Alexey Chernikov

List of Publications by Year
in descending order

41 papers	9,107 citations	159585 30 h-index	276875 41 g-index
41 all docs	41 docs citations	41 times ranked	8694 citing authors

#	Article	IF	Citations
1	Exciton Binding Energy and Nonhydrogenic Rydberg Series in Monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>WS</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></m Physical Review Letters, 2014, 113, 076802.	7.8	1,814
2	<i>Colloquium</i> : Excitons in atomically thin transition metal dichalcogenides. Reviews of Modern Physics, 2018, 90, .	45.6	1,292
3	Measurement of the optical dielectric function of monolayer transition-metal dichalcogenides:<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 xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Mo</mml:mi><mml:mi mathvariant="normal">S</mml:mi><mml:msub><mml:mi mathvariant="normal">e</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>,<mml:math	3.2	1,017
4	Coulomb engineering of the bandgap and excitons in two-dimensional materials. Nature Communications, 2017, 8, 15251.	12.8	526
5	Valley Splitting and Polarization by the Zeeman Effect 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 Physical Review Letters, 2014, 113, 266804.	7.8	395
6	Population inversion and giant bandgap renormalization in atomically thin WS2 layers. Nature Photonics, 2015, 9, 466-470.	31.4	366
7	Excitonic linewidth and coherence lifetime in monolayer transition metal dichalcogenides. Nature Communications, 2016, 7, 13279.	12.8	360
8	Observation of Excitonic Rydberg States in Monolayer MoS₂ and WS₂ by Photoluminescence Excitation Spectroscopy. Nano Letters, 2015, 15, 2992-2997.	9.1	327
9	Electrical Tuning of Exciton Binding Energies in Monolayer<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>WS</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></m Physical Review Letters, 2015, 115, 126802.	7.8	323
10	Tailoring the Electronic Structure in Bilayer Molybdenum Disulfide via Interlayer Twist. Nano Letters, 2014, 14, 3869-3875.	9.1	278
11	Probing Interlayer Interactions in Transition Metal Dichalcogenide Heterostructures by Optical Spectroscopy: MoS₂/WS₂ and MoSe₂/WSe₂. Nano Letters, 2015, 15, 5033-5038.	9.1	277
12	Excitons in ultrathin organic-inorganic perovskite crystals. Physical Review B, 2015, 92, .	3.2	263
13	Trion fine structure and coupled spinâ€“valley dynamics in monolayer tungsten disulfide. Nature Communications, 2016, 7, 12715.	12.8	239
14	Dielectric disorder in two-dimensional materials. Nature Nanotechnology, 2019, 14, 832-837.	31.5	223
15	Exciton Diffusion and Halo Effects in Monolayer Semiconductors. Physical Review Letters, 2018, 120, 207401.	7.8	193
16	Direct Observation of Ultrafast Exciton Formation in a Monolayer of WSe₂. Nano Letters, 2017, 17, 1455-1460.	9.1	171
17	The Role of Electronic and Phononic Excitation in the Optical Response of Monolayer WS₂ after Ultrafast Excitation. Nano Letters, 2017, 17, 644-651.	9.1	143
18	Roadmap on organicâ€“inorganic hybrid perovskite semiconductors and devices. APL Materials, 2021, 9, .	5.1	102

#	Article	IF	Citations
19	Exciton diffusion in monolayer semiconductors with suppressed disorder. Physical Review B, 2020, 101, .	3.2	74
20	Zeeman Splitting and Inverted Polarization of Biexciton Emission in Monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>WS</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></m Physical Review Letters, 2018, 121, 057402.	7.8	70
21	Exciton Propagation and Halo Formation in Two-Dimensional Materials. Nano Letters, 2019, 19, 7317-7323.	9.1	64
22	Length- and Thickness-Dependent Optical Response of Liquid-Exfoliated Transition Metal Dichalcogenides. Chemistry of Materials, 2019, 31, 10049-10062.	6.7	57
23	Intrinsic lifetime of higher excitonic states in tungsten diselenide monolayers. Nanoscale, 2019, 11, 12381-12387.	5.6	56
24	Enhancement of Excitonâ€“Phonon Scattering from Monolayer to Bilayer WS₂. Nano Letters, 2018, 18, 6135-6143.	9.1	50
25	Exciton broadening in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>WS</mml:mi><mml:mn>2</mml:mn></mml:msub></m /graphene heterostructures. Physical Review B, 2017, 96, .	3.2	46
26	Fast and Anomalous Exciton Diffusion in Two-Dimensional Hybrid Perovskites. Nano Letters, 2020, 20, 6674-6681.	9.1	44
27	Spatial extent of the excited exciton states in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>WS</mml:mi><mml:mn>2</mml:mn></mml:msub></m monolayers from diamagnetic shifts. Physical Review B, 2018, 98, .	3.2	40
28	Nonclassical Exciton Diffusion in Monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>WSe</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></ Physical Review Letters, 2021, 127, 076801.	7.8	40
29	Dielectric Engineering of Electronic Correlations in a van der Waals Heterostructure. Nano Letters, 2018, 18, 1402-1409.	9.1	39
30	Quasi-1D exciton channels in strain-engineered 2D materials. Science Advances, 2021, 7, eabj3066.	10.3	37
31	Narrow-band high-lying excitonsÂwith negative-mass electrons in monolayer WSe2. Nature Communications, 2021, 12, 5500.	12.8	29
32	Autoionization and Dressing of Excited Excitons by Free Carriers in Monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>WSe</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></ Physical Review Letters, 2020, 125, 267401.	7.8	26
33	Breakdown of the Static Approximation for Free Carrier Screening of Excitons in Monolayer Semiconductors. Physica Status Solidi (B): Basic Research, 2018, 255, 1800216.	1.5	22
34	Temporal Evolution of Low-Temperature Phonon Sidebands in Transition Metal Dichalcogenides. ACS Photonics, 2020, 7, 2756-2764.	6.6	20
35	Boosting quantum yields in two-dimensional semiconductors via proximal metal plates. Nature Communications, 2021, 12, 7095.	12.8	20
36	Dark exciton-exciton annihilation in monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi>WSe</mml:mi></mml:mrow><mml:mn>2</ Physical Review B, 2021, 104, .	3.2	16

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37	Electron recoil effect in electrically tunable <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Mo</mml:mi><mml:msub><mml:mi>Se</mml:mi><mm monolayers. Physical Review B, 2022, 105, .	3.2	14
38	Interlayer excitons in MoSe₂/2D perovskite hybrid heterostructures â€“ the interplay between charge and energy transfer. Nanoscale, 2022, 14, 8085-8095.	5.6	11
39	Lightâ€“matter coupling and non-equilibrium dynamics of exchange-split trions in monolayer WS2. Journal of Chemical Physics, 2020, 153, 034706.	3.0	9
40	Spectral asymmetry of phonon sideband luminescence in monolayer and bilayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>WSe</mml:mi><mml:mn>2</mml:mn></mml:msub></mm Physical Review Research, 2021, 3, .	3.6	8
41	Non-equilibrium diffusion of dark excitons in atomically thin semiconductors. Nanoscale, 2021, 13, 19966-19972.	5.6	6