

# Philipp Ebert

## List of Publications by Year in descending order

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130  
papers

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126907

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times ranked

2112  
citing authors

#	ARTICLE	IF	CITATIONS
1	Influence of surface band bending on a narrow band gap semiconductor: Tunneling atomic force studies of graphite with Bernal and rhombohedral stacking orders. <i>Physical Review Materials</i> , 2021, 5, .	2.4	5
2	Atomically-resolved interlayer charge ordering and its interplay with superconductivity in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>6.81</sub> . <i>Nature Communications</i> , 2021, 12, 3893.	12.8	2
3	Interplay of intrinsic and extrinsic states in pinning and passivation of <i>m</i> -plane facets of GaN <i>n</i> - <i>p</i> - <i>n</i> junctions. <i>Journal of Applied Physics</i> , 2020, 128, .	2.5	2
4	Interplay of anomalous strain relaxation and minimization of polarization changes at nitride semiconductor heterointerfaces. <i>Physical Review B</i> , 2020, 102, .	3.2	3
5	Valence band structure and effective masses of GaN(101 $\bar{0}$ ). <i>Physical Review B</i> , 2019, 99, .	3.2	3
6	Importance of point defect reactions for the atomic-scale roughness of III $\bar{V}$ nanowire sidewalls. <i>Nanotechnology</i> , 2019, 30, 324002.	2.6	5
7	Photodriven Dipole Reordering: Key to Carrier Separation in Metalorganic Halide Perovskites. <i>ACS Nano</i> , 2019, 13, 4402-4409.	14.6	38
8	luliacumite: A Novel Chemical Short-Range Order in a Two-Dimensional Wurtzite Single Monolayer InAs <sub>1-x</sub> Sb <sub>x</sub> Shell on InAs Nanowires. <i>Nano Letters</i> , 2019, 19, 8801-8805.	9.1	2
9	Atomically Resolved Electronic States and Correlated Magnetic Order at Termination Engineered Complex Oxide Heterointerfaces. <i>ACS Nano</i> , 2018, 12, 1089-1095.	14.6	13
10	Electron affinity and surface states of GaN <i>m</i> -plane facets: Implication for electronic self-passivation. <i>Physical Review B</i> , 2018, 97, .	3.2	12
11	Dislocation bending in GaN/step-graded (Al,Ga)N/AlN buffer layers on Si(111) investigated by STM and STEM. <i>Philosophical Magazine</i> , 2018, 98, 3072-3085.	1.6	1
12	Tuning Band Gap and Work Function Modulations in Monolayer hBN/Cu(111) Heterostructures with Moir $\bar{A}$ Patterns. <i>ACS Nano</i> , 2018, 12, 9355-9362.	14.6	33
13	Resistive switching in optoelectronic III-V materials based on deep traps. <i>Scientific Reports</i> , 2018, 8, 9483.	3.3	2
14	Chemical nature of the anion antisite in dilute phosphide $GaAs_{1-x}P_x$ alloy grown at low temperature. <i>Physical Review Materials</i> , 2018, 2, .		
15	Probing defect states in polycrystalline GaN grown on Si(111) by sub-bandgap laser-excited scanning tunneling spectroscopy. <i>Journal of Applied Physics</i> , 2017, 121, 015701.	2.5	5
16	Fermi-level pinning and intrinsic surface states of Al <sub>1-x</sub> In <sub>x</sub> N(101 $\bar{1}$ ) surfaces. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	5
17	Strain and compositional fluctuations in Al <sub>0.81</sub> In <sub>0.19</sub> N/GaN heterostructures. <i>Applied Physics Letters</i> , 2016, 109, 132102.	3.3	4
18	Intrinsic electronic properties of high-quality wurtzite InN. <i>Physical Review B</i> , 2016, 94, .	3.2	8

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19	Lazarevicite-type short-range ordering in ternary III-V nanowires. <i>Physical Review B</i> , 2016, 94, .	3.2	7
20	Importance of quantum correction for the quantitative simulation of photoexcited scanning tunneling spectra of semiconductor surfaces. <i>Physical Review B</i> , 2016, 93, .	3.2	13
21	Polarity-dependent pinning of a surface state. <i>Physical Review B</i> , 2015, 91, .	3.2	17
22	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
23	Tracking the subsurface path of dislocations in GaN using scanning tunneling microscopy. <i>Journal of Applied Physics</i> , 2015, 118, 035302.	2.5	4
24	Meandering of overgrown v-shaped defects in epitaxial GaN layers. <i>Applied Physics Letters</i> , 2014, 105, 012105.	3.3	2
25	Correction of nonlinear lateral distortions of scanning probe microscopy images. <i>Ultramicroscopy</i> , 2014, 136, 86-90.	1.9	9
26	Effective mass of a two-dimensional $\sqrt{3} \times \sqrt{3}$ Ga single atomic layer on Si(111). <i>Surface Science</i> , 2014, 630, 225-228.	1.9	2
27	Hidden surface states at non-polar GaN (10 $\bar{1}$ ) facets: Intrinsic pinning of nanowires. <i>Applied Physics Letters</i> , 2013, 103, .	3.3	45
28	Band offsets at zincblende-wurtzite GaAs nanowire sidewall surfaces. <i>Applied Physics Letters</i> , 2013, 103, .	3.3	28
29	Evidence of deep traps in overgrown v-shaped defects in epitaxial GaN layers. <i>Applied Physics Letters</i> , 2013, 103, .	3.3	8
30	Intrinsic bandgap of cleaved ZnO(112 $\bar{0}$ ) surfaces. <i>Applied Physics Letters</i> , 2013, 102, 021608.	3.3	8
31	Repulsive interactions between dislocations and overgrown v-shaped defects in epitaxial GaN layers. <i>Applied Physics Letters</i> , 2013, 103, 142105.	3.3	9
32	Reverse mass transport during capping of In <sub>0.5</sub> Ga <sub>0.5</sub> As/GaAs quantum dots. <i>Applied Physics Letters</i> , 2012, 101, .	3.3	13
33	Dopant mapping of Be $\delta$ -doped layers in GaAs tailored by counterdoping using scanning tunneling microscopy. <i>Applied Physics Letters</i> , 2012, 101, .	3.3	7
34	Electronically Nonalloyed State of a Statistical Single Atomic Layer Semiconductor Alloy. <i>Nano Letters</i> , 2012, 12, 5845-5849.	9.1	3
35	Structure and electronic spectroscopy of steps on GaAs(110) surfaces. <i>Surface Science</i> , 2012, 606, 28-33.	1.9	17
36	Non-polar group-III nitride semiconductor surfaces. <i>Physica Status Solidi - Rapid Research Letters</i> , 2012, 6, 359-369.	2.4	22

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37	Direct measurement of the band gap and Fermi level position at InN(112̂). Applied Physics Letters, 2011, 98, .	3.3	42
38	Quantitative determination of local potential values in inhomogeneously doped semiconductors by scanning tunneling microscopy. Physical Review B, 2011, 84, .	3.2	6
39	In situ manipulation of scanning tunneling microscope tips without tip holder. Review of Scientific Instruments, 2010, 81, 013706.	1.3	0
40	Atomic resolution in tunneling induced light emission from GaAs(110). Applied Physics Letters, 2010, 96, 152107.	3.3	11
41	Locally probing the screening potential at a metal-semiconductor interface. Physical Review B, 2010, 81, .	3.2	2
42	Cross-sectional scanning tunneling microscopy and spectroscopy of nonpolar GaN(111̂00) surfaces. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2010, 28, C5G11-C5G18.	1.2	9
43	Coulomb Energy Determination of a Single Si Dangling Bond. Physical Review Letters, 2010, 105, 226404.	7.8	34
44	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
45	Direct measurement and analysis of the conduction band density of states in diluted Scanning Tunneling Microscopy on unpinned GaAs	3.2	35
46	Scanning Tunneling Microscopy on unpinned GaN	3.2	22
47	Invisibility of valence-band states. Physical Review B, 2009, 80, . Doping modulation in GaN imaged by cross-sectional scanning tunneling microscopy. Applied Physics Letters, 2009, 94, 162110.	3.3	11
48	Electronic properties of dislocations in GaN investigated by scanning tunneling microscopy. Applied Physics Letters, 2009, 94, 062104.	3.3	33
49	Origin of nanoscale potential fluctuations in two-dimensional semiconductors. Applied Physics Letters, 2009, 95, .	3.3	20
50	Manganese adlayers on i-Alâ€Pdâ€Mn quasicrystal: growth and electronic structure. Journal of Physics Condensed Matter, 2009, 21, 405005.	1.8	9
51	Three- to two-dimensional transition in electrostatic screening of point charges at semiconductor surfaces studied by scanning tunneling microscopy. Physical Review B, 2009, 80, .	3.2	17
52	Surface states and origin of the Fermi level pinning on nonpolar GaN(111̂00) surfaces. Applied Physics Letters, 2008, 93, 192110.	3.3	57
53	Quantum size effect induced dilute atomic layers in ultrathin Al films. Physical Review B, 2007, 76, .	3.2	14
54	Quantum size effects in the nonmetal to metal transition of two-dimensional Al islands. Physical Review B, 2007, 76, .	3.2	10

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55	Growing extremely thin bulklike metal film on a semiconductor surface: Monolayer Al(111) on Si(111). Applied Physics Letters, 2007, 91, .	3.3	6
56	Core and valence level photoemission and photoabsorption study of icosahedral Al <sub>10</sub> Pd <sub>10</sub> Mn quasicrystals. Journal of Physics Condensed Matter, 2006, 18, 435-448.	1.8	16
57	Spontaneous 2D Accumulation of Charged Be Dopants in GaAs $\pi$ nSuperlattices. Physical Review Letters, 2006, 96, 076101.	7.8	2
58	Growth and electronic structure of alkali-metal adlayers on icosahedral Al <sub>70.5</sub> Pd <sub>21</sub> Mn <sub>8.5</sub> . Physical Review B, 2006, 73, .	3.2	21
59	Formation of V $\pi$ Zn complexes in bulk InP(Zn) by migration of P vacancies from the (110) surface. Physical Review B, 2006, 73, .	3.2	3
60	Scanning Tunneling Spectroscopy of Ag Films: The Effect of Periodic versus Quasiperiodic Modulation. Physical Review Letters, 2006, 97, 206102.	7.8	4
61	Direct Evidence for Shallow Acceptor States with Nonspherical Symmetry in GaAs. Physical Review Letters, 2005, 94, 026407.	7.8	60
62	Nonicosahedral Equilibrium Overlayers of Icosahedral Quasicrystals. Physical Review Letters, 2005, 95, 256105.	7.8	9
63	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
64	Building Pb Nanomesas with Atomic-Layer Precision. Physical Review Letters, 2004, 92, 106104.	7.8	52
65	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
66	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
67	Incorporation of dopant atoms and defects in semiconductors: a microscopic view. Physica B: Condensed Matter, 2003, 340-342, 1159-1165.	2.7	2
68	Structure and composition of cleaved and heat-treated tenfold surfaces of decagonal Al <sub>10</sub> Ni <sub>10</sub> Co quasicrystals. Surface Science, 2003, 523, 298-306.	1.9	13
69	Imaging defects and dopants. Materials Today, 2003, 6, 36-43.	14.2	16
70	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
71	Physics of imaging $\pi$ njunctions by scanning tunneling microscopy and spectroscopy. Physical Review B, 2003, 67, .	3.2	27
72	Nanoscale dopant-induced dots and potential fluctuations in GaAs. Applied Physics Letters, 2003, 82, 2700-2702.	3.3	27

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73	Surface structure of Al-Pd-Mn quasicrystals: Existence of supersaturated bulk vacancy concentrations. <i>Physical Review B</i> , 2003, 67, .	3.2	22
74	Compensation mechanisms in low-temperature-grown Ga <sub>1-x</sub> Mn <sub>x</sub> As investigated by scanning tunneling spectroscopy. <i>Applied Physics Letters</i> , 2003, 82, 712-714.	3.3	26
75	Determination of the Gibbs free energy of formation of Ga vacancies in GaAs by positron annihilation. <i>Physical Review B</i> , 2003, 67, .	3.2	39
76	Importance of carrier dynamics and conservation of momentum in atom-selective STM imaging and band gap determination of GaAs(110). <i>Physical Review B</i> , 2003, 67, .	3.2	38
77	Probing the step structure of buried metal/semiconductor interfaces using quantized electron states: The case of Pb on Si(111) 6Å–6-Au. <i>Applied Physics Letters</i> , 2002, 81, 2005-2007.	3.3	8
78	Dopant atom clustering and charge screening induced roughness of electronic interfaces in GaAs <sub>p</sub> -nmultilayers. <i>Physical Review B</i> , 2002, 65, .	3.2	9
79	Scanning tunneling microscopy and spectroscopy of semi-insulating GaAs. <i>Physical Review B</i> , 2002, 65, .	3.2	27
80	Quasicrystalline Epitaxial Single Element Monolayers on Icosahedral Al-Pd-Mn and Decagonal Al-Ni-Co Quasicrystal Surfaces. <i>Physical Review Letters</i> , 2002, 89, 156104.	7.8	124
81	Defects in III-V semiconductor surfaces. <i>Applied Physics A: Materials Science and Processing</i> , 2002, 75, 101-112.	2.3	26
82	Influence of growth kinetics and chemical composition on the shape of voids in quasi-crystals. <i>Surface Science</i> , 2002, 519, 33-39.	1.9	11
83	Effect of the Si substrate structure on the growth of two-dimensional thin Ag films. <i>Surface Science</i> , 2002, 518, 63-71.	1.9	23
84	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
85	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
86	Atomic structure of point defects in compound semiconductor surfaces. <i>Current Opinion in Solid State and Materials Science</i> , 2001, 5, 211-250.	11.5	36
87	Direct observation of electrical charges at dislocations in GaAs by cross-sectional scanning tunneling microscopy. <i>Applied Physics Letters</i> , 2001, 78, 480-482.	3.3	26
88	Scanning tunneling spectroscopy of quantum well and surface states of thin Ag films grown on GaAs(110). <i>Physical Review B</i> , 2001, 64, .	3.2	24
89	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
90	Quantitative Determination of the Metastability of Flat Ag Overlayers on GaAs(110). <i>Physical Review Letters</i> , 2001, 88, 016102.	7.8	41

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91	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
92	Scanning tunneling microscopy of defects in quasiperiodically ordered surfaces. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2000, 294-296, 826-829.	5.6	0
93	Influence of grown-in voids on the structure of cleaved icosahedral Al-Pd-Mn quasicrystal surfaces. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2000, 294-296, 874-877.	5.6	12
94	Effect of charge carriers on the barrier height for vacancy formation on InP(110) surfaces. <i>Applied Physics Letters</i> , 2000, 77, 61-63.	3.3	12
95	Effect of dopant atoms on the roughness of III-V semiconductor cleavage surfaces. <i>Applied Physics Letters</i> , 2000, 76, 300-302.	3.3	13
96	Symmetric Versus Nonsymmetric Structure of the Phosphorus Vacancy on InP(110). <i>Physical Review Letters</i> , 2000, 84, 5816-5819.	7.8	44
97	Importance of Many-Body Effects in the Clustering of Charged Zn Dopant Atoms in GaAs. <i>Physical Review Letters</i> , 1999, 83, 757-760.	7.8	41
98	Substrate effects on the formation of flat Ag films on (110) surfaces of III-V compound semiconductors. <i>Physical Review B</i> , 1999, 60, 4988-4991.	3.2	23
99	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
100	Evolution of the composition and structure of cleaved and heat-treated icosahedral Al-Pd-Mn quasicrystal surfaces. <i>Physical Review B</i> , 1999, 60, 874-880.	3.2	37
101	Imaging individual dopant atoms on cleavage surfaces of wurtzite-structure compound semiconductors. <i>Physical Review B</i> , 1999, 59, 2995-2999.	3.2	14
102	Nano-scale properties of defects in compound semiconductor surfaces. <i>Surface Science Reports</i> , 1999, 33, 121-303.	7.2	165
103	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
104	Point defects, dopant atoms, and compensation effects in CdSe and CdS cleavage surfaces. <i>Thin Solid Films</i> , 1999, 343-344, 537-540.	1.8	2
105	Evidence for a two-step evolution of the surface structure during heat treatment of cleaved icosahedral Al-Pd-Mn single quasicrystals. <i>Surface Science</i> , 1999, 433-435, 312-316.	1.9	7
106	Atomic-scale properties of the amphoteric dopant Si in GaAs(110) surfaces. <i>Surface Science</i> , 1998, 415, 285-298.	1.9	23
107	Comparison between ab initio theory and scanning tunneling microscopy for (110) surfaces of III-V semiconductors. <i>Physical Review B</i> , 1998, 58, 7799-7815.	3.2	71
108	Oscillating contrast in room-temperature scanning tunneling microscope images of localized charges in III-V semiconductor cleavage surfaces. <i>Journal of Vacuum Science &amp; Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 1998, 16, 2825.	1.6	34

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109	Enhanced surface metallic density of states in icosahedral quasicrystals. <i>Physical Review B</i> , 1998, 58, 734-738.	3.2	44
110	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
111	Surface structures of cleaved icosahedral Al-Pd-Mn single quasicrystals after heat treatment. <i>Physical Review B</i> , 1998, 57, 2821-2825.	3.2	60
112	Changes of defect and active-dopant concentrations induced by annealing of highly Si-doped GaAs. <i>Physical Review B</i> , 1998, 57, 4482-4485.	3.2	23
113	Electronic structure of wurtzite II-VI compound semiconductor cleavage surfaces studied by scanning tunneling microscopy. <i>Physical Review B</i> , 1997, 56, 12321-12326.	3.2	33
114	Identification and Quantification of Defects in Highly Si-Doped GaAs by Positron Annihilation and Scanning Tunneling Microscopy. <i>Physical Review Letters</i> , 1997, 78, 3334-3337.	7.8	66
115	Thermal formation of Zn-dopant-vacancy defect complexes on InP(110) surfaces. <i>Physical Review B</i> , 1996, 53, 4580-4590.	3.2	59
116	Evidence for a Cluster-Based Structure of AlPdMn Single Quasicrystals. <i>Physical Review Letters</i> , 1996, 77, 3827-3830.	7.8	161
117	Direct Determination of the Interaction between Vacancies on InP(110) Surfaces. <i>Physical Review Letters</i> , 1996, 76, 2089-2092.	7.8	64
118	Contribution of Surface Resonances to Scanning Tunneling Microscopy Images: (110) Surfaces of III-V Semiconductors. <i>Physical Review Letters</i> , 1996, 77, 2997-3000.	7.8	78
119	Microscopic identification of the compensation mechanisms in Si-doped GaAs. <i>Physical Review B</i> , 1996, 54, 10288-10291.	3.2	115
120	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
121	Charged steps on III-V compound semiconductor surfaces. <i>Physical Review B</i> , 1996, 53, 10894-10897.	3.2	30
122	Temperature dependent vacancy concentrations on InP(110) surfaces. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1995, 13, 1714-1718.	2.1	28
123	Formation of anion vacancies by Langmuir evaporation from InP and GaAs (110) surfaces at low temperatures. <i>Physical Review B</i> , 1995, 51, 9696-9701.	3.2	56
124	Charge state dependent structural relaxation around anion vacancies on InP(110) and GaP(110) surfaces. <i>Physical Review Letters</i> , 1994, 72, 840-843.	7.8	79
125	Phosphorus vacancies and adatoms on GaP(110) surfaces studied by scanning tunneling microscopy. <i>Ultramicroscopy</i> , 1993, 49, 344-353.	1.9	37
126	Step smoothing and surface vacancy reactions on InP(110) and GaP(110) observed by scanning tunneling microscopy. <i>Surface Science</i> , 1993, 287-288, 891-895.	1.9	7



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127	Scanning-tunneling-microscope tip-induced migration of vacancies on GaP(110). Physical Review Letters, 1993, 70, 1437-1440.	7.8	58
128	The electronic structure of the InP(110) surface studied by scanning tunneling microscopy and spectroscopy. Surface Science, 1992, 271, 587-595.	1.9	27
129	Dislocation reaction on p-doped GaAs (011) observed by scanning tunnelling microscopy. Ultramicroscopy, 1992, 42-44, 776-780.	1.9	4
130	A STM study of the InP (110) surface. Ultramicroscopy, 1992, 42-44, 871-877.	1.9	27