Ludger Wirtz

List of Publications by Year
in descending order

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113 papers	10,235 citations	47 h-index	100 g-index
		47006	32842
118 all docs	118 docs citations	118 times ranked	14012 citing authors

#	Article	IF	Citations
1	Excitonic-insulator instability and Peierls distortion in one-dimensional semimetals. Physical Review B, 2022, 105, .	3.2	2
2	The impact of strain on growth mode in chemical vapor deposited mono- and few-layer MoS₂. AIP Advances, 2022, 12, 065010.	1.3	0
3	Raman imaging of twist angle variations in twisted bilayer graphene at intermediate angles. 2D Materials, 2022, 9, 045009.	4.4	8
4	Electronic structure of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">TiSe</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math> from a quasi-self-consistent <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>G</mml:mi><mml:mn>0</mml:mn></mml:m approach. Physical Review B, 2021, 103, .	3.2	8
5	Collective electronic excitations in charge density wave systems: The case of CuTe. Physical Review B, 2021, 104, .	3.2	6
6	Time-Dependent Screening Explains the Ultrafast Excitonic Signal Rise in 2D Semiconductors. ACS Nano, 2021, 15, 1179-1185.	14.6	15
7	Nonadiabatic exciton-phonon coupling in Raman spectroscopy of layered materials. Science Advances, 2020, 6, eabb5915.	10.3	18
8	Strongly Coupled Coherent Phonons in Single-Layer MoS₂. ACS Nano, 2020, 14, 5700-5710.	14.6	44
9	Excitation-intensity dependence of shallow and deep-level photoluminescence transitions in semiconductors. Journal of Applied Physics, 2019, 126, .	2.5	35
10	Photoinduced Phase Transitions in Ferroelectrics. Physical Review Letters, 2019, 123, 087601.	7.8	40
11	Real-time observation of the intravalley spin-flip process in single-layer WS2. EPJ Web of Conferences, 2019, 205, 05012.	0.3	0
12	Theory of resonant Raman scattering: Towards a comprehensive ab initio description. Physical Review B, 2019, 99, .	3.2	7
13	Exciton-Phonon Coupling in the Ultraviolet Absorption and Emission Spectra of Bulk Hexagonal Boron Nitride. Physical Review Letters, 2019, 122, 187401.	7.8	54
14	Searching for materials with high refractive index and wide band gap: A first-principles high-throughput study. Physical Review Materials, 2019, 3, .	2.4	40
15	Strong Exciton-Coherent Phonon Coupling In Single-Layer MoS2. , 2019, , .		1
16	Synthesis, theoretical and experimental characterisation of thin film Cu2Sn1-Ge S3 ternary alloys (xÂ=) Tj ETQq0 0 0 rgBT /Overlock 10 T	7.9	15
17	Impact of Many-Body Effects on Landau Levels in Graphene. Physical Review Letters, 2018, 120, 187701.	7.8	18
18	Intravalley Spinâ€“Flip Relaxation Dynamics in Single-Layer WS₂. Nano Letters, 2018, 18, 6882-6891.	9.1	82

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19	Direct and indirect excitons in boron nitride polymorphs: A story of atomic configuration and electronic correlation. Physical Review B, 2018, 98, .	3.2	63
20	Interlayer and intralayer excitons in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>MoS</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>MoSe</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> heterobilayers. Physical Review B, 2018, 97, .	3.2	87
21	Optical control of polarization in ferroelectric heterostructures. Nature Communications, 2018, 9, 3344.	12.8	119
22	Excitons in few-layer hexagonal boron nitride: Davydov splitting and surface localization. 2D Materials, 2018, 5, 045017.	4.4	63
23	Ab initio and semiempirical modeling of excitons and trions in monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>TiS</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math> Physical Review B, 2018, 98, .	3.2	14
24	Valence band splitting in Cu₂(Sn,Ge,Si)S₃: Effect on optical absorption spectra. Physica Status Solidi - Rapid Research Letters, 2017, 11, 1600410.	2.4	14
25	Raman Spectroscopy of Graphene. , 2017, , 85-132.		5
26	Tuning the Pseudospin Polarization of Graphene by a Pseudomagnetic Field. Nano Letters, 2017, 17, 2240-2245.	9.1	113
27	Quantum Interference Effects in Resonant Raman Spectroscopy of Single- and Triple-Layer MoTe₂ from First-Principles. Nano Letters, 2017, 17, 2381-2388.	9.1	37
28	Critical Role of the Exchange Interaction for the Electronic Structure and Charge-Density-Wave Formation in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>TiSe</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math> Physical Review Letters, 2017, 119, 176401.	7.8	55
29	Ab Initio Calculations of Ultrashort Carrier Dynamics in Two-Dimensional Materials: Valley Depolarization in Single-Layer WSe₂. Nano Letters, 2017, 17, 4549-4555.	9.1	83
30	Ab initio calculation of the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>G</mml:mi></mml:math> peak intensity of graphene: Laser-energy and Fermi-energy dependence and importance of quantum interference effects. Physical Review B, 2017, 95, .	3.2	7
31	Excitons in boron nitride single layer. Physical Review B, 2016, 94, .	3.2	68
32	Temperature-dependent excitonic effects in the optical properties of single-layer<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>MoS</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math> Physical Review B, 2016, 93, .	3.2	91
33	Ab initioperspective on the Mollwo-Ivey relation for<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>F</mml:mi></mml:mrow></mml:math> centers in alkali halides. Physical Review B, 2015, 92, .	3.2	17
34	Phonon-limited carrier mobility and resistivity from carbon nanotubes to graphene. Physical Review B, 2015, 92, .	3.2	14
35	Vibrational and optical properties of MoS2: From monolayer to bulk. Surface Science Reports, 2015, 70, 554-586.	7.2	178
36	Unified Description of the Optical Phonon Modes in N-Layer MoTe₂. Nano Letters, 2015, 15, 6481-6489.	9.1	122

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37	Excitons in a mirror: Formation of â€œoptical bilayersâ€•using MoS2 monolayers on gold substrates. Applied Physics Letters, 2014, 104, .	3.3	31
38	Raman spectroscopy of graphite intercalation compounds: Charge transfer, strain, and electronâ€“phonon coupling in graphene layers. Physica Status Solidi (B): Basic Research, 2014, 251, 2337-2355.	1.5	75
39	Materials science in Luxembourg. Nature Materials, 2014, 13, 219-222.	27.5	0
40	MoirÃ©â€‰induced replica of graphene phonons on Ir(111). Annalen Der Physik, 2014, 526, 372-380.	2.4	17
41	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>F</mml:mi></mml:math>center in lithium fluoride revisited: Comparison of solid-state physics and quantum-chemistry approaches. Physical Review B, 2014, 89, .	3.2	43
42	Towards an ab initio description of the charge transfer between a proton and a lithium fluoride surface: A quantum chemistry approach. Nuclear Instruments & Methods in Physics Research B, 2013, 317, 18-22.	1.4	2
43	Dielectric screening of the Kohn anomaly of graphene on hexagonal boron nitride. Physical Review B, 2013, 88, .	3.2	63
44	Effect of spin-orbit interaction on the optical spectra of single-layer, double-layer, and bulk MoS<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>. Physical Review B, 2013, 88, .	3.2	382
45	Manifestation of Charged and Strained Graphene Layers in the Raman Response of Graphite Intercalation Compounds. ACS Nano, 2013, 7, 9249-9259.	14.6	100
46	Efficient Gate-tunable light-emitting device made of defective boron nitride nanotubes: from ultraviolet to the visible. Scientific Reports, 2013, 3, 2698.	3.3	22
47	Contribution of the buffer layer to the Raman spectrum of epitaxial graphene on SiC(0001). New Journal of Physics, 2013, 15, 043031.	2.9	93
48	Anomalous quantum confinement of the longitudinal optical phonon mode in PbSe quantum dots. Physical Review B, 2013, 88, .	3.2	23
49	Screening of electron-phonon coupling in graphene on Ir(111). Physical Review B, 2013, 88, .	3.2	40
50	Variations in the work function of doped single- and few-layer graphene assessed by Kelvin probe force microscopy and density functional theory. Physical Review B, 2011, 83, .	3.2	170
51	Phonons in single-layer and few-layer MoS<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>and WS<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>. Physical Review B, 2011, 84, .	3.2	1,202
52	Coupling of excitons and defect states in boron-nitride nanostructures. Physical Review B, 2011, 83, .	3.2	177
53	Anisotropic excitonic effects in the energy loss function of hexagonal boron nitride. Physical Review B, 2011, 83, .	3.2	34
54	Rumpling of LiF(001) surface from fast atom diffraction. Physical Review A, 2010, 82, .	2.5	50

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55	Electronic structure and radial breathing mode for carbon nanotubes with ultraâ€high curvature. Physica Status Solidi (B): Basic Research, 2010, 247, 2774-2778.	1.5	5
56	Transport through open quantum dots: Making semiclassics quantitative. Physical Review B, 2010, 81, .	3.2	11
57	Graphene on Metallic Substrates: Suppression of the Kohn Anomalies in the Phonon Dispersion. Nano Letters, 2010, 10, 4335-4340.	9.1	108
58	Dielectric function of colloidal lead chalcogenide quantum dots obtained by a Kramers-KrÃ¶nig analysis of the absorbance spectrum. Physical Review B, 2010, 81, .	3.2	66
59	Doped Graphene as Tunable Electronâ^'Phonon Coupling Material. Nano Letters, 2010, 10, 1172-1176.	9.1	84
60	Vanishing gap in LiF for electronic excitations by slow antiprotons. Physical Review B, 2009, 79, .	3.2	9
61	Near Kohn anomalies in the phonon dispersion relations of lead chalcogenides. Physical Review B, 2009, 80, .	3.2	36
62	Phonon surface mapping of graphite: Disentangling quasi-degenerate phonon dispersions. Physical Review B, 2009, 80, .	3.2	83
63	Optical and Vibrational Properties of Boron Nitride Nanotubes. , 2009, , 105-148.		12
64	Fast-atom diffraction at surfaces. Journal of Physics: Conference Series, 2009, 194, 012057.	0.4	4
65	Impact of the electron-electron correlation on phonon dispersion: Failure of LDA and GGA DFT functionals in graphene and graphite. Physical Review B, 2008, 78, .	3.2	257
66	Tight-binding description of the quasiparticle dispersion of graphite and few-layer graphene. Physical Review B, 2008, 78, .	3.2	243
67	Electron-Electron Correlation in Graphite: A Combined Angle-Resolved Photoemission and First-Principles Study. Physical Review Letters, 2008, 100, 037601.	7.8	103
68	Excitation energy and pair correlation function of trions near an LiF surface. Physical Review B, 2008, 78, .	3.2	3
69	Diffractive paths for weak localization in quantum billiards. Physical Review B, 2008, 77, .	3.2	13
70	Comment on â€œHuge Excitonic Effects in Layered Hexagonal Boron Nitrideâ€• Physical Review Letters, 2008, 100, 189701; discussion 189702.	7.8	64
71	Ultrafast electron-phonon decoupling in graphite. Physical Review B, 2008, 77, .	3.2	120
72	Suppression of Decoherence in Fast-Atom Diffraction at Surfaces. Physical Review Letters, 2008, 101, 253201.	7.8	61

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73	Fundamental studies in nanosciences at the Institute of Electronics, Microelectronics, and Nanotechnology (IEMN). International Journal of Nanotechnology, 2008, 5, 631.	0.2	0
74	Influence of inelastic processes on fast-atom-surface diffraction. Journal of Physics: Conference Series, 2008, 133, 012014.	0.4	3
75	Vibrational Properties of Hexagonal Boron Nitride: Inelastic X-Ray Scattering andAbÂInitioCalculations. Physical Review Letters, 2007, 98, 095503.	7.8	190
76	Raman imaging of doping domains in graphene on SiO2. Applied Physics Letters, 2007, 91, .	3.3	201
77	Raman spectroscopy on single- and few-layer graphene. AIP Conference Proceedings, 2007, , .	0.4	1
78	Raman imaging of graphene. Solid State Communications, 2007, 143, 44-46.	1.9	124
79	Low energy quasiparticle dispersion of graphite by angleâ€resolved photoemission spectroscopy. Physica Status Solidi (B): Basic Research, 2007, 244, 4129-4133.	1.5	5
80	Absorption of BN nanotubes under the influence of a perpendicular electric field. Physica Status Solidi (B): Basic Research, 2007, 244, 4288-4292.	1.5	22
81	Spatially Resolved Raman Spectroscopy of Single- and Few-Layer Graphene. Nano Letters, 2007, 7, 238-242.	9.1	2,363
82	Raman mapping of a single-layer to double-layer graphene transition. European Physical Journal: Special Topics, 2007, 148, 171-176.	2.6	26
83	Excitons in Boron Nitride Nanotubes: Dimensionality Effects. Physical Review Letters, 2006, 96, 126104.	7.8	343
84	Raman Spectroscopy of Single-Wall Boron Nitride Nanotubes. Nano Letters, 2006, 6, 1812-1816.	9.1	296
85	Electron emission from surfaces induced by HCI and lasers. Nuclear Instruments & Methods in Physics Research B, 2005, 235, 425-430.	1.4	3
86	Optical Absorption of hexagonal Boron Nitride and BN nanotubes. AIP Conference Proceedings, 2005, , .	0.4	14
87	Raman spectra of BN nanotubes:Ab initioand bond-polarizability model calculations. Physical Review B, 2005, 71, .	3.2	40
88	Pseudopath semiclassical approximation to transport through open quantum billiards: Dyson equation for diffractive scattering. Physical Review E, 2005, 72, 036223.	2.1	13
89	The phonon dispersion of graphite revisited. Solid State Communications, 2004, 131, 141-152.	1.9	314
90	Optical absorption and electron energy loss spectra of carbon and boron nitride nanotubes: a first-principles approach. Applied Physics A: Materials Science and Processing, 2004, 78, 1157-1167.	2.3	105

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91	Multi-electron dynamics for neutralization of highly charged ions near surfaces. Vacuum, 2004, 73, 3-7.	3.5	6
92	Phonon and plasmon excitation in inelastic electron tunneling spectroscopy of graphite. Physical Review B, 2004, 69, .	3.2	85
93	Angular distribution of highly charged ions transmitted through metallic microcapillaries. Journal of Electron Spectroscopy and Related Phenomena, 2003, 129, 195-200.	1.7	3
94	Ab initiocalculations of the lattice dynamics of boron nitride nanotubes. Physical Review B, 2003, 68, .	3.2	165
95	Band structure of boron doped carbon nanotubes. AIP Conference Proceedings, 2003, , .	0.4	23
96	Vibrational properties of boron-nitride nanotubes: effects of finite length and bundling. IEEE Nanotechnology Magazine, 2003, 2, 341-348.	2.0	23
97	Liouville master equation for multielectron dynamics: Neutralization of highly charged ions near a LiF surface. Physical Review A, 2003, 67, .	2.5	30
98	Potential-energy surfaces for charge exchange between singly charged ions and a LiF surface. Physical Review A, 2003, 68, .	2.5	8
99	Semiclassical theory for transmission through open billiards: Convergence towards quantum transport. Physical Review E, 2003, 67, 016206.	2.1	20
100	Vibrational properties of boron nitride nanotubes: Effects of finite length and bundling. , 2003, 5118, 354.		2
101	Hollow-ion formation in microcapillaries. Physical Review A, 2001, 64, .	2.5	49
102	Vertical incidence of slow Ne10+ ions on an LiF surface: Suppression of the trampoline effect. Nuclear Instruments & Methods in Physics Research B, 2001, 182, 36-40.	1.4	7
103	Kinetically Assisted Potential Sputtering of Insulators by Highly Charged Ions. Physical Review Letters, 2001, 86, 3530-3533.	7.8	70
104	Observation of a threshold in potential sputtering of LiF surfaces. Nuclear Instruments & Methods in Physics Research B, 2000, 164-165, 517-521.	1.4	2
105	Transmission of highly charged ions through microcapillaries. Nuclear Instruments & Methods in Physics Research B, 2000, 164-165, 504-510.	1.4	18
106	Charge-state evolution of highly charged ions transmitted through microcapillaries. Physical Review A, 2000, 61, .	2.5	65
107	Modular recursive Greenâ€™s function method for ballistic quantum transport. Physical Review B, 2000, 62, 1950-1960.	3.2	94
108	Curve-crossing analysis for potential sputtering of insulators. Surface Science, 2000, 451, 197-202.	1.9	10

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109	Gauge-invariant theory for semiclassical magnetotransport through ballistic microstructures. Physical Review B, 1999, 59, 2956-2967.	3.2	18
110	Threshold for Potential Sputtering of LiF. Physical Review Letters, 1999, 83, 3948-3951.	7.8	49
111	Interaction of highly charged ions with microcapillaries. Nuclear Instruments & Methods in Physics Research B, 1999, 154, 307-311.	1.4	22
112	Oscillations in the magnetoconductance autocorrelation function for ballistic microstructures. Physical Review B, 1998, 57, 9875-9878.	3.2	4
113	Geometry-dependent scattering through Ballistic microstructures: Semiclassical theory beyond the stationary-phase approximation. Physical Review B, 1997, 56, 7589-7597.	3.2	48