# Hongyi Yu

## List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/4369093/publications.pdf

Version: 2024-02-01

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|---|---|---|---|
| 55 papers | 9,602 citations | 186265 28 h-index | 175258 52 g-index |
| 55 all docs | 55 docs citations | 55 times ranked | 9186 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Valleytronics in 2D materials. Nature Reviews Materials, 2016, 1, . | 48.7 | 1,712 |
| 2 | Electrical control of neutral and charged excitons in a monolayer semiconductor. Nature Communications, 2013, 4, 1474. | 12.8 | 1,246 |
| 3 | Optical generation of excitonic valley coherence in monolayer WSe2. Nature Nanotechnology, 2013, 8, 634-638. | 31.5 | 1,210 |
| 4 | Signatures of moirÃ©-trapped valley excitons in MoSe2/WSe2 heterobilayers. Nature, 2019, 567, 66-70. | 27.8 | 842 |
| 5 | Valley-polarized exciton dynamics in a 2D semiconductor heterostructure. Science, 2016, 351, 688-691. | 12.6 | 606 |
| 6 | MoirÃ© excitons: From programmable quantum emitter arrays to spin-orbitâ€“coupled artificial lattices. Science Advances, 2017, 3, e1701696. | 10.3 | 427 |
| 7 | Interlayer valley excitons in heterobilayers of transition metal dichalcogenides. Nature Nanotechnology, 2018, 13, 1004-1015. | 31.5 | 373 |
| 8 | Magnetoelectric effects and valley-controlled spin quantum gates in transition metal dichalcogenide bilayers. Nature Communications, 2013, 4, 2053. | 12.8 | 302 |
| 9 | Spinâ€“layer locking effects in optical orientation of exciton spin in bilayer WSe2. Nature Physics, 2014, 10, 130-134. | 16.7 | 297 |
| 10 | Dirac cones and Dirac saddle points of bright excitons in monolayer transition metal dichalcogenides. Nature Communications, 2014, 5, 3876. | 12.8 | 262 |
| 11 | Valley excitons in two-dimensional semiconductors. National Science Review, 2015, 2, 57-70. | 9.5 | 254 |
| 12 | Interlayer Exciton Optoelectronics in a 2D Heterostructure pâ€“n Junction. Nano Letters, 2017, 17, 638-643. | 9.1 | 253 |
| 13 | Topological mosaics in moirÃ© superlattices of vanÂder Waals heterobilayers. Nature Physics, 2017, 13, 356-362. | 16.7 | 205 |
| 14 | Anomalous Light Cones and Valley Optical Selection Rules of Interlayer Excitons in Twisted Heterobilayers. Physical Review Letters, 2015, 115, 187002. | 7.8 | 194 |
| 15 | Excitonic luminescence upconversion in a two-dimensional semiconductor. Nature Physics, 2016, 12, 323-327. | 16.7 | 187 |
| 16 | Interlayer coupling in commensurate and incommensurate bilayer structures of transition-metal dichalcogenides. Physical Review B, 2017, 95, . | 3.2 | 128 |
| 17 | Valley phonons and exciton complexes in a monolayer semiconductor. Nature Communications, 2020, 11, 618. | 12.8 | 128 |
| 18 | Brightened spin-triplet interlayer excitons and optical selection rules in van der Waals heterobilayers. 2D Materials, 2018, 5, 035021. | 4.4 | 107 |

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|---|---|---|---|
| 19 | Directional interlayer spin-valley transfer in two-dimensional heterostructures. Nature Communications, 2016, 7, 13747. | 12.8 | 106 |
| 20 | Unusual Excitonâ€“Phonon Interactions at van der Waals Engineered Interfaces. Nano Letters, 2017, 17, 1194-1199. | 9.1 | 81 |
| 21 | Nonlinear Valley and Spin Currents from Fermi Pocket Anisotropy in 2D Crystals. Physical Review Letters, 2014, 113, 156603. | 7.8 | 80 |
| 22 | Spin-valley qubit in nanostructures of monolayer semiconductors: Optical control and hyperfine interaction. Physical Review B, 2016, 93, . | 3.2 | 56 |
| 23 | Observation of intervalley quantum interference in epitaxial monolayer tungsten diselenide. Nature Communications, 2015, 6, 8180. | 12.8 | 55 |
| 24 | Phonon-assisted oscillatory exciton dynamics in monolayer MoSe2. Npj 2D Materials and Applications, 2017, 1, . | 7.9 | 50 |
| 25 | Giant magnetic field from moirÃ© induced Berry phase in homobilayer semiconductors. National Science Review, 2020, 7, 12-20. | 9.5 | 40 |
| 26 | Many-body effects in nonlinear optical responses of 2D layered semiconductors. 2D Materials, 2017, 4, 025024. | 4.4 | 35 |
| 27 | Realization of Valley and Spin Pumps by Scattering at Nonmagnetic Disorders. Physical Review Letters, 2017, 118, 096602. | 7.8 | 30 |
| 28 | Room-Temperature Valley Polarization in Atomically Thin Semiconductors via Chalcogenide Alloying. ACS Nano, 2020, 14, 9873-9883. | 14.6 | 30 |
| 29 | Intrinsic donor-bound excitons in ultraclean monolayer semiconductors. Nature Communications, 2021, 12, 871. | 12.8 | 29 |
| 30 | Interface excitons at lateral heterojunctions in monolayer semiconductors. Physical Review B, 2018, 98, . | 3.2 | 28 |
| 31 | Population Pulsation Resonances of Excitons in Monolayer<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>MoSe</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math>Sub-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>1</mml:mn><mml:mtext>â€‰</mml:mtext><mml:mtext>â€‰</mml:mtext><mml:mi>Î¼</mml:mi></mml:mrow></mml:math>Physical Review Letters, 2015, 114, 137402. | 7.8 | 25 |
| 32 | Nanoscale Trapping of Interlayer Excitons in a 2D Semiconductor Heterostructure. Nano Letters, 2021, 21, 5641-5647. | 9.1 | 25 |
| 33 | Optical selection rules for excitonic Rydberg series in the massive Dirac cones of hexagonal two-dimensional materials. Physical Review B, 2017, 95, . | 3.2 | 23 |
| 34 | Symmetry-Controlled Electronâ€“Phonon Interactions in van der Waals Heterostructures. ACS Nano, 2019, 13, 552-559. | 14.6 | 20 |
| 35 | Temperature dependent moirÃ© trapping of interlayer excitons in MoSe2-WSe2 heterostructures. Npj 2D Materials and Applications, 2021, 5, . | 7.9 | 20 |
| 36 | An ultrafast terahertz probe of the transient evolution of the charged and neutral phase of photo-excited electron-hole gas in a monolayer semiconductor. 2D Materials, 2016, 3, 014001. | 4.4 | 18 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Interferences of electrostatic moirÃ© potentials and bichromatic superlattices of electrons and excitons in transition metal dichalcogenides. 2D Materials, 2021, 8, 025007. | 4.4 | 17 |
| 38 | Magnetization without polarization. Nature Materials, 2017, 16, 876-877. | 27.5 | 14 |
| 39 | Electrically tunable topological transport of moirÃ© polaritons. Science Bulletin, 2020, 65, 1555-1562. | 9.0 | 14 |
| 40 | Strong MoirÃ© Excitons in High-Angle Twisted Transition Metal Dichalcogenide Homobilayers with Robust Commensuration. Nano Letters, 2022, 22, 203-210. | 9.1 | 12 |
| 41 | Luminescence Anomaly of Dipolar Valley Excitons in Homobilayer Semiconductor MoirÃ© Superlattices. Physical Review X, 2021, 11, . | 8.9 | 10 |
| 42 | Generating coherent states of entangled spins. Physical Review A, 2011, 84, . | 2.5 | 8 |
| 43 | Deterministic preparation of Dicke states of donor nuclear spins in silicon by cooperative pumping. Physical Review B, 2012, 85, . | 3.2 | 7 |
| 44 | Entanglement detection and quantum metrology by Raman photon-diffraction imaging. Physical Review A, 2013, 87, . | 2.5 | 7 |
| 45 | Non-adiabatic Hall effect at Berry curvature hot spot. 2D Materials, 2020, 7, 045004. | 4.4 | 6 |
| 46 | Monolayer Semiconductor Auger Detector. Nano Letters, 2020, 20, 5538-5543. | 9.1 | 5 |
| 47 | Probing the exciton k-space dynamics in monolayer tungsten diselenides. 2D Materials, 2019, 6, 025035. | 4.4 | 4 |
| 48 | Nonlinear optics in the electron-hole continuum in 2D semiconductors: two-photon transition, second harmonic generation and valley current injection. Science Bulletin, 2019, 64, 1036-1043. | 9.0 | 4 |
| 49 | Chiral Excitonics in Monolayer Semiconductors on Patterned Dielectrics. Physical Review Letters, 2022, 128, . | 7.8 | 4 |
| 50 | Waveguiding valley excitons in monolayer transition metal dichalcogenides by dielectric interfaces in the substrate. Physical Review B, 2021, 104, . | 3.2 | 3 |
| 51 | Valley-Spin Physics in 2D Semiconducting Transition Metal Dichalcogenides. , 2017, , 279-294. | | 1 |
| 52 | Valley excitons: From monolayer semiconductors to moirÃ© superlattices. Semiconductors and Semimetals, 2020, 105, 269-303. | 0.7 | 1 |
| 53 | MoirÃ© excitons at line defects in transition metal dichalcogenides heterobilayers. Comptes Rendus Physique, 2021, 22, 53-68. | 0.9 | 1 |
| 54 | Nanometrology of field gradient using donor spins in silicon. Journal of Physics Condensed Matter, 2018, 30, 425301. | 1.8 | 0 |

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|---|---|---|---|
| 55 | Nonlinear Spectroscopy of Valley Excitons in 2D Semiconductors and Heterostructures. , 2016, , . | | 0 |