Ermin Malic

List of Publications by Year
in descending order

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91 papers	5,950 citations	87723 38 h-index	74018 75 g-index
93 all docs	93 docs citations	93 times ranked	5271 citing authors

#	Article	IF	Citations
1	Exciton physics and device application of two-dimensional transition metal dichalcogenide semiconductors. Npj 2D Materials and Applications, 2018, 2, .	3.9	526
2	Intrinsic homogeneous linewidth and broadening mechanisms of excitons in monolayer transition metal dichalcogenides. Nature Communications, 2015, 6, 8315.	5.8	408
3	Excitonic linewidth and coherence lifetime in monolayer transition metal dichalcogenides. Nature Communications, 2016, 7, 13279.	5.8	360
4	Carrier Multiplication in Graphene. Nano Letters, 2010, 10, 4839-4843.	4.5	295
5	Carrier Relaxation in Epitaxial Graphene Photoexcited Near the Dirac Point. Physical Review Letters, 2011, 107, 237401.	2.9	269
6	Microscopic theory of absorption and ultrafast many-particle kinetics in graphene. Physical Review B, 2011, 84, .	1.1	253
7	Dielectric disorder in two-dimensional materials. Nature Nanotechnology, 2019, 14, 832-837.	15.6	223
8	Analytical approach to excitonic properties of MoS<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>. Physical Review B, 2014, 89, .	1.1	186
9	Strain Control of Excitonâ€“Phonon Coupling in Atomically Thin Semiconductors. Nano Letters, 2018, 18, 1751-1757.	4.5	177
10	Ultrafast transition between exciton phases in van der Waals heterostructures. Nature Materials, 2019, 18, 691-696.	13.3	168
11	Trion formation dynamics in monolayer transition metal dichalcogenides. Physical Review B, 2016, 93, .	1.1	159
12	Dark excitons in transition metal dichalcogenides. Physical Review Materials, 2018, 2, .	0.9	149
13	Ultrafast Coulomb-Induced Intervalley Coupling in Atomically Thin WS₂. Nano Letters, 2016, 16, 2945-2950.	4.5	139
14	Phonon Sidebands in Monolayer Transition Metal Dichalcogenides. Physical Review Letters, 2017, 119, 187402.	2.9	136
15	Dark and bright exciton formation, thermalization, and photoluminescence in monolayer transition metal dichalcogenides. 2D Materials, 2018, 5, 035017.	2.0	129
16	Impact of Auger processes on carrier dynamics in graphene. Physical Review B, 2012, 85, .	1.1	126
17	Phonon-Assisted Photoluminescence from Indirect Excitons in Monolayers of Transition-Metal Dichalcogenides. Nano Letters, 2020, 20, 2849-2856.	4.5	106
18	Interlayer exciton dynamics in van der Waals heterostructures. Communications Physics, 2019, 2, .	2.0	103

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19	Exciton Relaxation Cascade in two-dimensional Transition Metal Dichalcogenides. Scientific Reports, 2018, 8, 8238.	1.6	82
20	Tunable Phases of MoirÃ© Excitons in van der Waals Heterostructures. Nano Letters, 2020, 20, 8534-8540.	4.5	74
21	Exciton diffusion in monolayer semiconductors with suppressed disorder. Physical Review B, 2020, 101, .	1.1	74
22	Proposal for dark exciton based chemical sensors. Nature Communications, 2017, 8, 14776.	5.8	70
23	The role of momentum-dark excitons in the elementary optical response of bilayer WSe2. Nature Communications, 2018, 9, 2586.	5.8	70
24	Exciton Propagation and Halo Formation in Two-Dimensional Materials. Nano Letters, 2019, 19, 7317-7323.	4.5	64
25	Twist-tailoring Coulomb correlations in van der Waals homobilayers. Nature Communications, 2020, 11, 2167.	5.8	63
26	Inverted valley polarization in optically excited transition metal dichalcogenides. Nature Communications, 2018, 9, 971.	5.8	59
27	Ultrafast dynamics in monolayer transition metal dichalcogenides: Interplay of dark excitons, phonons, and intervalley exchange. Physical Review Research, 2019, 1, .	1.3	57
28	Intrinsic lifetime of higher excitonic states in tungsten diselenide monolayers. Nanoscale, 2019, 11, 12381-12387.	2.8	56
29	Hybridized intervalley moirÃ© excitons and flat bands in twisted WSe₂ bilayers. Nanoscale, 2020, 12, 11088-11094.	2.8	55
30	Mapping of the dark exciton landscape in transition metal dichalcogenides. Physical Review B, 2018, 98, .	1.1	53
31	Direct measurement of key exciton properties: Energy, dynamics, and spatial distribution of the wave function. Natural Sciences, 2021, 1, e10010.	1.0	52
32	Impact of strain on the excitonic linewidth in transition metal dichalcogenides. 2D Materials, 2019, 6, 015015.	2.0	51
33	Impact of strain on the optical fingerprint of monolayer transition-metal dichalcogenides. Physical Review B, 2017, 96, .	1.1	50
34	Enhancement of Excitonâ€“Phonon Scattering from Monolayer to Bilayer WS₂. Nano Letters, 2018, 18, 6135-6143.	4.5	50
35	Theory of exciton dynamics in time-resolved ARPES: Intra- and intervalley scattering in two-dimensional semiconductors. Physical Review B, 2019, 100, .	1.1	49
36	Momentum-Resolved Observation of Exciton Formation Dynamics in Monolayer WS₂. Nano Letters, 2021, 21, 5867-5873.	4.5	45

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37	Exciton-exciton interaction in transition metal dichalcogenide monolayers and van der Waals heterostructures. Physical Review B, 2021, 103, .	1.1	42
38	Microscopic Description of Intraband Absorption in Graphene: The Occurrence of Transient Negative Differential Transmission. Physical Review Letters, 2014, 113, 035502.	2.9	40
39	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.	2.9	40
40	Dielectric Engineering of Electronic Correlations in a van der Waals Heterostructure. Nano Letters, 2018, 18, 1402-1409.	4.5	39
41	Negative effective excitonic diffusion in monolayer transition metal dichalcogenides. Nanoscale, 2020, 12, 356-363.	2.8	37
42	Dark exciton anti-funneling in atomically thin semiconductors. Nature Communications, 2021, 12, 7221.	5.8	35
43	Towards a tunable graphene-based Landau level laser in the terahertz regime. Scientific Reports, 2015, 5, 12646.	1.6	33
44	Ultrafast carrier dynamics in Landau-quantized graphene. Nanophotonics, 2015, 4, 224-249.	2.9	33
45	The Art of Constructing Black Phosphorus Nanosheet Based Heterostructures: From 2D to 3D. Advanced Materials, 2021, 33, e2005254.	11.1	33
46	Excitonic Rayleigh scattering spectra of metallic single-walled carbon nanotubes. Physical Review B, 2010, 82, .	1.1	32
47	Impact of doping on the carrier dynamics in graphene. Scientific Reports, 2015, 5, 16841.	1.6	31
48	Ultrafast Nanoscopy of High-Density Exciton Phases in WSe₂. Nano Letters, 2022, 22, 2561-2568.	4.5	27
49	Carrier Dynamics in Graphene: Ultrafast Manyâ€Particle Phenomena. Annalen Der Physik, 2017, 529, 1700038.	0.9	26
50	Dark exciton based strain sensing in tungsten-based transition metal dichalcogenides. Physical Review B, 2019, 99, .	1.1	23
51	Suppression of intervalley exchange coupling in the presence of momentum-dark states in transition metal dichalcogenides. Physical Review Research, 2020, 2, .	1.3	23
52	Graphene as gain medium for broadband lasers. Physical Review B, 2015, 92, .	1.1	22
53	Strain-dependent exciton diffusion in transition metal dichalcogenides. 2D Materials, 2021, 8, 015030.	2.0	21
54	Ultrafast momentum imaging of pseudospin-flip excitations in graphene. Physical Review B, 2017, 96, .	1.1	20

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55	Theory of optically induced FÃ¶rster coupling in van der Waals coupled heterostructures. Physical Review B, 2019, 99, .	1.1	20
56	Temporal Evolution of Low-Temperature Phonon Sidebands in Transition Metal Dichalcogenides. ACS Photonics, 2020, 7, 2756-2764.	3.2	20
57	Brightening of spin- and momentum-dark excitons in transition metal dichalcogenides. 2D Materials, 2021, 8, 015013.	2.0	20
58	Exciton landscape in van der Waals heterostructures. Physical Review Research, 2021, 3, .	1.3	19
59	Review on carrier multiplication in graphene. Physica Status Solidi (B): Basic Research, 2016, 253, 2303-2310.	0.7	17
60	Microscopic Picture of Electronâ€“Phonon Interaction in Two-Dimensional Halide Perovskites. Journal of Physical Chemistry Letters, 2020, 11, 9975-9982.	2.1	16
61	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</mml:mn> Physical Review B, 2021, 104, .	1.1	16
62	Exciton broadening and band renormalization due to Dexter-like intervalley coupling. 2D Materials, 2018, 5, 025011.	2.0	15
63	Phonon-Assisted Intervalley Scattering Determines Ultrafast Exciton Dynamics in <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> Bilayers. Physical Review Letters, 2021, 127, 157403.	2.9	15
64	Microscopic Understanding of Ultrafast Charge Transfer in van der Waals Heterostructures. Physical Review Letters, 2021, 127, 276401.	2.9	13
65	Experimentally accessible signatures of Auger scattering in graphene. Physical Review B, 2016, 94, .	1.1	11
66	Microscopic modeling of tunable graphene-based terahertz Landau-level lasers. Physical Review B, 2017, 96, .	1.1	11
67	Twist Angle Tuning of MoirÃ© Exciton Polaritons in van der Waals Heterostructures. Nano Letters, 2022, 22, 4468-4474.	4.5	11
68	Symmetry-Breaking Supercollisions in Landau-Quantized Graphene. Physical Review Letters, 2017, 119, 067405.	2.9	10
69	Ultrafast phononâ€driven charge transfer in van der Waals heterostructures. Natural Sciences, 2022, 2, .	1.0	10
70	Spatio-temporal dynamics in graphene. Nanoscale, 2019, 11, 10017-10022.	2.8	9
71	Phonon-assisted exciton dissociation in transition metal dichalcogenides. Nanoscale, 2021, 13, 1884-1892.	2.8	9
72	Enhanced excitonic features in an anisotropic ReS₂/WSe₂ heterostructure. Nanoscale, 2022, 14, 10851-10861.	2.8	9

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73	Terahertz Fingerprint of Monolayer Wigner Crystals. Nano Letters, 2022, 22, 1311-1315.	4.5	7
74	Non-equilibrium diffusion of dark excitons in atomically thin semiconductors. Nanoscale, 2021, 13, 19966-19972.	2.8	6
75	Microscopic understanding of the photoconduction effect in graphene. Physical Review B, 2017, 96, .	1.1	5
76	Proximity control of interlayer exciton-phonon hybridization in van der Waals heterostructures. Nature Communications, 2021, 12, 1719.	5.8	5
77	Molecule signatures in photoluminescence spectra of transition metal dichalcogenides. Physical Review Materials, 2018, 2, .	0.9	5
78	Electrically pumped graphene-based Landau-level laser. Physical Review Materials, 2018, 2, .	0.9	5
79	Criteria for deterministic single-photon emission in two-dimensional atomic crystals. Physical Review Materials, 2020, 4, .	0.9	5
80	Valley-exchange coupling probed by angle-resolved photoluminescence. Nanoscale Horizons, 2021, 7, 77-84.	4.1	5
81	Recombination channels in optically excited graphene. Physica Status Solidi (B): Basic Research, 2015, 252, 2456-2460.	0.7	4
82	Unconventional double-bended saturation of carrier occupation in optically excited graphene due to many-particle interactions. Nature Communications, 2017, 8, 15042.	5.8	4
83	Microscopic modeling of exciton-polariton diffusion coefficients in atomically thin semiconductors. Physical Review Materials, 2022, 6, .	0.9	4
84	Microscopic View on the Ultrafast Carrier Dynamics in Graphene. , 2017, , 135-182.		2
85	Optical Response From Functionalized Atomically Thin Nanomaterials. Annalen Der Physik, 2017, 529, 1700097.	0.9	2
86	Microscopic Modeling of Pumpâ€“Probe Spectroscopy and Population Inversion in Transition Metal Dichalcogenides. Physica Status Solidi (B): Basic Research, 2020, 257, 2000223.	0.7	2
87	Black Phosphorus: The Art of Constructing Black Phosphorus Nanosheet Based Heterostructures: From 2D to 3D (Adv. Mater. 3/2021). Advanced Materials, 2021, 33, 2170020.	11.1	2
88	Disorder-induced broadening of excitonic resonances in transition metal dichalcogenides. Physical Review Materials, 2019, 3, .	0.9	2
89	Tailoring Coulomb correlations in twisted WSe2 bilayers. , 2021, , .		0
90	Twist-Tailoring Hybrid Excitons In Van Der Waals Homobilayers. , 2021, , .		0

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91	Excitons in twisted van der Waals bilayers: Internal structure and ultrafast dynamics. , 2020, , .		0