{1}$ xIn \bar{x} N(101 $\bar{1}$) surfaces. Applied Physics Letters, 2017, 110, .	3.3	5
104	Importance of point defect reactions for the atomic-scale roughness of III \bar{c} V nanowire sidewalls. Nanotechnology, 2019, 30, 324002.	2.6	5
105	Influence of surface band bending on a narrow band gap semiconductor: Tunneling atomic force studies of graphite with Bernal and rhombohedral stacking orders. Physical Review Materials, 2021, 5, .	2.4	5
106	Dislocation reaction on p-doped GaAs (011) observed by scanning tunnelling microscopy. Ultramicroscopy, 1992, 42-44, 776-780.	1.9	4
107	Importance of bulk properties in the structure and evolution of cleavage surfaces of quasicrystals. Progress in Surface Science, 2004, 75, 109-130.	8.3	4
108	Scanning Tunneling Spectroscopy of Ag Films: The Effect of Periodic versus Quasiperiodic Modulation. Physical Review Letters, 2006, 97, 206102.	7.8	4

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109	Tracking the subsurface path of dislocations in GaN using scanning tunneling microscopy. Journal of Applied Physics, 2015, 118, 035302.	2.5	4
110	Strain and compositional fluctuations in Al _{0.81} In _{0.19} N/GaN heterostructures. Applied Physics Letters, 2016, 109, 132102.	3.3	4
111	Formation of VP ⁺ Zn complexes in bulk InP(Zn) by migration of P vacancies from the (110) surface. Physical Review B, 2006, 73, .	3.2	3
112	Catalystlike behavior of Si adatoms in the growth of monolayer Al film on Si(111). Journal of Chemical Physics, 2010, 133, 014704.	3.0	3
113	Electronically Nonalloyed State of a Statistical Single Atomic Layer Semiconductor Alloy. Nano Letters, 2012, 12, 5845-5849.	9.1	3
114	Valence band structure and effective masses of GaN(101 ⁺ 0). Physical Review B, 2019, 99, .	3.2	3
115	Interplay of anomalous strain relaxation and minimization of polarization changes at nitride semiconductor heterointerfaces. Physical Review B, 2020, 102, .	3.2	3
116	Point defects, dopant atoms, and compensation effects in CdSe and CdS cleavage surfaces. Thin Solid Films, 1999, 343-344, 537-540.	1.8	2
117	Incorporation of dopant atoms and defects in semiconductors: a microscopic view. Physica B: Condensed Matter, 2003, 340-342, 1159-1165.	2.7	2
118	Spontaneous 2D Accumulation of Charged Be Dopants in GaAs ⁿ Superlattices. Physical Review Letters, 2006, 96, 076101.	7.8	2
119	Locally probing the screening potential at a metal-semiconductor interface. Physical Review B, 2010, 81, .	3.2	2
120	Meandering of overgrown v-shaped defects in epitaxial GaN layers. Applied Physics Letters, 2014, 105, 012105.	3.3	2
121	Effective mass of a two-dimensional $\sqrt{3} \times \sqrt{3}$ Ga single atomic layer on Si(111). Surface Science, 2014, 630, 225-228.	1.9	2
122	Resistive switching in optoelectronic III-V materials based on deep traps. Scientific Reports, 2018, 8, 9483.	3.3	2
123	InAs _{1-x} Sb _x Shell on InAs Nanowires. Nano Letters, 2019, 19, 8801-8805.	9.1	2
124	Interplay of intrinsic and extrinsic states in pinning and passivation of m-plane facets of GaN n-p-n junctions. Journal of Applied Physics, 2020, 128, .	2.5	2
125	Atomically-resolved interlayer charge ordering and its interplay with superconductivity in YBa ₂ Cu ₃ O _{6.81} . Nature Communications, 2021, 12, 3893.	12.8	2
126	Dislocation bending in GaN/step-graded (Al,Ga)N/AlN buffer layers on Si(111) investigated by STM and STEM. Philosophical Magazine, 2018, 98, 3072-3085.	1.6	1

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127	Chemical nature of the anion antisite in dilute phosphide $\text{GaAs}_{1-x}\text{P}_x$ alloy grown at low temperature. <i>Physical Review Materials</i> , 2018, 2.		
128	Scanning tunneling microscopy of defects in quasiperiodically ordered surfaces. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2000, 294-296, 826-829.	5.6	0
129	In situ manipulation of scanning tunneling microscope tips without tip holder. <i>Review of Scientific Instruments</i> , 2010, 81, 013706.	1.3	0
130	Roughness of electronic interfaces in Ga As p-n multilayers investigated by cross-sectional scanning tunneling microscopy. <i>Materials Research Society Symposia Proceedings</i> , 2002, 719, 1241.	0.1	0