

Ludger Wirtz

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/295780/publications.pdf>

Version: 2024-02-01

113
papers

10,235
citations

47006

47
h-index

32842

100
g-index

118
all docs

118
docs citations

118
times ranked

14012
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|------|-----------|
| 1 | Spatially Resolved Raman Spectroscopy of Single- and Few-Layer Graphene. Nano Letters, 2007, 7, 238-242. | 9.1 | 2,363 |
| 2 | Phonons in single-layer and few-layer MoS ₂ and WS ₂ . Physical Review B, 2011, 84, . | 3.2 | 1,202 |
| 3 | Effect of spin-orbit interaction on the optical spectra of single-layer, double-layer, and bulk MoS ₂ . Physical Review B, 2013, 88, . | 3.2 | 382 |
| 4 | Excitons in Boron Nitride Nanotubes: Dimensionality Effects. Physical Review Letters, 2006, 96, 126104. | 7.8 | 343 |
| 5 | The phonon dispersion of graphite revisited. Solid State Communications, 2004, 131, 141-152. | 1.9 | 314 |
| 6 | Raman Spectroscopy of Single-Wall Boron Nitride Nanotubes. Nano Letters, 2006, 6, 1812-1816. | 9.1 | 296 |
| 7 | 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 |
| 8 | Tight-binding description of the quasiparticle dispersion of graphite and few-layer graphene. Physical Review B, 2008, 78, . | 3.2 | 243 |
| 9 | Raman imaging of doping domains in graphene on SiO ₂ . Applied Physics Letters, 2007, 91, . | 3.3 | 201 |
| 10 | Vibrational Properties of Hexagonal Boron Nitride: Inelastic X-Ray Scattering and Ab Initio Calculations. Physical Review Letters, 2007, 98, 095503. | 7.8 | 190 |
| 11 | Vibrational and optical properties of MoS ₂ : From monolayer to bulk. Surface Science Reports, 2015, 70, 554-586. | 7.2 | 178 |
| 12 | Coupling of excitons and defect states in boron-nitride nanostructures. Physical Review B, 2011, 83, . | 3.2 | 177 |
| 13 | 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 |
| 14 | Ab initio calculations of the lattice dynamics of boron nitride nanotubes. Physical Review B, 2003, 68, . | 3.2 | 165 |
| 15 | Raman imaging of graphene. Solid State Communications, 2007, 143, 44-46. | 1.9 | 124 |
| 16 | Unified Description of the Optical Phonon Modes in N-Layer MoTe ₂ . Nano Letters, 2015, 15, 6481-6489. | 9.1 | 122 |
| 17 | Ultrafast electron-phonon decoupling in graphite. Physical Review B, 2008, 77, . | 3.2 | 120 |
| 18 | Optical control of polarization in ferroelectric heterostructures. Nature Communications, 2018, 9, 3344. | 12.8 | 119 |

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 19 | Tuning the Pseudospin Polarization of Graphene by a Pseudomagnetic Field. Nano Letters, 2017, 17, 2240-2245. | 9.1 | 113 |
| 20 | Graphene on Metallic Substrates: Suppression of the Kohn Anomalies in the Phonon Dispersion. Nano Letters, 2010, 10, 4335-4340. | 9.1 | 108 |
| 21 | 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 |
| 22 | Electron-Electron Correlation in Graphite: A Combined Angle-Resolved Photoemission and First-Principles Study. Physical Review Letters, 2008, 100, 037601. | 7.8 | 103 |
| 23 | Manifestation of Charged and Strained Graphene Layers in the Raman Response of Graphite Intercalation Compounds. ACS Nano, 2013, 7, 9249-9259. | 14.6 | 100 |
| 24 | Modular recursive Green's function method for ballistic quantum transport. Physical Review B, 2000, 62, 1950-1960. | 3.2 | 94 |
| 25 | 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 |
| 26 | Temperature-dependent excitonic effects in the optical properties of single-layer MoS ₂ . Physical Review B, 2016, 93, . | 3.2 | 85 |
| 27 | Interlayer and intralayer excitons in MoS ₂ and MoSe ₂ heterobilayers. Physical Review B, 2018, 97, . | 3.2 | 87 |
| 28 | Phonon and plasmon excitation in inelastic electron tunneling spectroscopy of graphite. Physical Review B, 2004, 69, . | 3.2 | 85 |
| 29 | Doped Graphene as Tunable Electron-Phonon Coupling Material. Nano Letters, 2010, 10, 1172-1176. | 9.1 | 84 |
| 30 | Phonon surface mapping of graphite: Disentangling quasi-degenerate phonon dispersions. Physical Review B, 2009, 80, . | 3.2 | 83 |
| 31 | Ab Initio Calculations of Ultrashort Carrier Dynamics in Two-Dimensional Materials: Valley Depolarization in Single-Layer WSe ₂ . Nano Letters, 2017, 17, 4549-4555. | 9.1 | 83 |
| 32 | Intravalley Spin-Flip Relaxation Dynamics in Single-Layer WS ₂ . Nano Letters, 2018, 18, 6882-6891. | 9.1 | 82 |
| 33 | Raman spectroscopy of graphite intercalation compounds: Charge transfer, strain, and electron-phonon coupling in graphene layers. Physica Status Solidi (B): Basic Research, 2014, 251, 2337-2355. | 1.5 | 75 |
| 34 | Kinetically Assisted Potential Sputtering of Insulators by Highly Charged Ions. Physical Review Letters, 2001, 86, 3530-3533. | 7.8 | 70 |
| 35 | Excitons in boron nitride single layer. Physical Review B, 2016, 94, . | 3.2 | 68 |
| 36 | Dielectric function of colloidal lead chalcogenide quantum dots obtained by a Kramers-Kronig analysis of the absorbance spectrum. Physical Review B, 2010, 81, . | 3.2 | 66 |

| # | ARTICLE | IF | CITATIONS |
|----|---|------|-----------|
| 37 | Charge-state evolution of highly charged ions transmitted through microcapillaries. Physical Review A, 2000, 61, . | 2.5 | 65 |
| 38 | Comment on "Huge Excitonic Effects in Layered Hexagonal Boron Nitride". Physical Review Letters, 2008, 100, 189701; discussion 189702. | 7.8 | 64 |
| 39 | Dielectric screening of the Kohn anomaly of graphene on hexagonal boron nitride. Physical Review B, 2013, 88, . | 3.2 | 63 |
| 40 | Direct and indirect excitons in boron nitride polymorphs: A story of atomic configuration and electronic correlation. Physical Review B, 2018, 98, . | 3.2 | 63 |
| 41 | Excitons in few-layer hexagonal boron nitride: Davydov splitting and surface localization. 2D Materials, 2018, 5, 045017. | 4.4 | 63 |
| 42 | Suppression of Decoherence in Fast-Atom Diffraction at Surfaces. Physical Review Letters, 2008, 101, 253201. | 7.8 | 61 |
| 43 | Critical Role of the Exchange Interaction for the Electronic Structure and Charge-Density-Wave Formation in TiSe_2 . Physical Review Letters, 2017, 119, 176401. | 7.8 | 55 |
| 44 | Exciton-Phonon Coupling in the Ultraviolet Absorption and Emission Spectra of Bulk Hexagonal Boron Nitride. Physical Review Letters, 2019, 122, 187401. | 7.8 | 54 |
| 45 | Rumpling of LiF(001) surface from fast atom diffraction. Physical Review A, 2010, 82, . | 2.5 | 50 |
| 46 | Threshold for Potential Sputtering of LiF. Physical Review Letters, 1999, 83, 3948-3951. | 7.8 | 49 |
| 47 | Hollow-ion formation in microcapillaries. Physical Review A, 2001, 64, . | 2.5 | 49 |
| 48 | Geometry-dependent scattering through Ballistic microstructures: Semiclassical theory beyond the stationary-phase approximation. Physical Review B, 1997, 56, 7589-7597. | 3.2 | 48 |
| 49 | Strongly Coupled Coherent Phonons in Single-Layer MoS_2 . ACS Nano, 2020, 14, 5700-5710. | 14.6 | 44 |
| 50 | F center in lithium fluoride revisited: Comparison of solid-state physics and quantum-chemistry approaches. Physical Review B, 2014, 89, . | 3.2 | 43 |
| 51 | Raman spectra of BN nanotubes: Ab initio and bond-polarizability model calculations. Physical Review B, 2005, 71, . | 3.2 | 40 |
| 52 | Screening of electron-phonon coupling in graphene on Ir(111). Physical Review B, 2013, 88, . | 3.2 | 40 |
| 53 | Photoinduced Phase Transitions in Ferroelectrics. Physical Review Letters, 2019, 123, 087601. | 7.8 | 40 |
| 54 | 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 |

| # | ARTICLE | IF | CITATIONS |
|----|---|------|-----------|
| 55 | Quantum Interference Effects in Resonant Raman Spectroscopy of Single- and Triple-Layer MoTe ₂ from First-Principles. Nano Letters, 2017, 17, 2381-2388. | 9.1 | 37 |
| 56 | Near Kohn anomalies in the phonon dispersion relations of lead chalcogenides. Physical Review B, 2009, 80, . | 3.2 | 36 |
| 57 | Excitation-intensity dependence of shallow and deep-level photoluminescence transitions in semiconductors. Journal of Applied Physics, 2019, 126, . | 2.5 | 35 |
| 58 | Anisotropic excitonic effects in the energy loss function of hexagonal boron nitride. Physical Review B, 2011, 83, . | 3.2 | 34 |
| 59 | Excitons in a mirror: Formation of "optical bilayers" using MoS ₂ monolayers on gold substrates. Applied Physics Letters, 2014, 104, . | 3.3 | 31 |
| 60 | Liouville master equation for multielectron dynamics: Neutralization of highly charged ions near a LiF surface. Physical Review A, 2003, 67, . | 2.5 | 30 |
| 61 | Raman mapping of a single-layer to double-layer graphene transition. European Physical Journal: Special Topics, 2007, 148, 171-176. | 2.6 | 26 |
| 62 | Band structure of boron doped carbon nanotubes. AIP Conference Proceedings, 2003, , . | 0.4 | 23 |
| 63 | Vibrational properties of boron-nitride nanotubes: effects of finite length and bundling. IEEE Nanotechnology Magazine, 2003, 2, 341-348. | 2.0 | 23 |
| 64 | Anomalous quantum confinement of the longitudinal optical phonon mode in PbSe quantum dots. Physical Review B, 2013, 88, . | 3.2 | 23 |
| 65 | Interaction of highly charged ions with microcapillaries. Nuclear Instruments & Methods in Physics Research B, 1999, 154, 307-311. | 1.4 | 22 |
| 66 | 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 |
| 67 | 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 |
| 68 | Semiclassical theory for transmission through open billiards: Convergence towards quantum transport. Physical Review E, 2003, 67, 016206. | 2.1 | 20 |
| 69 | Gauge-invariant theory for semiclassical magnetotransport through ballistic microstructures. Physical Review B, 1999, 59, 2956-2967. | 3.2 | 18 |
| 70 | Transmission of highly charged ions through microcapillaries. Nuclear Instruments & Methods in Physics Research B, 2000, 164-165, 504-510. | 1.4 | 18 |
| 71 | Impact of Many-Body Effects on Landau Levels in Graphene. Physical Review Letters, 2018, 120, 187701. | 7.8 | 18 |
| 72 | Nonadiabatic exciton-phonon coupling in Raman spectroscopy of layered materials. Science Advances, 2020, 6, eabb5915. | 10.3 | 18 |

| # | ARTICLE | IF | CITATIONS |
|----|--|----------|-----------|
| 73 | Moiré-induced replica of graphene phonons on Ir(111). Annalen Der Physik, 2014, 526, 372-380. | 2.4 | 17 |
| 74 | <i>Ab initio</i> perspective on the Mollwo-Ivey relation for F centers in alkali halides. Physical Review B, 2015, 92, . | 1.2 | 17 |
| 75 | Synthesis, theoretical and experimental characterisation of thin film Cu ₂ Sn ₁ -Ge S ₃ ternary alloys ($x \neq 1$). Physical Review B, 2015, 92, . | 0.784314 | 15 |
| 76 | Time-Dependent Screening Explains the Ultrafast Excitonic Signal Rise in 2D Semiconductors. ACS Nano, 2021, 15, 1179-1185. | 14.6 | 15 |
| 77 | Optical Absorption of hexagonal Boron Nitride and BN nanotubes. AIP Conference Proceedings, 2005, , . | 0.4 | 14 |
| 78 | Phonon-limited carrier mobility and resistivity from carbon nanotubes to graphene. Physical Review B, 2015, 92, . | 3.2 | 14 |
| 79 | Valence band splitting in Cu ₂ (Sn,Ge,Si)S ₃ : Effect on optical absorption spectra. Physica Status Solidi - Rapid Research Letters, 2017, 11, 1600410. | 2.4 | 14 |
| 80 | <i>Ab initio</i> and semiempirical modeling of excitons and trions in monolayer TiS_3 . Physical Review B, 2018, 98, . | 3.2 | 14 |
| 81 | Pseudopath semiclassical approximation to transport through open quantum billiards: Dyson equation for diffractive scattering. Physical Review E, 2005, 72, 036223. | 2.1 | 13 |
| 82 | Diffractive paths for weak localization in quantum billiards. Physical Review B, 2008, 77, . | 3.2 | 13 |
| 83 | Optical and Vibrational Properties of Boron Nitride Nanotubes. , 2009, , 105-148. | | 12 |
| 84 | Transport through open quantum dots: Making semiclassics quantitative. Physical Review B, 2010, 81, . | 3.2 | 11 |
| 85 | Curve-crossing analysis for potential sputtering of insulators. Surface Science, 2000, 451, 197-202. | 1.9 | 10 |
| 86 | Vanishing gap in LiF for electronic excitations by slow antiprotons. Physical Review B, 2009, 79, . | 3.2 | 9 |
| 87 | Potential-energy surfaces for charge exchange between singly charged ions and a LiF surface. Physical Review A, 2003, 68, . | 2.5 | 8 |
| 88 | Electronic structure of TiSe_2 from a quasi-self-consistent approach. Physical Review B, 2021, 103, . | 3.2 | 8 |
| 89 | Raman imaging of twist angle variations in twisted bilayer graphene at intermediate angles. 2D Materials, 2022, 9, 045009. | 4.4 | 8 |
| 90 | Vertical incidence of slow Ne ¹⁰⁺ ions on an LiF surface: Suppression of the trampoline effect. Nuclear Instruments & Methods in Physics Research B, 2001, 182, 36-40. | 1.4 | 7 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 91 | <i>Ab initio</i> calculation of the G peak intensity of graphene: Laser-energy and Fermi-energy dependence and importance of quantum interference effects. <i>Physical Review B</i> , 2017, 95, . | 3.2 | 7 |
| 92 | Theory of resonant Raman scattering: Towards a comprehensive <i>ab initio</i> description. <i>Physical Review B</i> , 2019, 99, . | 3.2 | 7 |
| 93 | Multi-electron dynamics for neutralization of highly charged ions near surfaces. <i>Vacuum</i> , 2004, 73, 3-7. | 3.5 | 6 |
| 94 | Collective electronic excitations in charge density wave systems: The case of CuTe. <i>Physical Review B</i> , 2021, 104, . | 3.2 | 6 |
| 95 | Low energy quasiparticle dispersion of graphite by angle-resolved photoemission spectroscopy. <i>Physica Status Solidi (B): Basic Research</i> , 2007, 244, 4129-4133. | 1.5 | 5 |
| 96 | Electronic structure and radial breathing mode for carbon nanotubes with ultra-high curvature. <i>Physica Status Solidi (B): Basic Research</i> , 2010, 247, 2774-2778. | 1.5 | 5 |
| 97 | Raman Spectroscopy of Graphene. , 2017, , 85-132. | | 5 |
| 98 | Oscillations in the magnetoconductance autocorrelation function for ballistic microstructures. <i>Physical Review B</i> , 1998, 57, 9875-9878. | 3.2 | 4 |
| 99 | Fast-atom diffraction at surfaces. <i>Journal of Physics: Conference Series</i> , 2009, 194, 012057. | 0.4 | 4 |
| 100 | Angular distribution of highly charged ions transmitted through metallic microcapillaries. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2003, 129, 195-200. | 1.7 | 3 |
| 101 | Electron emission from surfaces induced by HCI and lasers. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2005, 235, 425-430. | 1.4 | 3 |
| 102 | Excitation energy and pair correlation function of trions near an LiF surface. <i>Physical Review B</i> , 2008, 78, . | 3.2 | 3 |
| 103 | Influence of inelastic processes on fast-atom-surface diffraction. <i>Journal of Physics: Conference Series</i> , 2008, 133, 012014. | 0.4 | 3 |
| 104 | Observation of a threshold in potential sputtering of LiF surfaces. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2000, 164-165, 517-521. | 1.4 | 2 |
| 105 | Vibrational properties of boron nitride nanotubes: Effects of finite length and bundling. , 2003, 5118, 354. | | 2 |
| 106 | Towards an <i>ab initio</i> description of the charge transfer between a proton and a lithium fluoride surface: A quantum chemistry approach. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2013, 317, 18-22. | 1.4 | 2 |
| 107 | Excitonic-insulator instability and Peierls distortion in one-dimensional semimetals. <i>Physical Review B</i> , 2022, 105, . | 3.2 | 2 |
| 108 | Raman spectroscopy on single- and few-layer graphene. <i>AIP Conference Proceedings</i> , 2007, , . | 0.4 | 1 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|------|-----------|
| 109 | Strong Exciton-Coherent Phonon Coupling In Single-Layer MoS ₂ . , 2019, , . | | 1 |
| 110 | Fundamental studies in nanosciences at the Institute of Electronics, Microelectronics, and Nanotechnology (IEMN). International Journal of Nanotechnology, 2008, 5, 631. | 0.2 | 0 |
| 111 | Materials science in Luxembourg. Nature Materials, 2014, 13, 219-222. | 27.5 | 0 |
| 112 | Real-time observation of the intravalley spin-flip process in single-layer WS ₂ . EPJ Web of Conferences, 2019, 205, 05012. | 0.3 | 0 |
| 113 | The impact of strain on growth mode in chemical vapor deposited mono- and few-layer MoS ₂ . AIP Advances, 2022, 12, 065010. | 1.3 | 0 |