

Ultraflatbands and Shear Solitons in Moiré Patterns of Dichalcogenides

Physical Review Letters

121, 266401

DOI: [10.1103/physrevlett.121.266401](https://doi.org/10.1103/physrevlett.121.266401)

Citation Report

#	ARTICLE	IF	CITATIONS
1	Interface Engineering of Band Evolution and Transport Properties of Bilayer WSe ₂ under Different Electric Fields. Journal of Physical Chemistry C, 2019, 123, 19812-19819.	1.5	4
2	Multiflat Bands and Strong Correlations in Twisted Bilayer Boron Nitride: Doping-Induced Correlated Insulator and Superconductor. Nano Letters, 2019, 19, 4934-4940.	4.5	123
3	Van der Waals Heterostructures for High-Performance Device Applications: Challenges and Opportunities. Advanced Materials, 2020, 32, e1903800.	11.1	304
4	Modulated interlayer exciton properties in a two-dimensional moiré crystal. Physical Review B, 2019, 100, .	1.1	48
5	Electrically Tunable Flat Bands and Magnetism in Twisted Bilayer Graphene. Physical Review Letters, 2019, 123, 096802.	2.9	69
6	Twist Angle mapping in layered WS ₂ by Polarization-Resolved Second Harmonic Generation. Scientific Reports, 2019, 9, 14285.	1.6	31
7	Flat bands in twisted double bilayer graphene. Physical Review B, 2019, 99, .	1.1	142
8	Helical van der Waals crystals with discretized Eshelby twist. Nature, 2019, 570, 358-362.	13.7	91
9	Anisotropic Enhancement of Second-Harmonic Generation in Monolayer and Bilayer MoS ₂ by Integrating with TiO ₂ Nanowires. Nano Letters, 2019, 19, 4195-4204.	4.5	56
10	Strain-Induced Metastable Topological Networks in Laser-Fabricated TaS ₂ Polytype Heterostructures for Nanoscale Devices. ACS Applied Nano Materials, 2019, 2, 3743-3751.	2.4	12
11	Electronic properties and interlayer coupling of twisted MoS ₂ heterobilayers. Physical Review B, 2019, 99, .	1.1	28
12	Kolmogorov-Crespi Potential For Multilayer Transition-Metal Dichalcogenides: Capturing Structural Transformations in Moiré Superlattices. Journal of Physical Chemistry C, 2019, 123, 9770-9778.	1.5	60
13	Topological Insulators in Twisted Transition Metal Dichalcogenide Homobilayers. Physical Review Letters, 2019, 122, 086402.	2.9	333
14	Attractive electron-electron interactions from internal screening in magic-angle twisted bilayer graphene. Physical Review B, 2019, 100, .	1.1	35
15	A First-Principles Study of Electronic Properties of Twisted MoTe ₂ . Physica Status Solidi (B): Basic Research, 2020, 257, 1900412.	0.7	6
16	Indirect-to-direct bandgap transition in bilayer InSe: roles of twistrionics. 2D Materials, 2020, 7, 021002.	2.0	11
17	Tunable Phases of Moiré Excitons in van der Waals Heterostructures. Nano Letters, 2020, 20, 8534-8540.	4.5	74
18	Shedding light on moiré excitons: A first-principles perspective. Science Advances, 2020, 6, .	4.7	50

#	ARTICLE	IF	CITATIONS
19	Switchable Asymmetric Moiré Patterns with Strongly Localized States. Journal of Physical Chemistry Letters, 2020, 11, 9224-9229.	2.1	14
20	Interaction effects and superconductivity signatures in twisted double-bilayer WSe ₂ . Nanoscale Horizons, 2020, 5, 1309-1316.	4.1	68
21	Recent Advances in Twisted Structures of Flatland Materials and Crafting Moiré Superlattices. Advanced Functional Materials, 2020, 30, 2000878.	7.8	41
22	Effect of bilayer stacking on the atomic and electronic structure of twisted double bilayer graphene. Physical Review B, 2020, 102, .	1.1	24
23	Origin and evolution of ultraflat bands in twisted bilayer transition metal dichalcogenides: Realization of triangular quantum dots. Physical Review B, 2020, 102, .	1.1	62
24	Electronic-structure methods for twisted moiré layers. Nature Reviews Materials, 2020, 5, 748-763.	23.3	142
25	Electronic localization in twisted bilayer MoS_2 with small rotation angle. Physical Review B, 2020, 102, .	1.1	27
26	Nanoscale Conductivity Imaging of Correlated Electronic States in WSe_2 Moiré Superlattices. Physical Review Letters, 2020, 125, 186803.	2.9	36
27	Isolated flat bands and physics of mixed dimensions in a 2D covalent organic framework. Nanoscale, 2020, 12, 20279-20286.	2.8	7
28	Lithium intercalation in MoS_2 bilayers and implications for moiré flat bands. Physical Review B, 2020, 102, .	1.1	12
29	Growth and Properties of Dislocated Two-dimensional Layered Materials. MRS Advances, 2020, 5, 3437-3452.	0.5	3
30	Dynamic polarization and plasmons in Kekulé-patterned graphene: Signatures of broken valley degeneracy. Physical Review B, 2020, 102, .	1.1	11
31	Evolution of the electronic structure of twisted bilayer MoSe_2 . Physical Review B, 2020, 102, .	1.1	11
32	Tuning band gaps in twisted bilayer MoS_2 . Physical Review B, 2020, 102, .	1.1	22
33	Tunability of multiple ultraflat bands and effect of spin-orbit coupling in twisted bilayer transition metal dichalcogenides. Physical Review B, 2020, 102, .	1.1	31
34	Stacking Domains and Dislocation Networks in Marginally Twisted Bilayers of Transition Metal Dichalcogenides. Physical Review Letters, 2020, 124, 206101.	2.9	100
35	Twistronics in tensile strained bilayer black phosphorus. Nanoscale, 2020, 12, 12909-12916.	2.8	13
36	Correlated electronic phases in twisted bilayer transition metal dichalcogenides. Nature Materials, 2020, 19, 861-866.	13.3	544

#	ARTICLE	IF	CITATIONS
37	Moiré Pattern-Tuned Electronic Structures of van der Waals Heterostructures. <i>Advanced Functional Materials</i> , 2020, 30, 2002672.	7.8	31
38	Flat Bands and Mechanical Deformation Effects in the Moiré Superlattice of MoS ₂ -WSe ₂ Heterobilayers. <i>ACS Nano</i> , 2020, 14, 7564-7573.	7.3	38
39	Topological flat bands without magic angles in massive twisted bilayer graphenes. <i>Physical Review B</i> , 2020, 101, .	1.1	13
40	Twist Angle-Dependent Atomic Reconstruction and Moiré Patterns in Transition Metal Dichalcogenide Heterostructures. <i>ACS Nano</i> , 2020, 14, 4550-4558.	7.3	172
41	Ultraheavy and Ultrarelativistic Dirac Quasiparticles in Sandwiched Graphenes. <i>Nano Letters</i> , 2020, 20, 3030-3038.	4.5	80
42	Tuning Electrical Conductance in Bilayer MoS ₂ through Defect-Mediated Interlayer Chemical Bonding. <i>ACS Nano</i> , 2020, 14, 10265-10275.	7.3	40
43	Tunable strain soliton networks confine electrons in van der Waals materials. <i>Nature Physics</i> , 2020, 16, 1097-1102.	6.5	47
44	Flat bands in twisted bilayer transition metal dichalcogenides. <i>Nature Physics</i> , 2020, 16, 1093-1096.	6.5	197
45	Manufacturing strategies for wafer-scale two-dimensional transition metal dichalcogenide heterolayers. <i>Journal of Materials Research</i> , 2020, 35, 1350-1368.	1.2	12
46	Moiré Flat Bands in Twisted Double Bilayer Graphene. <i>Nano Letters</i> , 2020, 20, 2410-2415.	4.5	107
47	Formation of Bloch Flat Bands in Polar Twisted Bilayers without Magic Angles. <i>Physical Review Letters</i> , 2020, 124, 086401.	2.9	52
48	One-dimensional flat bands in twisted bilayer germanium selenide. <i>Nature Communications</i> , 2020, 11, 1124.	5.8	80
49	Topological charge pumping by a sliding moiré pattern. <i>Physical Review B</i> , 2020, 101, .	1.1	22
50	Precise control of the interlayer twist angle in large scale MoS ₂ homostructures. <i>Nature Communications</i> , 2020, 11, 2153.	5.8	142
51	Twist-tailoring Coulomb correlations in van der Waals homobilayers. <i>Nature Communications</i> , 2020, 11, 2167.	5.8	63
52	Evolution of high-frequency Raman modes and their doping dependence in twisted bilayer MoS ₂ . <i>Nanoscale</i> , 2020, 12, 17272-17280.	2.8	23
53	Influence of different exchange correlation potentials on twisted structures of bilayer XS ₂ (X=Mo, Tj) ETQq000rgBT /Qverlock 10	1.4	3
54	Van der Waals Nanowires with Continuously Variable Interlayer Twist and Twist Homojunctions. <i>Advanced Functional Materials</i> , 2021, 31, 2006412.	7.8	22

#	ARTICLE	IF	CITATIONS
55	Tailoring Coulomb correlations in twisted WSe ₂ bilayers. , 2021, , .		0
56	Multi-shaped strain soliton networks and moiré-potential-modulated band edge states in twisted bilayer SiC. RSC Advances, 2021, 11, 24366-24373.	1.7	2
57	Moiré superlattices and related moiré excitons in twisted van der Waals heterostructures. Chemical Society Reviews, 2021, 50, 6401-6422.	18.7	38
58	Tunable conductance and spin filtering in twisted bilayer copper phthalocyanine molecular devices. Nanoscale Advances, 2021, 3, 3497-3501.	2.2	5
59	The 2021 quantum materials roadmap. JPhys Materials, 2020, 3, 042006.	1.8	111
60	Layer-dependent interface reconstruction and strain modulation in twisted WSe ₂ . Nanoscale, 2021, 13, 13624-13630.	2.8	8
61	Intrinsic effect of interfacial coupling on the high-frequency intralayer modes in twisted multilayer MoTe ₂ . Nanoscale, 2021, 13, 9732-9739.	2.8	9
62	Plane wave study on the localized-extended transition in the one-dimensional incommensurate systems. Computational Materials Science, 2021, 188, 110242.	1.4	1
63	Chirality-Induced Giant Unidirectional Magnetoresistance in Twisted Bilayer Graphene. Innovation(China), 2021, 2, 100085.	5.2	21
64	Deep moiré potentials in twisted transition metal dichalcogenide bilayers. Nature Physics, 2021, 17, 720-725.	6.5	124
65	Moiré heterostructures as a condensed-matter quantum simulator. Nature Physics, 2021, 17, 155-163.	6.5	317
66	Piezoelectric networks and ferroelectric domains in twistrionic superlattices in WS ₂ /MoS ₂ and WSe ₂ /MoSe ₂ bilayers. 2D Materials, 2021, 8, 025030.	2.0	36
67	Exotic Dielectric Behaviors Induced by Pseudo-Spin Texture in Magnetic Twisted Bilayer. Chinese Physics Letters, 2021, 38, 037501.	1.3	10
68	Recent Advances in 2D Superconductors. Advanced Materials, 2021, 33, e2006124.	11.1	68
69	Ë valley transition metal dichalcogenide moiré bands. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	84
70	Moiré Patterns in 2D Materials: A Review. ACS Nano, 2021, 15, 5944-5958.	7.3	107
71	Reconstruction of moiré lattices in twisted transition metal dichalcogenide bilayers. Physical Review B, 2021, 103, .	1.1	22
72	Twistronics: a turning point in 2D quantum materials. Electronic Structure, 2021, 3, 014004.	1.0	40

#	ARTICLE	IF	CITATIONS
73	Phonon renormalization in reconstructed MoS ₂ moiré superlattices. Nature Materials, 2021, 20, 1100-1105.	13.3	121
74	Zoology of domain walls in quasi-2D correlated charge density wave of 1T-TaS ₂ . Npj Quantum Materials, 2021, 6, .	1.8	15
75	Recent Advances in Synthesis and Study of 2D Twisted Transition Metal Dichalcogenide Bilayers. Small Structures, 2021, 2, 2000153.	6.9	29
76	Electronic structures, charge transfer, and charge order in twisted transition metal dichalcogenide bilayers. Physical Review B, 2021, 103, .	1.1	56
77	Superflat energy band induced by moiré electric potential in twisted bilayer graphene. Physical Review B, 2021, 103, .	1.1	2
78	Simulating twistrionics in acoustic metamaterials. 2D Materials, 2021, 8, 031002.	2.0	23
79	Resonance modes in moiré photonic patterns for twistoptics. OSA Continuum, 2021, 4, 1339.	1.8	9
80	Topological phases in N -layer ABC graphene/boron nitride moiré superlattices. Physical Review B, 2021, 103, .	1.1	5
81	Moiré edge states in twisted bilayer graphene and their topological relation to quantum pumping. Physical Review B, 2021, 103, .	1.1	15
82	Ultrathin Three-Monolayer Tunneling Memory Selectors. ACS Nano, 2021, 15, 8484-8491.	7.3	8
83	Twistrionics versus straintronics in twisted bilayers of graphene and transition metal dichalcogenides. Physical Review B, 2021, 103, .	1.1	20
84	Band energy landscapes in twisted homobilayers of transition metal dichalcogenides. Applied Physics Letters, 2021, 118, .	1.5	21
85	Eshelby-twisted three-dimensional moiré superlattices. Physical Review B, 2021, 103, .	1.1	11
86	Spin-orbit correlations and exchange-bias control in twisted Janus dichalcogenide multilayers. New Journal of Physics, 2021, 23, 073038.	1.2	8
87	Light-matter coupling and quantum geometry in moiré materials. Physical Review B, 2021, 104, .	1.1	29
88	Flat band properties of twisted transition metal dichalcogenide homo- and heterobilayers of MoS ₂ , MoSe ₂ , WS ₂ and WSe ₂ . 2D Materials, 2021, 8, 045010.	2.0	39
89	Bandgap engineering of stacked two-dimensional polyaniline by twist angle. Applied Physics Letters, 2021, 119, 061602.	1.5	7
90	Extremely flat band in antiferroelectric bilayer In_2Se_3 with large twist-angle. New Journal of Physics, 2021, 23, 083019.	1.2	11

#	ARTICLE	IF	CITATIONS
91	A simple fabrication strategy for orientationally accurate twisted heterostructures. <i>Nanotechnology</i> , 2021, 32, 455705.	1.3	10
92	Visualizing electron localization of WS_2/WSe_2 moiré superlattices in momentum space. <i>Science Advances</i> , 2021, 7, eabf4387.	4.7	24
93	Computational design of moiré assemblies aided by artificial intelligence. <i>Applied Physics Reviews</i> , 2021, 8, .	5.5	10
94	Spin liquid in twisted homobilayers of group-VI dichalcogenides. <i>Physical Review B</i> , 2021, 104, .	1.1	8
95	Ultrafast Interlayer Charge Separation, Enhanced Visible-Light Absorption, and Tunable Overpotential in Twisted Graphitic Carbon Nitride Bilayers for Water Splitting. <i>Advanced Materials</i> , 2021, 33, e2104695.	11.1	26
96	Engineering Three-Dimensional Moiré Flat Bands. <i>Nano Letters</i> , 2021, 21, 7519-7526.	4.5	10
97	Lattice reconstruction induced multiple ultra-flat bands in twisted bilayer WSe_2 . <i>Nature Communications</i> , 2021, 12, 5601.	5.8	48
98	Multifaceted moiré superlattice physics in twisted WSe_2 bilayers. <i>Physical Review B</i> , 2021, 104, .	1.1	7
99	Flat bands in twisted bilayers of polar two-dimensional semiconductors. <i>Physical Review Materials</i> , 2021, 5, .	0.9	6
100	The buckling behavior of single-layer MoS_2 sheets on silica substrates. <i>Journal of Applied Physics</i> , 2021, 129, .	1.1	7
101	Emergent flat band electronic structure in a VSe_2/Bi_2Se_3 heterostructure. <i>Communications Materials</i> , 2021, 2, .	2.9	15
102	Predictions of moiré excitons in twisted two-dimensional organic-inorganic halide perovskites. <i>Chemical Science</i> , 2021, 12, 6073-6080.	3.7	5
103	Moiré patterns of twisted bilayer antimonene and their structural and electronic transition. <i>Nanoscale</i> , 2021, 13, 13427-13436.	2.8	5
104	Research development of 2D materials based photodetectors towards mid-infrared regime. <i>Nano Select</i> , 2021, 2, 527-540.	1.9	17
105	Atomic reconstruction in twisted bilayers of transition metal dichalcogenides. <i>Nature Nanotechnology</i> , 2020, 15, 592-597.	15.6	245
106	Exchange-bias controlled correlations in magnetically encapsulated twisted van der Waals dichalcogenides. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 474001.	1.3	12
107	Quantum phase diagram of a Moiré-Hubbard model. <i>Physical Review B</i> , 2020, 102, .	1.1	73
108	Moiré quantum chemistry: Charge transfer in transition metal dichalcogenide superlattices. <i>Physical Review B</i> , 2020, 102, .	1.1	85

#	ARTICLE	IF	CITATIONS
109	Theory of tunable flux lattices in the homobilayer moiré of twisted and uniformly strained transition metal dichalcogenides. Physical Review Materials, 2020, 4, .	0.9	20
110	Phonons in twisted transition-metal dichalcogenide bilayers: Ultrasoft phasons and a transition from a superlubric to a pinned phase. Physical Review Research, 2020, 2, .	1.3	45
111	Band topology, Hubbard model, Heisenberg model, and Dzyaloshinskii-Moriya interaction in twisted bilayer WSe_2 . Physical Review Research, 2020, 2, .	1.3	95
112	Duality between atomic configurations and Bloch states in twistrionic materials. Physical Review Research, 2020, 2, .	1.3	14
113	Structural relaxation and low-energy properties of twisted bilayer graphene. Physical Review Research, 2020, 2, .	1.3	39
115	Realization of nearly dispersionless bands with strong orbital anisotropy from destructive interference in twisted bilayer MoS ₂ . Nature Communications, 2021, 12, 5644.	5.8	57
116	Geometric origins of topological insulation in twisted layered semiconductors. Physical Review B, 2021, 104, .	1.1	13
117	Manipulation of spin transport in graphene/transition metal dichalcogenide heterobilayers upon twisting. 2D Materials, 0, , .	2.0	16
118	Stacking angle dependent multiple excitonic resonances in bilayer tungsten diselenide. Nanophotonics, 2020, 9, 3881-3887.	2.9	3
119	Progress on band structure engineering of twisted bilayer and two-dimensional moiré heterostructures*. Chinese Physics B, 2020, 29, 127304.	0.7	8
120	Twister: Construction and structural relaxation of commensurate moiré superlattices. Computer Physics Communications, 2022, 271, 108184.	3.0	16
121	Magic in twisted transition metal dichalcogenide bilayers. Nature Communications, 2021, 12, 6730.	5.8	109
122	Anomalous electrical transport in orientationally controlled ternary hybrids of graphene and twisted bilayer molybdenum disulphide. Bulletin of Materials Science, 2021, 44, 1.	0.8	0
123	Opportunities in electrically tunable 2D materials beyond graphene: Recent progress and future outlook. Applied Physics Reviews, 2021, 8, .	5.5	26
124	Moiré flat bands in twisted 2D hexagonal vdW materials. 2D Materials, 2022, 9, 014005.	2.0	10
125	Moiré-Enabled Topological Superconductivity. Nano Letters, 2022, 22, 328-333.	4.5	26
126	Excitons in twisted van der Waals bilayers: Internal structure and ultrafast dynamics. , 2020, , .		0
127	Twist-angle two-dimensional superlattices and their application in (opto)electronics. Journal of Semiconductors, 2022, 43, 011001.	2.0	10

#	ARTICLE	IF	CITATIONS
128	Valley-Polarized Quantum Anomalous Hall State in Moiré MoTe_2 Heterobilayers. Physical Review Letters, 2022, 128, 026402.	2.9	48
129	Dirac Magic and Lifshitz Transitions in AA-Stacked Twisted Multilayer Graphene. Physical Review Letters, 2022, 128, 026404.	2.9	7
130	Chiral valley phonons and flat phonon bands in moiré materials. Physical Review B, 2022, 105, .	1.1	10
131	Tuning Magnetic Order in CrI ₃ Bilayers via Moiré Patterns. Advanced Theory and Simulations, 0, , 2100307.	1.3	4
132	A Scalable Network Model for Electrically Tunable Ferroelectric Domain Structure in Twistronic Bilayers of Two-Dimensional Semiconductors. Nano Letters, 2022, 22, 1534-1540.	4.5	15
133	The Novel Electric Properties Induced by Flat Bands in Twisted Two-dimensional Quantum Materials. Wuli Xuebao/Acta Physica Sinica, 2022, .	0.2	0
134	Moiré bands in twisted trilayer black phosphorene: effects of pressure and electric field. Nanoscale, 2022, 14, 3758-3767.	2.8	4
135	A review of electronic band structure and low temperature transport based on molybdenum disulfide. Wuli Xuebao/Acta Physica Sinica, 2022, .	0.2	0
136	Flat bands and related novel quantum states in two-dimensional systems. Wuli Xuebao/Acta Physica Sinica, 2022, 71, 127302.	0.2	3
137	Moiré induced topology and flat bands in twisted bilayer WSe_2 : A first-principles study. Physical Review B, 2022, 105, .	1.1	11
138	Controlling exciton-exciton annihilation in WSe_2 bilayers via interlayer twist. Nano Research, 2022, 15, 4661-4667.	5.8	6
139	Designing Ultra-flat Bands in Twisted Bilayer Materials at Large Twist Angles: Theory and Application to Two-Dimensional Indium Selenide. Journal of the American Chemical Society, 2022, 144, 3949-3956.	6.6	19
140	Breakdown of semiclassical description of thermoelectricity in near-magic angle twisted bilayer graphene. Nature Communications, 2022, 13, 1522.	5.8	12
141	Momentum-space gravity from the quantum geometry and entropy of Bloch electrons. Physical Review Research, 2022, 4, .	1.3	8
142	Excitons in semiconductor moiré superlattices. Nature Nanotechnology, 2022, 17, 227-238.	15.6	105
143	TMDs as a platform for spin liquid physics: A strong coupling study of twisted bilayer WSe_2 . APL Materials, 2022, 10, .	2.2	19
144	O_2 in WSe_2 bilayers: A first-principles study. Physical Review B, 2022, 105, .	1.1	11
145	Electronic Tuning in WSe_2/Au via van der Waals Interface Twisting and Intercalation. ACS Nano, 2022, 16, 6541-6551.	7.3	17

#	ARTICLE	IF	CITATIONS
146	Ultrafast control of moiré pseudo-electromagnetic field in homobilayer semiconductors. <i>Natural Sciences</i> , 2022, 2, .	1.0	3
147	Band structures and topological properties of twisted bilayer MoTe ₂ and WSe ₂ . <i>Physica Scripta</i> , 2021, 96, 125874.	1.2	5
148	Emergence and Tuning of Multiple Flat Bands in Twisted Bilayer $\hat{\Gamma}^3$ -Graphyne. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 12283-12291.	2.1	3
149	Visualizing band structure hybridization and superlattice effects in twisted MoS ₂ /WS ₂ heterobilayers. <i>2D Materials</i> , 2022, 9, 015032.	2.0	9
150	Strong Moiré Excitons in High-Angle Twisted Transition Metal Dichalcogenide Homobilayers with Robust Commensuration. <i>Nano Letters</i> , 2022, 22, 203-210.	4.5	12
151	Emerging Phases of Layered Metal Chalcogenides. <i>Small</i> , 2022, 18, e2105215.	5.2	12
152	Exciton Proliferation and Fate of the Topological Mott Insulator in a Twisted Bilayer Graphene Lattice Model. <i>Physical Review Letters</i> , 2022, 128, 157201.	2.9	19
153	Optical absorption of interlayer excitons in transition-metal dichalcogenide heterostructures. <i>Science</i> , 2022, 376, 406-410.	6.0	42
154	Recent experimental progresses on 2D van der Waals semiconductor moiré superlattices. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2022, .	0.2	0
155	One-dimensional Luttinger liquids in a two-dimensional moiré lattice. <i>Nature</i> , 2022, 605, 57-62.	13.7	44
156	Electronic properties of twisted multilayer graphene. <i>JPhys Materials</i> , 2022, 5, 034003.	1.8	11
157	Emerging exciton physics in transition metal dichalcogenide heterobilayers. <i>Nature Reviews Materials</i> , 2022, 7, 778-795.	23.3	75
158	Flat bands and topological properties of twisted bilayer WSe ₂ under external stimuli. <i>Physica Scripta</i> , 0, .	1.2	0
159	Anomalous optical excitations from arrays of whirlpooled lattice distortions in moiré superlattices. <i>Nature Materials</i> , 2022, 21, 890-895.	13.3	15
160	Tunable lattice thermal conductivity of twisted bilayer MoS ₂ . <i>Physical Chemistry Chemical Physics</i> , 2022, 24, 13860-13868.	1.3	3
161	Spin-orbit coupling in transition metal dichalcogenide heterobilayer flat bands. <i>Physical Review B</i> , 2022, 105, .	1.1	29
162	Intrinsic superflat bands in general twisted bilayer systems. <i>Light: Science and Applications</i> , 2022, 11, .	7.7	9
163	Designing 1D correlated-electron states by non-Euclidean topography of 2D monolayers. <i>Nature Communications</i> , 2022, 13, .	5.8	9

#	ARTICLE	IF	CITATIONS
164	Quantum geometry, flat Chern bands, and Wannier orbital quantization. Physical Review B, 2022, 105, .	1.1	7
165	Evidence for moiré intralayer excitons in twisted WSe ₂ /WSe ₂ homobilayer superlattices. Light: Science and Applications, 2022, 11, .	7.7	29
167	Lattice relaxation and substrate effects on the electronic properties of graphene superlattice. Wuli Xuebao/Acta Physica Sinica, 2022, .	0.2	0
168	Observation of Γ -Valley Moiré Bands and Emergent Hexagonal Lattice in Twisted Transition Metal Dichalcogenides. Physical Review X, 2022, 12, .	2.8	18
169	Accurately Controlling Angle-Resolved Second Harmonic Generation by Stacking Orders from a MoS ₂ Homobilayer. Journal of Physical Chemistry C, 2022, 126, 10584-10592.	1.5	4
170	Flat-band plasmons in twisted bilayer transition metal dichalcogenides. Physical Review B, 2022, 105, .	1.1	6
171	Nano-engineering and nano-manufacturing in 2D materials: marvels of nanotechnology. Nanoscale Horizons, 2022, 7, 849-872.	4.1	19
172	Strong modulation limit of excitons and trions in moiré materials. Physical Review B, 2022, 106, .	1.1	5
173	Renormalized magic angles in asymmetric twisted graphene multilayers. Physical Review B, 2022, 106, .	1.1	2
174	Twistronics and the small-angle magic. Nature Materials, 2022, 21, 844-845.	13.3	9
175	Deep Quantum-Dot Arrays in Moiré Superlattices of Non-van der Waals Materials. Journal of the American Chemical Society, 2022, 144, 14657-14667.	6.6	3
176	Laser Shock-Induced Nano-Twist of Transition Metal Dichalcogenides. ACS Applied Materials & Interfaces, 2022, 14, 37213-37221.	4.0	2
177	Second-order topological insulator in two-dimensional C_2 and its derivatives. Physical Review B, 2022, 106, .	1.1	3
178	Tunable Optoelectronic Properties of Bilayer MoS ₂ via Interlayer Twist and Uniaxial Strain. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	1.2	3
179	A tunable bilayer Hubbard model in twisted WSe ₂ . Nature Nanotechnology, 2022, 17, 934-939.	15.6	51
180	Two-dimensional bilayer MoS ₂ flakes with variable size of the upper layer grown by chemical vapor deposition. , 2022, 169, 207358.		2
181	Topological multiferroic order in twisted transition metal dichalcogenide bilayers. SciPost Physics, 2022, 13, .	1.5	5
182	Observation of moiré excitons in the twisted WS ₂ /WS ₂ homostructure. Nanoscale, 2022, 14, 12447-12454.	2.8	13

#	ARTICLE	IF	CITATIONS
183	Atomic Structure of Reconstructed Lattices of Twisted Bilayer TMDs. Springer Theses, 2022, , 81-97.	0.0	0
184	Intralayer charge-transfer moiré excitons in van der Waals superlattices. Nature, 2022, 609, 52-57.	13.7	49
185	Impurity-induced excitations in a topological two-dimensional ferromagnet/superconductor van der Waals moiré heterostructure. Physical Review Materials, 2022, 6, .	0.9	4
186	Ultralow Thermal Conductivity of Layered Bi ₂ O ₂ Se Induced by Twisting. Advanced Functional Materials, 2022, 32, .	7.8	12
187	Tuning photoluminescence behaviors in strained monolayer belt-like MoS ₂ crystals confined on TiO ₂ (001) surface. AAPPS Bulletin, 2022, 32, .	2.7	1
188	Chiral superconductivity with enhanced quantized Hall responses in moiré transition metal dichalcogenides. Npj Quantum Materials, 2022, 7, .	1.8	6
189	Effect of layered-coupling in twisted WSe ₂ moiré superlattices. Nano Research, 2023, 16, 3435-3442.	5.8	6
190	Unconventional ferroelectricity in half-filling states of antiparallel stacking of twisted WSe ₂ , 2023, 2, 20220033.		1
191	Giant nonlinear Hall effect in twisted bilayer WSe ₂ . National Science Review, 2023, 10, .	4.6	26
192	Optically Probing the Asymmetric Interlayer Coupling in Rhombohedral-Stacked MoS ₂ /MoSe ₂ Bilayer. Physical Review X, 2022, 12, .	2.8	9
193	Hybridization and localized flat band in the WSe ₂ /MoSe ₂ heterobilayer. Nanotechnology, 2023, 34, 045702.	1.3	3
194	High-Throughput Characterization of Transition Metal Dichalcogenide Alloys: Thermodynamic Stability and Electronic Band Alignment. Chemistry of Materials, 2022, 34, 9364-9372.	3.2	1
195	Self-organized quantum dots in marginally twisted MoSe ₂ /WSe ₂ and MoS ₂ /WS ₂ bilayers. Npj 2D Materials and Applications, 2022, 6, .	3.9	6
196	Moiré modulation of charge density waves. Journal of Physics Condensed Matter, 2022, 34, 494001.	0.7	1
197	Moiré flat bands of twisted few-layer graphite. Frontiers of Physics, 2023, 18, .	2.4	8
198	Visualizing Large Facet-Dependent Electronic Tuning in Monolayer WSe ₂ on Au Surfaces. Nano Letters, 2022, 22, 9630-9637.	4.5	2
199	Exciton-polarons in the presence of strongly correlated electronic states in a MoSe ₂ /WSe ₂ moiré superlattice. Npj 2D Materials and Applications, 2022, 6, .	3.9	12
200	Advance in two-dimensional twisted moiré materials: Fabrication, properties, and applications. Nano Research, 2023, 16, 2579-2596.	5.8	8

#	ARTICLE	IF	CITATIONS
201	Melting of generalized Wigner crystals in transition metal dichalcogenide heterobilayer Moiré systems. <i>Nature Communications</i> , 2022, 13, .	5.8	12
202	Extraordinary Phonon Displacement and Giant Resonance Raman Enhancement in WSe_2 Moiré Heterostructures. <i>ACS Nano</i> , 2022, 16, 21505-21517.	7.3	4
204	Perfect one-dimensional interface states in a twisted stack of three-dimensional topological insulators. <i>Physical Review Research</i> , 2022, 4, .	1.3	5
205	Hyperspectral imaging of exciton confinement within a moiré unit cell with a subnanometer electron probe. <i>Science</i> , 2022, 378, 1235-1239.	6.0	25
206	Spatially Dependent Electronic Structures and Excitons in a Marginally Twisted Moiré Superlattice of Spiral WS_2 . <i>ACS Nano</i> , 2022, 16, 21600-21608.	7.3	3
207	Exotic states in moiré superlattices of twisted semiconducting transition metal dichalcogenides. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2023, 72, 027802.	0.2	1
208	Electric-field-induced metal-semiconductor transitions in twisted bilayers of WSe_2 . <i>Physical Review B</i> , 2023, 107, .	1.1	2
209	Phonon-assisted upconversion in twisted two-dimensional semiconductors. <i>Light: Science and Applications</i> , 2023, 12, .	7.7	10
210	High-angular-momentum topological superconductivities in twisted bilayer quasicrystal systems. <i>Physical Review B</i> , 2023, 107, .	1.1	7
211	Moiré potential renormalization and ultra-flat bands induced by quasiparticle-plasmon coupling. <i>Npj Computational Materials</i> , 2023, 9, .	3.5	2
212	Moiré Potential, Lattice Relaxation, and Layer Polarization in Marginally Twisted MoS_2 Bilayers. <i>Nano Letters</i> , 2023, 23, 73-81.	4.5	6
213	Recent progress on fabrication and flat-band physics in 2D transition metal dichalcogenides moiré superlattices. <i>Journal of Semiconductors</i> , 2023, 44, 011901.	2.0	6
214	Moiré-induced bandgap tuning by varying electric dipole in InSe/CuSe vertical heterostructure. <i>Applied Physics Letters</i> , 2023, 122, .	1.5	3
215	A natural indirect-to-direct band gap transition in artificially fabricated MoS_2 and $MoSe_2$ flowers. <i>Nanoscale</i> , 2023, 15, 7792-7802.	2.8	2
216	Fabrication, energy band engineering, and strong correlations of two-dimensional van der Waals moiré superlattices. <i>Nano Today</i> , 2023, 50, 101829.	6.2	0
217	Universality of moiré physics in collapsed chiral carbon nanotubes. <i>Carbon</i> , 2023, 205, 394-401.	5.4	5
218	Optical localization transition in a dual-periodical phase-modulated synthetic photonic lattice. <i>Physical Review A</i> , 2023, 107, .	1.0	1
219	Emergence of flat bands in twisted bilayer C_3N_3 induced by simple localization and destructive interference. <i>Physical Review B</i> , 2023, 107, .	1.1	1

#	ARTICLE	IF	CITATIONS
220	Multilayered Atomic Relaxation in van der Waals Heterostructures. Physical Review X, 2023, 13, .	2.8	4
221	Pair-Density-Wave and Chiral Superconductivity in Twisted Bilayer Transition Metal Dichalcogenides. Physical Review Letters, 2023, 130, .	2.9	13
222	Fabrication and applications of van der Waals heterostructures. International Journal of Extreme Manufacturing, 2023, 5, 022007.	6.3	6
223	1D Electronic Flat Bands in Untwisted Moiré Superlattices. Advanced Materials, 2023, 35, .	11.1	6
224	Photoemission study of twisted monolayers and bilayers of WSe_2 on graphite substrates. Physical Review Materials, 2023, 7, .		
249	Strong correlations in two-dimensional transition metal dichalcogenides. Science China: Physics, Mechanics and Astronomy, 2023, 66, .	2.0	1
253	A New Era of Quantum Materials Mastery and Quantum Simulators In and Out of Equilibrium. Lecture Notes in Physics, 2023, , 1-39.	0.3	2
277	Engineering correlated insulators in bilayer graphene with a remote Coulomb superlattice. Nature Materials, 2024, 23, 189-195.	13.3	1