

# Hongyi Yu

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

51  
papers

6,685  
citations

25  
h-index

55  
g-index

55  
ext. papers

8,262  
ext. citations

12.7  
avg, IF

5.98  
L-index

#	Paper	IF	Citations
51	Interferences of electrostatic moiré potentials and bichromatic superlattices of electrons and excitons in transition metal dichalcogenides. <i>2D Materials</i> , <b>2021</b> , 8, 025007	5.9	7
50	Luminescence Anomaly of Dipolar Valley Excitons in Homobilayer Semiconductor Moiré Superlattices. <i>Physical Review X</i> , <b>2021</b> , 11,	9.1	2
49	Nanoscale Trapping of Interlayer Excitons in a 2D Semiconductor Heterostructure. <i>Nano Letters</i> , <b>2021</b> , 21, 5641-5647	11.5	3
48	Temperature dependent moiré trapping of interlayer excitons in MoSe <sub>2</sub> -WSe <sub>2</sub> heterostructures. <i>Npj 2D Materials and Applications</i> , <b>2021</b> , 5,	8.8	4
47	Intrinsic donor-bound excitons in ultraclean monolayer semiconductors. <i>Nature Communications</i> , <b>2021</b> , 12, 871	17.4	10
46	Electrically tunable topological transport of moiré polaritons. <i>Science Bulletin</i> , <b>2020</b> , 65, 1555-1562	10.6	6
45	Monolayer Semiconductor Auger Detector. <i>Nano Letters</i> , <b>2020</b> , 20, 5538-5543	11.5	2
44	Valley phonons and exciton complexes in a monolayer semiconductor. <i>Nature Communications</i> , <b>2020</b> , 11, 618	17.4	55
43	Valley excitons: From monolayer semiconductors to moiré superlattices. <i>Semiconductors and Semimetals</i> , <b>2020</b> , 105, 269-303	0.6	
42	Room-Temperature Valley Polarization in Atomically Thin Semiconductors Chalcogenide Alloying. <i>ACS Nano</i> , <b>2020</b> , 14, 9873-9883	16.7	10
41	Giant magnetic field from moiré-induced Berry phase in homobilayer semiconductors.. <i>National Science Review</i> , <b>2020</b> , 7, 12-20	10.8	15
40	Non-adiabatic Hall effect at Berry curvature hot spot. <i>2D Materials</i> , <b>2020</b> , 7, 045004	5.9	5
39	Probing the exciton k-space dynamics in monolayer tungsten diselenides. <i>2D Materials</i> , <b>2019</b> , 6, 025035	5.9	3
38	Nonlinear optics in the electron-hole continuum in 2D semiconductors: two-photon transition, second harmonic generation and valley current injection. <i>Science Bulletin</i> , <b>2019</b> , 64, 1036-1043	10.6	3
37	Signatures of moiré-trapped valley excitons in MoSe <sub>2</sub> /WSe <sub>2</sub> heterobilayers. <i>Nature</i> , <b>2019</b> , 567, 66-70	50.4	486
36	Symmetry-Controlled Electron-Phonon Interactions in van der Waals Heterostructures. <i>ACS Nano</i> , <b>2019</b> , 13, 552-559	16.7	10
35	Brightened spin-triplet interlayer excitons and optical selection rules in van der Waals heterobilayers. <i>2D Materials</i> , <b>2018</b> , 5, 035021	5.9	61

34	Interlayer valley excitons in heterobilayers of transition metal dichalcogenides. <i>Nature Nanotechnology</i> , <b>2018</b> , 13, 1004-1015	28.7	218
33	Nanometrology of field gradient using donor spins in silicon. <i>Journal of Physics Condensed Matter</i> , <b>2018</b> , 30, 425301	1.8	
32	Interface excitons at lateral heterojunctions in monolayer semiconductors. <i>Physical Review B</i> , <b>2018</b> , 98,	3.3	16
31	Unusual Exciton-Phonon Interactions at van der Waals Engineered Interfaces. <i>Nano Letters</i> , <b>2017</b> , 17, 1194-1199	11.5	63
30	Many-body effects in nonlinear optical responses of 2D layered semiconductors. <i>2D Materials</i> , <b>2017</b> , 4, 025024	5.9	28
29	Realization of Valley and Spin Pumps by Scattering at Nonmagnetic Disorders. <i>Physical Review Letters</i> , <b>2017</b> , 118, 096602	7.4	14
28	Interlayer coupling in commensurate and incommensurate bilayer structures of transition-metal dichalcogenides. <i>Physical Review B</i> , <b>2017</b> , 95,	3.3	84
27	Optical selection rules for excitonic Rydberg series in the massive Dirac cones of hexagonal two-dimensional materials. <i>Physical Review B</i> , <b>2017</b> , 95,	3.3	15
26	Interlayer Exciton Optoelectronics in a 2D Heterostructure p-n Junction. <i>Nano Letters</i> , <b>2017</b> , 17, 638-643	11.5	193
25	Valleytronics: Magnetization without polarization. <i>Nature Materials</i> , <b>2017</b> , 16, 876-877	27	10
24	Phonon-assisted oscillatory exciton dynamics in monolayer MoSe <sub>2</sub> . <i>Npj 2D Materials and Applications</i> , <b>2017</b> , 1,	8.8	37
23	Moiré excitons: From programmable quantum emitter arrays to spin-orbit-coupled artificial lattices. <i>Science Advances</i> , <b>2017</b> , 3, e1701696	14.3	247
22	Topological mosaics in moiré superlattices of van der Waals heterobilayers. <i>Nature Physics</i> , <b>2017</b> , 13, 356-362	16.2	131
21	Spin-valley qubit in nanostructures of monolayer semiconductors: Optical control and hyperfine interaction. <i>Physical Review B</i> , <b>2016</b> , 93,	3.3	44
20	Valleytronics in 2D materials. <i>Nature Reviews Materials</i> , <b>2016</b> , 1,	73.3	1045
19	Valley-polarized exciton dynamics in a 2D semiconductor heterostructure. <i>Science</i> , <b>2016</b> , 351, 688-91	33.3	451
18	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> , <b>2016</b> , 3, 014001	5.9	16
17	Excitonic luminescence upconversion in a two-dimensional semiconductor. <i>Nature Physics</i> , <b>2016</b> , 12, 323-327	16.7	135

16	Directional interlayer spin-valley transfer in two-dimensional heterostructures. <i>Nature Communications</i> , <b>2016</b> , 7, 13747	17.4	80
15	Population pulsation resonances of excitons in monolayer MoSe2 with sub-1 eV linewidths. <i>Physical Review Letters</i> , <b>2015</b> , 114, 137402	7.4	20
14	Observation of intervalley quantum interference in epitaxial monolayer tungsten diselenide. <i>Nature Communications</i> , <b>2015</b> , 6, 8180	17.4	49
13	Anomalous Light Cones and Valley Optical Selection Rules of Interlayer Excitons in Twisted Heterobilayers. <i>Physical Review Letters</i> , <b>2015</b> , 115, 187002	7.4	142
12	Valley excitons in two-dimensional semiconductors. <i>National Science Review</i> , <b>2015</b> , 2, 57-70	10.8	188
11	Spin-layer locking effects in optical orientation of exciton spin in bilayer WSe2. <i>Nature Physics</i> , <b>2014</b> , 10, 130-134	16.2	243
10	Nonlinear valley and spin currents from Fermi pocket anisotropy in 2D crystals. <i>Physical Review Letters</i> , <b>2014</b> , 113, 156603	7.4	64
9	Dirac cones and Dirac saddle points of bright excitons in monolayer transition metal dichalcogenides. <i>Nature Communications</i> , <b>2014</b> , 5, 3876	17.4	196
8	Optical generation of excitonic valley coherence in monolayer WSe2. <i>Nature Nanotechnology</i> , <b>2013</b> , 8, 634-8	28.7	1001
7	Entanglement detection and quantum metrology by Raman photon-diffraction imaging. <i>Physical Review A</i> , <b>2013</b> , 87,	2.6	5
6	Electrical control of neutral and charged excitons in a monolayer semiconductor. <i>Nature Communications</i> , <b>2013</b> , 4, 1474	17.4	1007
5	Magnetoelectric effects and valley-controlled spin quantum gates in transition metal dichalcogenide bilayers. <i>Nature Communications</i> , <b>2013</b> , 4, 2053	17.4	246
4	Deterministic preparation of Dicke states of donor nuclear spins in silicon by cooperative pumping. <i>Physical Review B</i> , <b>2012</b> , 85,	3.3	7
3	Generating coherent states of entangled spins. <i>Physical Review A</i> , <b>2011</b> , 84,	2.6	7
2	Valley-Spin Physics in 2D Semiconducting Transition Metal Dichalcogenides 279-294		
1	Moiré excitons at line defects in transition metal dichalcogenides heterobilayers. <i>Comptes Rendus Physique</i> , 1-16	1.4	0