Brightened spin-triplet interlayer excitons and optical s
heterobilayers

2D Materials

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#	Article	IF	Citations
1	Ultrafast dynamics in van der Waals heterostructures. Nature Nanotechnology, 2018, 13, 994-1003.	15.6	392
2	Interface excitons at lateral heterojunctions in monolayer semiconductors. Physical Review B, 2018, 98, .	1.1	28
3	Cavity-control of interlayer excitons in van der Waals heterostructures. Nature Communications, 2019, 10, 3697.	5.8	58
4	Highly valley-polarized singlet and triplet interlayer excitons in van der Waals heterostructure. Physical Review B, 2019, 100, .	1.1	58
5	Valley-polarized exciton currents in a van der Waals heterostructure. Nature Nanotechnology, 2019, 14, 1104-1109.	15.6	116
6	Modulated interlayer exciton properties in a two-dimensional moirÃ© crystal. Physical Review B, 2019, 100, .	1.1	48
7	Identification of spin, valley and moirÃ© quasi-angular momentum of interlayer excitons. Nature Physics, 2019, 15, 1140-1144.	6.5	91
8	Electrically Tunable Excitonâ€“Plasmon Coupling in a WSe₂ Monolayer Embedded in a Plasmonic Crystal Cavity. Nano Letters, 2019, 19, 3543-3547.	4.5	32
9	Separation of valley excitons in a MoS2 monolayer using a subwavelength asymmetric groove array. Nature Photonics, 2019, 13, 180-184.	15.6	147
10	Evidence for moirÃ© excitons in van der Waals heterostructures. Nature, 2019, 567, 71-75.	13.7	933
11	Signatures of moirÃ©-trapped valley excitons in MoSe2/WSe2 heterobilayers. Nature, 2019, 567, 66-70.	13.7	842
12	Polarization switching and electrical control of interlayer excitons in two-dimensional van der Waals heterostructures. Nature Photonics, 2019, 13, 131-136.	15.6	214
13	Giant magnetic field from moirÃ© induced Berry phase in homobilayer semiconductors. National Science Review, 2020, 7, 12-20.	4.6	40
14	Giant Valley-Zeeman Splitting from Spin-Singlet and Spin-Triplet Interlayer Excitons in WSe₂/MoSe₂ Heterostructure. Nano Letters, 2020, 20, 694-700.	4.5	70
15	Dynamic Polarization of Electron Spins Interacting with Nuclei in Semiconductor Nanostructures. Physical Review Letters, 2020, 125, 156801.	2.9	16
16	Interlayer exciton valleytronics in bilayer heterostructures interfaced with a phase gradient metasurface. Applied Physics Letters, 2020, 117, .	1.5	11
17	Valley excitons: From monolayer semiconductors to moirÃ© superlattices. Semiconductors and Semimetals, 2020, 105, 269-303.	0.4	1
18	Theory of moirÃ© localized excitons in transition metal dichalcogenide heterobilayers. Physical Review B, 2020, 102, .	1.1	19

#	Article	IF	Citations
19	Twist-angle-dependent interlayer exciton diffusion in WS2â€"WSe2 heterobilayers. Nature Materials, 2020, 19, 617-623.	13.3	193
20	Electrically tunable topological transport of moirÃ© polaritons. Science Bulletin, 2020, 65, 1555-1562.	4.3	14
21	Exciton <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>g</mml:mi></mml:math> factors of van der Waals heterostructures from first-principles calculations. Physical Review B, 2020, 101, .	1.1	82
22	Indirect Excitons and Trions in MoSe₂/WSe₂ van der Waals Heterostructures. Nano Letters, 2020, 20, 1869-1875.	4.5	63
23	Guide to optical spectroscopy of layered semiconductors. Nature Reviews Physics, 2021, 3, 39-54.	11.9	41
24	Opto-valleytronics in the 2D van der Waals heterostructure. Nano Research, 2021, 14, 1901-1911.	5.8	25
25	Interlayer Exciton Transport in MoSe₂/WSe₂ Heterostructures. ACS Nano, 2021, 15, 1539-1547.	7.3	61
26	MoirÃ© excitons at line defects in transition metal dichalcogenides heterobilayers. Comptes Rendus Physique, 2021, 22, 53-68.	0.3	1
27	Magneto-optics of layered two-dimensional semiconductors and heterostructures: Progress and prospects. Journal of Applied Physics, 2021, 129, .	1.1	21
28	MoirÃ© excitons in MoSe2-WSe2 heterobilayers and heterotrilayers. Nature Communications, 2021, 12, 1656.	5.8	46
29	Interlayer exciton formation, relaxation, and transport in TMD van der Waals heterostructures. Light: Science and Applications, 2021, 10, 72.	7.7	184
30	Electrically controlled emission from singlet and triplet exciton species in atomically thin light-emitting diodes. Physical Review B, 2021, 103, .	1.1	26
31	Tunable interlayer excitons in two-dimensional SiC/MoSSe van der Waals heterostructures. Applied Surface Science, 2021, 546, 149144.	3.1	1
32	Luminescence Anomaly of Dipolar Valley Excitons in Homobilayer Semiconductor MoirÃ© Superlattices. Physical Review X, 2021, 11, .	2.8	10
33	Tuning Valleys and Wave Functions of van der Waals Heterostructures by Varying the Number of Layers: A Firstâ€Principles Study. Small, 2021, 17, e2008153.	5.2	4
34	Thermally induced band hybridization in bilayer-bilayer MoS₂/WS₂ heterostructure*. Chinese Physics B, 2021, 30, 057801.	0.7	4
35	Signatures of moirÃ© trions in WSe2/MoSe2 heterobilayers. Nature, 2021, 594, 46-50.	13.7	77
36	Strong interaction between interlayer excitons and correlated electrons in WSe2/WS2 moirÃ© superlattice. Nature Communications, 2021, 12, 3608.	5.8	63

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37	Light Absorption and Emission Dominated by Trions in the Type-I van der Waals Heterostructures. ACS Photonics, 2021, 8, 1972-1978.	3.2	10
38	Temperature dependent moirÃ© trapping of interlayer excitons in MoSe2-WSe2 heterostructures. Npj 2D Materials and Applications, 2021, 5, .	3.9	20
39	MoirÃ©-Trapped Interlayer Trions in a Charge-Tunable <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mrow><mml:msub><mml:mrow><mml:mi>WSe</mml:mi></mml:mrow><mml:mrow><mml:mn>2< Heterobilayer. Physical Review X, 2021, 11, .	2.8	32
40	Polarized photoluminescence spectroscopy in WS₂, WSe₂ atomic layers and heterostructures by cylindrical vector beams*. Chinese Physics B, 2021, 30, 087802.	0.7	1
41	MoirÃ© trions in MoSe2/WSe2 heterobilayers. Nature Nanotechnology, 2021, 16, 1208-1213.	15.6	50
42	Spinâ€"layer locking of interlayer excitons trapped in moirÃ© potentials. Nature Materials, 2020, 19, 630-636.	13.3	96
43	Flipping exciton angular momentum with chiral phonons in MoSe₂/WSe₂ heterobilayers. 2D Materials, 2020, 7, 041002.	2.0	24
44	MoirÃ© and beyond in transition metal dichalcogenide twisted bilayers. 2D Materials, 2021, 8, 022002.	2.0	33
45	Valley-selective chiral phonon replicas of dark excitons and trions in monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>WS</mml:mi><mml:msub><mml:mi mathvariant="normal">e</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review Research, 2019, 1, .	1.3	69
46	Twist versus heterostrain control of optical properties of moirÃ© exciton minibands. 2D Materials, 2021, 8, 044016.	2.0	11
47	Voltage-controlled long-range propagation of indirect excitons in a van der Waals heterostructure. Physical Review B, 2021, 104, .	1.1	11
48	Dynamic valley polarization in moirÃ© quantum dots. Physical Review B, 2021, 104, .	1.1	5
50	Optical dipole orientation of interlayer excitons in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>MoSe</mml:mi><mml:mn>2</mml:mn></mml:msub><m heterostacks. Physical Review B, 2022, 105, .	1.1	22
51	Quantum photonics with layered 2D materials. Nature Reviews Physics, 2022, 4, 219-236.	11.9	82
52	Identifying the Transition Order in an Artificial Ferroelectric van der Waals Heterostructure. Nano Letters, 2022, 22, 1265-1269.	4.5	23
53	Enhanced Valley Polarization in WS₂/LaMnO₃ Heterostructure. Small, 2022, 18, e2106029.	5.2	8
54	Spatially indirect intervalley excitons in bilayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">W</mml:mi><mml:msub><mml:mi>Se</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math Physical Review B, 2022, 105, .	1.1	11
55	Interlayer exciton complexes in bilayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>MoS</mml:mi><mml:mn>2</mml:mn></mml:msub></m Physical Review B, 2022, 105, .	1.1	10

#	Article	IF	Citations
56	Excitonic devices with van der Waals heterostructures: valleytronics meets twistronics. Nature Reviews Materials, 2022, 7, 449-464.	23.3	94
57	Site-controlled interlayer coupling in WSe2/2D perovskite heterostructure. Science China Materials, 2022, 65, 1337-1344.	3.5	8
58	The twist angle has weak influence on charge separation and strong influence on recombination in the MoS₂/WS₂ bilayer: <i>ab initio</i> quantum dynamics. Journal of Materials Chemistry A, 2022, 10, 8324-8333.	5.2	30
59	Excitons in semiconductor moirÃ© superlattices. Nature Nanotechnology, 2022, 17, 227-238.	15.6	105
60	Tailoring the optical properties of 2D transition metal dichalcogenides by strain. Optical Materials, 2022, 125, 112087.	1.7	9
61	A room-temperature gate-tunable bipolar valley Hall effect in molybdenum disulfide/tungsten diselenide heterostructures. Nature Electronics, 2022, 5, 23-27.	13.1	16
62	Optical absorption of interlayer excitons in transition-metal dichalcogenide heterostructures. Science, 2022, 376, 406-410.	6.0	42
63	Anomalous Magneto-Optical Response and Chiral Interface of Dipolar Excitons at Twisted Valleys. Nano Letters, 2022, 22, 5466-5472.	4.5	2
65	Valley-magnetophonon resonance for interlayer excitons. 2D Materials, 2022, 9, 045016.	2.0	2
66	Valley Relaxation of the MoirÃ© Excitons in a WSe₂/MoSe₂ Heterobilayer. ACS Nano, 2022, 16, 16862-16868.	7.3	3
67	Self-organized quantum dots in marginally twisted MoSe2/WSe2 and MoS2/WS2 bilayers. Npj 2D Materials and Applications, 2022, 6, .	3.9	6
68	Phonon-Fostered Valley Polarization of Interlayer Excitons in van der Waals Heterostructures. Journal of Physical Chemistry C, 2022, 126, 18128-18138.	1.5	3
69	Advance in two-dimensional twisted moirÃ© materials: Fabrication, properties, and applications. Nano Research, 2023, 16, 2579-2596.	5.8	8
70	Position- and momentum-dependent interlayer couplings in two-dimensional semiconductor moirÃ© superlattices. Wuli Xuebao/Acta Physica Sinica, 2023, .	0.2	0
71	Interface engineering in two-dimensional heterostructures towards novel emitters. Journal of Semiconductors, 2023, 44, 011001.	2.0	4
72	Controlling quantum phases of electrons and excitons in moirÃ© superlattices. Journal of Applied Physics, 2023, 133, 080901.	1.1	1
73	Intercell moirÃ© exciton complexes in electron lattices. Nature Materials, 2023, 22, 599-604.	13.3	9
75	Signatures of Electric Field and Layer Separation Effects on the Spin-Valley Physics of MoSe2/WSe2 Heterobilayers: From Energy Bands to Dipolar Excitons. Nanomaterials, 2023, 13, 1187.	1.9	7

#	Article	IF	Citations
76	A photonic integrated chip platform for interlayer exciton valley routing. Journal of Applied Physics, 2023, 133, 123104.	1.1	0
77	Fermi Pressure and Coulomb Repulsion Driven Rapid Hot Plasma Expansion in a van der Waals Heterostructure. Nano Letters, 2023, 23, 4399-4405.	4.5	4
86	All-Optical Valley Polarization Switch via Controlling Spin-Triplet and Spin-Singlet Interlayer Exciton Emission in WS₂/WSe₂ Heterostructure. Nano Letters, 2023, 23, 6581-6587.	4.5	1
93	Excitonic devices in 2D heterostructures. Semiconductors and Semimetals, 2023, , .	0.4	0
94	Excitons in transition metal dichalcogenides (TMDCs). Semiconductors and Semimetals, 2023, , .	0.4	0
101	Interlayer exciton dynamics of transition metal dichalcogenide heterostructures under electric fields. Nano Research, 0, , .	5.8	1
103	Excitonic Complexes in Two-Dimensional Transition Metal Dichalcogenides. Nature Communications, 2023, 14, .	5.8	0