

Hongyi Yu

List of Publications by Year in descending order

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docs citations

55
times ranked

9186
citing authors

#	ARTICLE	IF	CITATIONS
1	Strong Moiré Excitons in High-Angle Twisted Transition Metal Dichalcogenide Homobilayers with Robust Commensuration. Nano Letters, 2022, 22, 203-210.	9.1	12
2	Chiral Excitonics in Monolayer Semiconductors on Patterned Dielectrics. Physical Review Letters, 2022, 128, .	7.8	4
3	Intrinsic donor-bound excitons in ultraclean monolayer semiconductors. Nature Communications, 2021, 12, 871.	12.8	29
4	Moiré excitons at line defects in transition metal dichalcogenides heterobilayers. Comptes Rendus Physique, 2021, 22, 53-68.	0.9	1
5	Luminescence Anomaly of Dipolar Valley Excitons in Homobilayer Semiconductor Moiré Superlattices. Physical Review X, 2021, 11, .	8.9	10
6	Nanoscale Trapping of Interlayer Excitons in a 2D Semiconductor Heterostructure. Nano Letters, 2021, 21, 5641-5647.	9.1	25
7	Temperature dependent moiré trapping of interlayer excitons in MoSe ₂ -WSe ₂ heterostructures. Npj 2D Materials and Applications, 2021, 5, .	7.9	20
8	Interferences of electrostatic moiré potentials and bichromatic superlattices of electrons and excitons in transition metal dichalcogenides. 2D Materials, 2021, 8, 025007.	4.4	17
9	Waveguiding valley excitons in monolayer transition metal dichalcogenides by dielectric interfaces in the substrate. Physical Review B, 2021, 104, .	3.2	3
10	Giant magnetic field from moiré induced Berry phase in homobilayer semiconductors. National Science Review, 2020, 7, 12-20.	9.5	40
11	Valley excitons: From monolayer semiconductors to moiré superlattices. Semiconductors and Semimetals, 2020, 105, 269-303.	0.7	1
12	Room-Temperature Valley Polarization in Atomically Thin Semiconductors <i>via</i> Chalcogenide Alloying. ACS Nano, 2020, 14, 9873-9883.	14.6	30
13	Electrically tunable topological transport of moiré polaritons. Science Bulletin, 2020, 65, 1555-1562.	9.0	14
14	Monolayer Semiconductor Auger Detector. Nano Letters, 2020, 20, 5538-5543.	9.1	5
15	Valley phonons and exciton complexes in a monolayer semiconductor. Nature Communications, 2020, 11, 618.	12.8	128
16	Non-adiabatic Hall effect at Berry curvature hot spot. 2D Materials, 2020, 7, 045004.	4.4	6
17	Probing the exciton k-space dynamics in monolayer tungsten diselenides. 2D Materials, 2019, 6, 025035.	4.4	4
18	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

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19	Signatures of moiré-trapped valley excitons in MoSe ₂ /WSe ₂ heterobilayers. <i>Nature</i> , 2019, 567, 66-70.	27.8	842
20	Symmetry-Controlled Electron-Phonon Interactions in van der Waals Heterostructures. <i>ACS Nano</i> , 2019, 13, 552-559.	14.6	20
21	Brightened spin-triplet interlayer excitons and optical selection rules in van der Waals heterobilayers. <i>2D Materials</i> , 2018, 5, 035021.	4.4	107
22	Nanometrology of field gradient using donor spins in silicon. <i>Journal of Physics Condensed Matter</i> , 2018, 30, 425301.	1.8	0
23	Interface excitons at lateral heterojunctions in monolayer semiconductors. <i>Physical Review B</i> , 2018, 98, .	3.2	28
24	Interlayer valley excitons in heterobilayers of transition metal dichalcogenides. <i>Nature Nanotechnology</i> , 2018, 13, 1004-1015.	31.5	373
25	Unusual Exciton-Phonon Interactions at van der Waals Engineered Interfaces. <i>Nano Letters</i> , 2017, 17, 1194-1199.	9.1	81
26	Many-body effects in nonlinear optical responses of 2D layered semiconductors. <i>2D Materials</i> , 2017, 4, 025024.	4.4	35
27	Realization of Valley and Spin Pumps by Scattering at Nonmagnetic Disorders. <i>Physical Review Letters</i> , 2017, 118, 096602.	7.8	30
28	Interlayer coupling in commensurate and incommensurate bilayer structures of transition-metal dichalcogenides. <i>Physical Review B</i> , 2017, 95, .	3.2	128
29	Optical selection rules for excitonic Rydberg series in the massive Dirac cones of hexagonal two-dimensional materials. <i>Physical Review B</i> , 2017, 95, .	3.2	23
30	Interlayer Exciton Optoelectronics in a 2D Heterostructure p-n Junction. <i>Nano Letters</i> , 2017, 17, 638-643.	9.1	253
31	Magnetization without polarization. <i>Nature Materials</i> , 2017, 16, 876-877.	27.5	14
32	Valley-Spin Physics in 2D Semiconducting Transition Metal Dichalcogenides. , 2017, , 279-294.		1
33	Phonon-assisted oscillatory exciton dynamics in monolayer MoSe ₂ . <i>Npj 2D Materials and Applications</i> , 2017, 1, .	7.9	50
34	Moiré excitons: From programmable quantum emitter arrays to spin-orbit-coupled artificial lattices. <i>Science Advances</i> , 2017, 3, e1701696.	10.3	427
35	Topological mosaics in moiré superlattices of van der Waals heterobilayers. <i>Nature Physics</i> , 2017, 13, 356-362.	16.7	205
36	Directional interlayer spin-valley transfer in two-dimensional heterostructures. <i>Nature Communications</i> , 2016, 7, 13747.	12.8	106

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37	Spin-valley qubit in nanostructures of monolayer semiconductors: Optical control and hyperfine interaction. <i>Physical Review B</i> , 2016, 93, .	3.2	56
38	Valleytronics in 2D materials. <i>Nature Reviews Materials</i> , 2016, 1, .	48.7	1,712
39	Valley-polarized exciton dynamics in a 2D semiconductor heterostructure. <i>Science</i> , 2016, 351, 688-691.	12.6	606
40	An ultrafast terahertz probe of the transient evolution of the charged and neutral phase of photo-excited electron-hole gas in a monolayer semiconductor. <i>2D Materials</i> , 2016, 3, 014001.	4.4	18
41	Excitonic luminescence upconversion in a two-dimensional semiconductor. <i>Nature Physics</i> , 2016, 12, 323-327.	16.7	187
42	Nonlinear Spectroscopy of Valley Excitons in 2D Semiconductors and Heterostructures. , 2016, , .		0
43	Anomalous Light Cones and Valley Optical Selection Rules of Interlayer Excitons in Twisted Heterobilayers. <i>Physical Review Letters</i> , 2015, 115, 187002.	7.8	194
44	Valley excitons in two-dimensional semiconductors. <i>National Science Review</i> , 2015, 2, 57-70.	9.5	254
45	Population Pulsation Resonances of Excitons in Monolayer MoSe_2 . <i>Physical Review Letters</i> , 2015, 114, 137402.	7.8	25
46	Observation of intervalley quantum interference in epitaxial monolayer tungsten diselenide. <i>Nature Communications</i> , 2015, 6, 8180.	12.8	55
47	Spin-layer locking effects in optical orientation of exciton spin in bilayer WSe_2 . <i>Nature Physics</i> , 2014, 10, 130-134.	16.7	297
48	Nonlinear Valley and Spin Currents from Fermi Pocket Anisotropy in 2D Crystals. <i>Physical Review Letters</i> , 2014, 113, 156603.	7.8	80
49	Dirac cones and Dirac saddle points of bright excitons in monolayer transition metal dichalcogenides. <i>Nature Communications</i> , 2014, 5, 3876.	12.8	262
50	Optical generation of excitonic valley coherence in monolayer WSe_2 . <i>Nature Nanotechnology</i> , 2013, 8, 634-638.	31.5	1,210
51	Entanglement detection and quantum metrology by Raman photon-diffraction imaging. <i>Physical Review A</i> , 2013, 87, .	2.5	7
52	Electrical control of neutral and charged excitons in a monolayer semiconductor. <i>Nature Communications</i> , 2013, 4, 1474.	12.8	1,246
53	Magnetoelectric effects and valley-controlled spin quantum gates in transition metal dichalcogenide bilayers. <i>Nature Communications</i> , 2013, 4, 2053.	12.8	302
54	Deterministic preparation of Dicke states of donor nuclear spins in silicon by cooperative pumping. <i>Physical Review B</i> , 2012, 85, .	3.2	7

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55	Generating coherent states of entangled spins. Physical Review A, 2011, 84, .	2.5	8