# Li Yang

## List of Publications by Year in Descending Order



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|---|---|---|---|
| 108 papers | 14,614 citations | 51 h-index | 114 g-index |
| 114 ext. papers | 16,625 ext. citations | 8.9 avg, IF | 6.98 L-index |

| # | Paper | IF | Citations |
|---|---|---|---|
| 108 | PT-Symmetry-Enabled Spin Circular Photogalvanic Effect in Antiferromagnetic Insulators. *Physical Review Letters*, **2021**, 127, 207402 | 7.4 | 3 |
| 107 | Photonic Platforms Using In-Plane Optical Anisotropy of Tin (II) Selenide and Black Phosphorus. *Advanced Photonics Research*, **2021**, 2, 2100176 | 1.9 | 0 |
| 106 | Interlayer Exciton Transport in MoSe/WSe Heterostructures. *ACS Nano*, **2021**, 15, 1539-1547 | 16.7 | 21 |
| 105 | Photodegradation Protection in 2D In-Plane Heterostructures Revealed by Hyperspectral Nanoimaging: The Role of Nanointerface 2D Alloys. *ACS Nano*, **2021**, 15, 2447-2457 | 16.7 | 5 |
| 104 | Switchable Enhanced Spin Photocurrent in Rashba and Cubic Dresselhaus Ferroelectric Semiconductors. *Nano Letters*, **2021**, 21, 2265-2271 | 11.5 | 6 |
| 103 | Mechanism of Extreme Optical Nonlinearities in Spiral WS above the Bandgap. *Nano Letters*, **2020**, 20, 2667-2673 | 11.5 | 14 |
| 102 | Nonreciprocal second-harmonic generation in few-layer chromium triiodide. *Physical Review B*, **2020**, 102, | 3.3 | 5 |
| 101 | Raman response and transport properties of tellurium atomic chains encapsulated in nanotubes. *Nature Electronics*, **2020**, 3, 141-147 | 28.4 | 54 |
| 100 | Widely tunable mid-infrared light emission in thin-film black phosphorus. *Science Advances*, **2020**, 6, eaay6134 | 14.3 | 42 |
| 99 | First-principles Studies of Second-Order Nonlinear Optical Properties of Organic-Inorganic Hybrid Halide Perovskites. *Physical Review Applied*, **2020**, 13, | 4.3 | 10 |
| 98 | Excited-State Properties of Thin Silicon Nanowires **2020**, 617-633 | | |
| 97 | Tunable Second Harmonic Generation in Twisted Bilayer Graphene. *Matter*, **2020**, 3, 1361-1376 | 12.7 | 15 |
| 96 | Artificial Multiferroics and Enhanced Magnetoelectric Effect in van der Waals Heterostructures. *ACS Applied Materials & Interfaces*, **2020**, 12, 6243-6249 | 9.5 | 35 |
| 95 | Modulation Doping via a Two-Dimensional Atomic Crystalline Acceptor. *Nano Letters*, **2020**, 20, 8446-8452 | 11.5 | 16 |
| 94 | Giant photogalvanic effect and second-harmonic generation in magnetic axion insulators. *Physical Review B*, **2020**, 102, | 3.3 | 13 |
| 93 | Meron-like topological spin defects in monolayer CrCl. *Nature Communications*, **2020**, 11, 4724 | 17.4 | 20 |
| 92 | Modulated interlayer exciton properties in a two-dimensional moir□crystal. *Physical Review B*, **2019**, 100, | 3.3 | 22 |

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| 91 | Emerging photoluminescence from the dark-exciton phonon replica in monolayer WSe. *Nature Communications*, **2019**, 10, 2469 | 17.4 | 57 |
| 90 | Noncollinearity-modulated Electronic Properties of Monolayer CrI3. *Physical Review Applied*, **2019**, 11, | 4.3 | 1 |
| 89 | Black phosphorus and its isoelectronic materials. *Nature Reviews Physics*, **2019**, 1, 306-317 | 23.6 | 107 |
| 88 | Evidence for moir excitons in van der Waals heterostructures. *Nature*, **2019**, 567, 71-75 | 50.4 | 538 |
| 87 | Giant gate-tunable bandgap renormalization and excitonic effects in a 2D semiconductor. *Science Advances*, **2019**, 5, eaaw2347 | 14.3 | 37 |
| 86 | Optically Driven Magnetic Phase Transition of Monolayer RuCl. *Nano Letters*, **2019**, 19, 7673-7680 | 11.5 | 18 |
| 85 | Curie temperature of emerging two-dimensional magnetic structures. *Physical Review B*, **2019**, 100, | 3.3 | 21 |
| 84 | Excited-State Properties of Thin Silicon Nanowires **2019**, 1-18 | | |
| 83 | Ultrahigh Electrical Conductivity of Graphene Embedded in Metals. *Advanced Functional Materials*, **2019**, 29, 1806792 | 15.6 | 61 |
| 82 | Theoretical investigation of the vertical dielectric screening dependence on defects for few-layered van der Waals materials.. *RSC Advances*, **2019**, 9, 40309-40315 | 3.7 | 7 |
| 81 | Raman Spectra Shift of Few-Layer IV-VI 2D Materials. *Scientific Reports*, **2019**, 9, 19826 | 4.9 | 18 |
| 80 | Off-Plane Dielectric Screening of Few-Layer Graphdiyne and Its Family. *ACS Applied Materials & Interfaces*, **2019**, 11, 2571-2578 | 9.5 | 10 |
| 79 | Direct Observation of Semiconductor-Metal Phase Transition in Bilayer Tungsten Diselenide Induced by Potassium Surface Functionalization. *ACS Nano*, **2018**, 12, 2070-2077 | 16.7 | 32 |
| 78 | Microsecond Valley Lifetime of Defect-Bound Excitons in Monolayer WSe_{2}. *Physical Review Letters*, **2018**, 121, 057403 | 7.4 | 69 |
| 77 | Dependence of excited-state properties of tellurium on dimensionality: From bulk to two dimensions to one dimensions. *Physical Review B*, **2018**, 98, | 3.3 | 19 |
| 76 | High-pressure investigations on the semi-Heusler compound CuMnSb. *Physical Review B*, **2018**, 98, | 3.3 | 2 |
| 75 | Ligand-field helical luminescence in a 2D ferromagnetic insulator. *Nature Physics*, **2018**, 14, 277-281 | 16.2 | 192 |
| 74 | Excited-State Properties of Thin Silicon Nanowires **2018**, 1-18 | | 0 |

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|---|---|---|---|
| 73 | Edge-insensitive magnetism and half metallicity in graphene nanoribbons. *Journal of Physics Condensed Matter*, **2018**, 30, 48LT01 | 1.8 | 2 |
| 72 | Enhanced doping effect on tuning structural phases of monolayer antimony. *Applied Physics Letters*, **2018**, 112, 213104 | 3.4 | 11 |
| 71 | Anomalous Above-Gap Photoexcitations and Optical Signatures of Localized Charge Puddles in Monolayer Molybdenum Disulfide. *ACS Nano*, **2017**, 11, 2115-2123 | 16.7 | 25 |
| 70 | Tellurization Velocity-Dependent Metallic-Semiconducting-Metallic Phase Evolution in Chemical Vapor Deposition Growth of Large-Area, Few-Layer MoTe. *ACS Nano*, **2017**, 11, 1964-1972 | 16.7 | 72 |
| 69 | Efficient electrical control of thin-film black phosphorus bandgap. *Nature Communications*, **2017**, 8, 14474 | 17.4 | 183 |
| 68 | Schottky Barriers in Bilayer Phosphorene Transistors. *ACS Applied Materials & Interfaces*, **2017**, 9, 12694-12705 | 9.5 | 81 |
| 67 | Renormalization of the quasiparticle band gap in doped two-dimensional materials from many-body calculations. *Physical Review B*, **2017**, 96, | 3.3 | 45 |
| 66 | Vertical dielectric screening of few-layer van der Waals semiconductors. *Nanoscale*, **2017**, 9, 14540-14547 | 7.7 | 15 |
| 65 | Off-plane polarization ordering in metal chalcogen diphosphates from bulk to monolayer. *Physical Review B*, **2017**, 96, | 3.3 | 42 |
| 64 | Interlayer Coupling and Gate-Tunable Excitons in Transition Metal Dichalcogenide Heterostructures. *Nano Letters*, **2017**, 17, 7809-7813 | 11.5 | 65 |
| 63 | Widely tunable black phosphorus mid-infrared photodetector. *Nature Communications*, **2017**, 8, 1672 | 17.4 | 191 |
| 62 | Stark effect of doped two-dimensional transition metal dichalcogenides. *Applied Physics Letters*, **2017**, 111, 193104 | 3.4 | 7 |
| 61 | Quasiparticle band gaps and optical spectra of strained monolayer transition-metal dichalcogenides. *Physical Review B*, **2017**, 96, | 3.3 | 15 |
| 60 | Ferroelectricity and Phase Transitions in Monolayer Group-IV Monochalcogenides. *Physical Review Letters*, **2016**, 117, 097601 | 7.4 | 309 |
| 59 | Interfacial Properties of Monolayer and Bilayer MoS2 Contacts with Metals: Beyond the Energy Band Calculations. *Scientific Reports*, **2016**, 6, 21786 | 4.9 | 186 |
| 58 | Low-symmetry two-dimensional materials for electronic and photonic applications. *Nano Today*, **2016**, 11, 763-777 | 17.9 | 85 |
| 57 | Wedge energy bands of monolayer black phosphorus: a first-principles study. *Journal of Physics Condensed Matter*, **2016**, 28, 305301 | 1.8 | |
| 56 | A locally preferred structure characterises all dynamical regimes of a supercooled liquid. *Philosophical Magazine*, **2016**, 96, 1212-1227 | 1.6 | 43 |

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| 55 | Standing and sitting adlayers in atomic layer deposition of ZnO. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2016**, 34, 01A143 | 2.9 | 17 |
| 54 | Spontaneous ripple formation in phosphorene: electronic properties and possible applications. *Nanoscale*, **2016**, 8, 11827-33 | 7.7 | 9 |
| 53 | Dynamical Excitonic Effects in Doped Two-Dimensional Semiconductors. *Nano Letters*, **2016**, 16, 5568-73 | 11.5 | 56 |
| 52 | Strain-controlled fundamental gap and structure of bulk black phosphorus. *Physical Review B*, **2016**, 94, | 3.3 | 31 |
| 51 | Tunable Optical Excitations in Twisted Bilayer Graphene Form Strongly Bound Excitons. *Nano Letters*, **2015**, 15, 5932-7 | 11.5 | 42 |
| 50 | Highly anisotropic and robust excitons in monolayer black phosphorus. *Nature Nanotechnology*, **2015**, 10, 517-21 | 28.7 | 999 |
| 49 | Quantum oscillations in a two-dimensional electron gas in black phosphorus thin films. *Nature Nanotechnology*, **2015**, 10, 608-13 | 28.7 | 245 |
| 48 | Highly Conducting, n-Type Bi12O15Cl6 Nanosheets with Superlattice-like Structure. *Chemistry of Materials*, **2015**, 27, 7710-7718 | 9.6 | 44 |
| 47 | Interlayer interactions in anisotropic atomically thin rhenium diselenide. *Nano Research*, **2015**, 8, 3651-3661 | 10 | 133 |
| 46 | Strain-tunable topological quantum phase transition in buckled honeycomb lattices. *Applied Physics Letters*, **2015**, 106, 183107 | 3.4 | 21 |
| 45 | Topologically protected Dirac cones in compressed bulk black phosphorus. *Physical Review B*, **2015**, 91, | 3.3 | 74 |
| 44 | Quasiparticle band gaps, excitonic effects, and anisotropic optical properties of the monolayer distorted 1T diamond-chain structures ReS2 and ReSe2. *Physical Review B*, **2015**, 92, | 3.3 | 103 |
| 43 | Giant piezoelectricity of monolayer group IV monochalcogenides: SnSe, SnS, GeSe, and GeS. *Applied Physics Letters*, **2015**, 107, 173104 | 3.4 | 418 |
| 42 | Remarkable anisotropic phonon response in uniaxially strained few-layer black phosphorus. *Nano Research*, **2015**, 8, 3944-3953 | 10 | 58 |
| 41 | Quasiparticle energies, excitons, and optical spectra of few-layer black phosphorus. *2D Materials*, **2015**, 2, 044014 | 5.9 | 55 |
| 40 | Carrier plasmon induced nonlinear band gap renormalization in two-dimensional semiconductors. *Physical Review Letters*, **2015**, 114, 063001 | 7.4 | 95 |
| 39 | Anomalous thermal contraction of the first coordination shell in metallic alloy liquids. *Journal of Chemical Physics*, **2014**, 140, 044505 | 3.9 | 29 |
| 38 | Strain-engineering the anisotropic electrical conductance of few-layer black phosphorus. *Nano Letters*, **2014**, 14, 2884-9 | 11.5 | 984 |

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| 37 | Enhanced thermoelectric efficiency via orthogonal electrical and thermal conductances in phosphorene. *Nano Letters*, **2014**, 14, 6393-9 | 11.5 | 571 |
| 36 | Temperature effect on optical spectra of monolayer molybdenum disulfide. *Applied Physics Letters*, **2014**, 104, 193110 | 3.4 | 41 |
| 35 | Layer-controlled band gap and anisotropic excitons in few-layer black phosphorus. *Physical Review B*, **2014**, 89, | 3.3 | 1650 |
| 34 | Van Hove singularities and excitonic effects in the optical conductivity of twisted bilayer graphene. *Nano Letters*, **2014**, 14, 3353-7 | 11.5 | 99 |
| 33 | Scaling laws for the band gap and optical response of phosphorene nanoribbons. *Physical Review B*, **2014**, 89, | 3.3 | 226 |
| 32 | Lattice vibrational modes and Raman scattering spectra of strained phosphorene. *Applied Physics Letters*, **2014**, 105, 083120 | 3.4 | 140 |
| 31 | Strongly bound excitons in gapless two-dimensional structures. *Physical Review B*, **2014**, 90, | 3.3 | 12 |
| 30 | Exciton spectra in two-dimensional graphene derivatives. *Physical Review B*, **2013**, 88, | 3.3 | 28 |
| 29 | Electronic structure and quasiparticle bandgap of silicene structures. *Applied Physics Letters*, **2013**, 102, 133106 | 3.4 | 68 |
| 28 | Anomalous structural evolution and liquid fragility signatures in Cu□r and Cu□f liquids and glasses. *Acta Materialia*, **2013**, 61, 7411-7421 | 8.4 | 17 |
| 27 | Quasiparticle band-edge energy and band offsets of monolayer of molybdenum and tungsten chalcogenides. *Applied Physics Letters*, **2013**, 103, 042106 | 3.4 | 119 |
| 26 | Connectivity of icosahedral network and a dramatically growing static length scale in Cu-Zr binary metallic glasses. *Physical Review B*, **2013**, 87, | 3.3 | 119 |
| 25 | Quasiparticle energy and optical excitations of gated bilayer graphene. *Physical Review B*, **2012**, 86, | 3.3 | 7 |
| 24 | Tensile strain switched ferromagnetism in layered NbS2 and NbSe2. *ACS Nano*, **2012**, 6, 9727-36 | 16.7 | 265 |
| 23 | Many-electron effects on optical absorption spectra of strained graphene. *Journal of Materials Research*, **2012**, 27, 403-409 | 2.5 | 8 |
| 22 | Electronic Structure and Optical Absorption of Fluorographene. *Materials Research Society Symposia Proceedings*, **2011**, 1370, 37 | | 14 |
| 21 | Excitonic effects on optical absorption spectra of doped graphene. *Nano Letters*, **2011**, 11, 3844-7 | 11.5 | 65 |
| 20 | Excitons in intrinsic and bilayer graphene. *Physical Review B*, **2011**, 83, | 3.3 | 66 |

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| 19 | Strain engineering of band offsets in Si/Ge core-shell nanowires. *Applied Physics Letters*, **2011**, 98, 093114 | 3.4 | 23 |
| 18 | Lattice vibrational modes and their frequency shifts in semiconductor nanowires. *Nano Letters*, **2011**, 11, 2618-21 | 11.5 | 17 |
| 17 | First-principles study of the optical absorption spectra of electrically gated bilayer graphene. *Physical Review B*, **2010**, 81, | 3.3 | 24 |
| 16 | Excitonic effects on the optical response of graphene and bilayer graphene. *Physical Review Letters*, **2009**, 103, 186802 | 7.4 | 509 |
| 15 | Landau levels and quantum Hall effect in graphene superlattices. *Physical Review Letters*, **2009**, 103, 046808 | 7.4 | 125 |
| 14 | Graphene at the edge: stability and dynamics. *Science*, **2009**, 323, 1705-8 | 33.3 | 1042 |
| 13 | Anisotropic behaviours of massless Dirac fermions in graphene under periodic potentials. *Nature Physics*, **2008**, 4, 213-217 | 16.2 | 531 |
| 12 | Electron beam supercollimation in graphene superlattices. *Nano Letters*, **2008**, 8, 2920-4 | 11.5 | 223 |
| 11 | New generation of massless Dirac fermions in graphene under external periodic potentials. *Physical Review Letters*, **2008**, 101, 126804 | 7.4 | 316 |
| 10 | Quantum confinement effect in Si/Ge core-shell nanowires: First-principles calculations. *Physical Review B*, **2008**, 77, | 3.3 | 64 |
| 9 | Magnetic edge-state excitons in zigzag graphene nanoribbons. *Physical Review Letters*, **2008**, 101, 186401 | 7.4 | 125 |
| 8 | Excitonic effects in the optical spectra of graphene nanoribbons. *Nano Letters*, **2007**, 7, 3112-5 | 11.5 | 225 |
| 7 | Quasiparticle energies and band gaps in graphene nanoribbons. *Physical Review Letters*, **2007**, 99, 186801 | 7.4 | 937 |
| 6 | Size and orientation dependence in the electronic properties of silicon nanowires. *Physical Review B* , **2007**, 76, | 3.3 | 93 |
| 5 | Enhanced electron-hole interaction and optical absorption in a silicon nanowire. *Physical Review B*, **2007**, 75, | 3.3 | 57 |
| 4 | First-principles study of NaAlH4 and Na3AlH6 complex hydrides. *Physical Review B*, **2004**, 70, | 3.3 | 78 |
| 3 | Quantum confinement and electronic properties of silicon nanowires. *Physical Review Letters*, **2004**, 92, 236805 | 7.4 | 438 |
| 2 | Thermodynamic second law in irreversible processes of chaotic few-body systems. *Physical Review E*, **2001**, 64, 045102 | 2.4 | 4 |

1 Emerging Optical In-Memory Computing Sensor Synapses Based on Low-Dimensional Nanomaterials for Neuromorphic Networks. *Advanced Intelligent Systems*,2100236 6 2